Academic Use of Smartphones by the Students of Faculty of Social Science, Banaras Hindu University, Varanasi: A Case Study

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Abstract

This paper aims to investigate the academic use of Smartphone by the students of faculty of Social Science, Banaras Hindu University, Varanasi: A case study. It explores some aspects in this study to find out the types of smartphone with operating system, preferred location to access internet, Apps installed on smartphones, use of smartphones for academic purposes, hours spend a day and commonly used apps. A total of 300 questionnaires were distributed and all 285 were received in return duly filled representing (95%) of the total population. The analyses showed that majority of the students use their smartphones to search for academic information. The findings show that a vast majority of university students used smartphones for academic purposes. It is evident from the study that the majority of respondents use Social networking apps 167(20.49%) followed by search tool apps 150(18.40%), Utility apps 105(12.88%) and Sports apps (104(12.76%) whereas, least used apps is weather apps 10(1.23%).

INTRODUCTION

ICTs are making dynamic changes in the society. They are influencing all aspects of human life. The influences are felt more and more at school level itself. Since ICTs provide both students and teachers with more opportunities in adapting learning and teaching to individual needs, society is strengthening schools exactly respond to this technical innovation (Mikre, 2012, p.1). Information and communication technology is a powerful tool for the development of quality teaching and learning; it is a catalyst for radical change in existing school practices and an absolute medium for preparing the students for the future. Success in the implementation of ICT policy will be dependent on the recognition of the importance of sectoral application to education and sustainable implementation (Yusuf, 2005, p. 320). According to Kljunic & Vukovac, 2015, p. 97) now we are witnessing the explosion of mobile learning (m-learning) in all fields of education. Mobile learning allows students to acquire their learning materials anywhere and anytime by using mobile technologies and the internet. According to Makoe (2010) students are in the center of all activities of mobile learning and all other elements are here to help student. Mobile learning is based on learner's interests, experiences and needs. By applying mobile learning, students have more control over their own learning but they are also responsible for the learning process, from defining their goal to the evaluation of the learning process.

REVIEW OF RELEVANT LITERATURE

Jesse (2015) observed the relationships between smartphone usage and its effects on student's social lives, education lives and physical activity. The study intended to find out the student preferences on their most and the least useful smartphone apps. It also revealed that Smartphones and their apps are two technologies that impact a student's education and psychological well-being. Rung et. al. (2014) claimed that there were no significant relationship exists between age group, gender, origin, and smartphone skills. The study revealed that positive relationship between smartphone skills and students' attitudes toward improving access to learning material. A research conducted by (Mohtar et. al, 2013) revealed that university students in Malaysia utilize smartphones for sharing notes, sharing exam results on Facebook, recording lectures and more. Chen (2013) examined the educational versus non-educational app usage among college students. It is

found that (58%) of the college students used their mobile devices for academic purposes. Baker (2012) study was based on the cellophane use and other electronic devices in the classroom. It was found that 45% of students reported spending more than 4 hours a day on their cellophane.

A study conducted by (Payne et. al, 2012) revealed that a high number of medical students owned and used smartphones. Peterson (2011) assured that apps are a portable way to stay connected to social media and (97%) of smartphone users use apps for social networking purposes. Further, it is also clear from the study that cellophane apps have added new features to attract the mobile users as well, like location tagging and status updates etc. Rismark et. al, (2007) found in their study that students used the mobile phone to view the videos before the lectures without further preparation. It revealed that the mobile phone therefore, worked as a preparation tool for the purpose to make them acquainted with the topic without using other study material.

OBJECTIVES OF THE STUDY

The main objective of the study was to investigate the extent, to which Smartphones are used
by the students of faculty of social science, Banaras Hindu University, Varanasi: a case study in which the research study aims to identify the following objectives:

1. To identify how many students have Smartphone;
2. To find out types of smartphone used by students;
3. To identify number of hours students spends for various purpose;
4. To find out use of Smartphone for academic purposes.
5. To find out how many apps installed by the students;
6. To find out preferred location to access internet;
7. To find out way of accessing internet on Smartphone;
8. To find out mostly used apps in general.

METHODOLOGY

This research study adopted a descriptive survey design. A Structured questionnaire was designed to collect data on 'Academic use of Smartphones by students of faculty of social science, Banaras Hindu University, Varanasi' for the target population.

POPULATION AND SAMPLE

The population of this research study was the students of faculty of social science, Banaras Hindu University, Varanasi. 300 questionnaires were randomly distributed to the respondents. Out of 300 questionnaires, 285 (95%) was found useful for analysis.

Table 1: Population Breakdown for the Study

Course of Study	Population	%
Under Graduate	105	36.84
Post Graduate	180	63.16
Total	285	100.00

ADMINISTRATIVE PROCEDURE

All the participants' respondents were administered the questionnaires in the faculty of social science as well as in the hostel. The investigators convinced the participants about the questionnaires. They were also told that their responses will be kept as confidential and will use for only academic purposes only.

DATA ANALYSIS AND DISCUSSION

After collecting the data for this research study, it was analyzed by using tables, frequency distribution and simple percentage. Respondents were asked questions to express their demographic profiles as well as other research questions. The results are discussed and presented in tables below.

Demographic profile

Table 2 shows the demographic variables of the respondents. It shows that academic level, postgraduate students 180(63.16%) followed by undergraduate 105(36.84%). Gender wise Male 197(69.12%) followed by Female 88(30.88%). Age wise, age group 21-25, 126(44.21%) followed by age group 16-20, 103(36.14%) and age group 25-30, 56(19.65%). Respondents' profile with respect to academic level, gender and age were investigated and the findings are presented in Table 2 accordingly.

Table 2: Demographic information of the Students

Variable	Classification	Frequency	Percentage
Academic Level	Under Graduate	105	36.84

	Post Graduate	180	63.16
Gender	Male	197	69.12
	Female	88	30.88
	16-20	103	36.14
Age	21-25	126	44.21
	25-30	56	19.65

Do you have Smartphone

Table 3 made known that how many students have Smartphone. It revealed that 260(91.23%) respondents indicated Yes whereas, 25(8.77%) respondents expressed No. It is also clear from the study that 260(91.23%) respondents have Smartphones.

Table 3: Do you have Smartphone

Smartphone	Frequency	%
Yes	260	91.23
No	25	8.77
Total	285	100.00

Types of Smartphone

From the table 4, it is clear that the majority of the respondents 225(78.95%) indicated they use Android phones followed by any other 31(10.88%), Windows 15(5.26%), iphone 9(3.16%) and 5(1.75%) Blackberry. It is evident from the below table 4 that the majority of respondents 225(78.95%) have the Android phones.

Table 4: Types of Smartphone

Type of Phone	Frequency	%
Android	225	78.95
iphone	9	3.16
Windows	15	5.26
Blackberry	5	1.75
Any other	31	10.88
Total	285	100.00

Hours' Spend on Smartphone

Table 5 shows that the hours spend on smartphone a day. It revealed that the majority of respondents 150(52.63%) indicated 1 hour a day followed by 2 hours a day 62(21.75%), 3 hours a day 45(15.79%), 4 hours a day 14(4.91%), 5 hours a day 9 (3.16%) and more than five hours a day 5(1.75%). It is clear from the study that the maximum number of respondents

150(52.63%) spend 1 hours a day whereas, least number of respondents 5 (1.75%) spend more than five hours a day on their Smartphones.

Table 5: Hours spend on Smartphone

Hours spend	Frequency	%
1 hour a day	150	52.63
2 hours a day	62	21.75
3 hours a day	45	15.79
4 hours a day	14	4.91
5 hours a day	9	3.16
More than five hours	5	1.75
Total	285	100.00

Apps Installed in Smartphones

Respondents were asked about how many apps they installed in their Smartphones. Table 6 shows that the majority of respondents 100(35.09%) stated 5-10 apps followed by 89(31.23%) 11-15 apps, 38(13.33%) 16-20 apps, 29(10.18%) apps and 18(6.32%). It is clear from the study that the maximum number of students 100(35.09%) installed 5-10 apps whereas, 18(6.32) students installed 25-30 apps in their Smartphones.

Table 6: How many Apps Installed in your Smartphone

Apps Installed	Frequency	%
5-10	100	35.09
11-15	89	31.23
16-20	38	13.33
21-25	29	10.18
25-30	18	6.32
Total	274	100.00

Preferred Location to Access Internet

Table 7 shows preferred location to access internet. It is clear from the study that the majority of respondents 133(46.67%) access internet on their Smartphones at their hostels followed by Central Library 91(31.93%), at home 31(10.88%), Computer centre 19(6.67%) and Department 11(3.86%). It is evident that the maximum number of students 133(46.67%) access internet on their Smartphones at their respective hostel whereas, a minimum number of students access internet on their Smartphone 11(3.86%) at their Departments.

Table 7: Preferred location to access Internet

Location	Frequency	%
Central Library	91	31.93
Department	11	3.86
Computer centre	19	6.67
Hostel	133	46.67
Home	31	10.88
Total	285	100.00

Way of Accessing Internet on Smartphone

Respondents were asked to express the way of accessing internet on their smartphones. It is clear from the table 8 that the majority of respondents 135(47.37%) indicated that they access internet on their Smartphones through 3G/4G mobile followed by through Wi-Fi and 3G/4G mobiles 72(25.26%), Wi-Fi, 53(18.60%) and I do not use internet 25(8.77%). The findings show that the maximum number of respondents 135(47.37%) access internet on their Smartphones through 3G/4G mobiles whereas, 53(18.60%) respondents stated that they access internet on their mobile through Wi-Fi.

Table 8: Way of Accessing Internet on Smartphone

Internet Access	Frequency	%
Through Wi-Fi	53	18.60
Wi-Fi and 3G/4G mobile	72	25.26
Though 3G/4G mobile	135	47.37
I do not use Internet	25	8.77
Total	285	100.00

Use of Smartphone for Academic Purpose

Table 9 shows that the use of Smartphone for Academic purpose. The study indicates that Web browser 280(36.22%) followed by Dictionary apps 107(13.84%), CamScanner 68(8.80%), Google drive 55(7.12%) and Social media 51(6.60%). However, Dropbox 38(4.92%), Bibliography helper apps 34(4.40%), Fun fitness apps 26(3.36%), Lecture capture apps and Students planner apps 25(3.25%), CourseSmart 17(2.20%), Exam Prep apps 10(1.29%), Students safety 7(0.91%) and Revision apps 5(0.65%) etc. It is clear that students use mostly web browser 280(36.22%) for searching of information related to their course of study followed by dictionary apps 107(13.84%) for getting meaning of new word for writing and speaking, CamScanner for scanning of cl5666ass notes 68(8.80%), Google drive 55(7.12%) for storing of information and their class

notes and social media 51(6.60%) for sharing of class notes as well as course materials related to their subjects. It is concluded from the study that students use various apps for their academic purposes.

Table 9: Use of Smartphone for Academic Purpose

Academic Purpose	Frequency	%
Lecture capture apps	25	3.25
Revision apps	5	0.65
Student planner apps	25	3.23
Bibliography helper apps	34	4.40
Social media	51	6.60
Student safety apps	7	0.91
Fun fitness apps	26	3.36
Healthy eating apps	25	3.23
CamScanner	68	8.80
Dropbox	38	4.92
Dictionary apps	107	13.84
Exam prep apps	10	1.29
CourseSmart	17	2.20
Google Drive	55	7.12
Web Browser	280	36.22
Total	773	100.00

Commonly used apps

Respondents were asked to express commonly used apps. It is clear from the table 10 that social networking apps 167(20.49%) followed by Search tool apps 150(18.40%), Utility apps 105(12.88%) and Sports apps 104(12.76%). However, Money transferring apps 81(9.94%), Entertainments apps 76(9.33%), Game apps 54(6.63%), News apps 43(5.28%), Travel apps 25(3.07%) and Weather apps 10(1.23%). It is evident from the study that the majority of respondents use Social networking apps 167(20.49%) followed by search tool apps 150(18.40%), Utility apps 105(12.88%) and Sports apps (104(12.76%) whereas, least used apps is weather apps 10(1.23%).

Table 10: Commonly used Apps

Mostly Used Apps	Frequency	%
Utility apps	105	12.88
Social networking apps	167	20.49
Weather apps	10	1.23
Game apps	54	6.63
Search tool apps	150	18.40
Sports apps	104	12.76
Entertainment apps	76	9.33

News apps	43	5.28
Travel apps	25	3.07
Money transferring apps	81	9.94
Total	815	100.00

MAJOR FINDINGS

- Respondents profile with respect to various aspect academic levels, gender and age were investigated and the findings are presented in Table 2 accordingly.
- It is also clear from the study that 260(91.23%) respondents have Smartphones.
- It is evident from the table 4 that the majority of respondents 225(78.95%) have the Android phones.
- It is clear from the study that the maximum number of respondents 150(52.63%) spend 1 hours a day whereas, least number of respondents 5(1.75%) spend more than five hours a day on their Smartphones.
- It is clear from the study that the maximum number of students 100(35.09%) installed 5-10 apps whereas, 18(6.32) students installed 25-30 apps in their Smartphones.
- It is evident that the maximum number of students 133(46.67%) access internet on their Smartphones at their respective hostel whereas, a minimum number of students access internet on their Smartphone 11(3.86%) at their Departments.
- The findings shows that the maximum number of respondents 135(47.37%) access internet on their Smartphones through 3G/4G mobiles whereas, 53(18.60%) respondents stated that they access internet on their mobile through Wi-Fi.
- It is revealed from this research study that the students use various apps used for their academic purposes.
- It is evident from the study that the majority of respondents use Social networking apps 167(20.49%) followed by search tool apps 150(18.40%), Utility apps 105(12.88%) and Sports apps (104(12.76%) whereas, least used apps is weather apps 10(1.23%).

RECOMMENDATIONS

It is obvious from the above research study that Smartphones are a major means through which the Students of faculty of Social Science, Banaras Hindu University, Varanasi, access academic information. The following recommendations are made as given below:

- Smartphone services have to be incorporated into library operations and services.
- Library resources and services have to be made available in the forms that are compatible with Smartphones.
- LIS professionals, faculty and University personnel by and large have to be sensitized and educated in the use of Smartphones for teaching and learning purposes.
- Attempts have to be made by the University to encourage use of Smartphones teaching and learning at the various levels.
- A standardized training programme must be conducted in the use of Smartphones for learning purposes it must also be updated yearly to accommodate any new technological developments and innovations in mobile usage for academic purposes.
- Wi-Fi infrastructure must be developed at the University level to make sure quality speed and accessibility to students. Multiple access points have to be made available to students within the University campus.
- Time to time evaluation and effective implementation of the above recommendations have to be maintained by the respective committee.

CONCLUSION

This research study presented a quantitative study conducted at the faculty of Social Science, Banaras Hindu University. The study involved 285 (95%) respondents from the faculty of Social Science. The study analyzed academic use of smartphones by students of faculty of social science, Banaras Hindu University, Varanasi. It is indicated from the results of the study that there has been a remarkable increase in the use of smartphones among university students. It is concluded from the study that the use of high-speed mobile internet services such as 3G/4G and Wi-Fi facilities in various places. This kind astonishing increase can be recognized as the availability of cheap smartphones, with many applications and also cheap high-speed internet services. All the above-mentioned

factors have added into the fast acceptance of these mobile technologies by the University students. At last, based on our data analysis it can also conclude that smartphones usage among University students is expected to increase further in the near future.

REFERENCES

[1]. Baker. (2012). on the use of cellophanes and other electronic devices in the classroom: evidence from a survey of faculty and students. Retrieved from ERIC: http://eric.ed.gov/?id=EJ994147.

[2]. Chen, B. (2013, October 7). Exploring Students Mobile Learning Practices in Higher Education. Retrieved from *EDUCAUSE Review online*:http://www.educause.edu/ero/article/explo ring-students-mobile-learning-practiceshigher-education

[3]. Jesse, G. (2013). Like, Tweet, Or Pin: College Students and Their Current Use Of Social Media. *Issues in Information Systems*, 14(1), 403-414.

[4]. Kljunic, J. & Vukovac, D. P. (2015). *A Survey on Usage of Mobile Devices for Learning among Tertiary Students in Croatia*. Central European Conference on Information and Intelligence Systems, (p. 8). Varaždin, Croatia.

[5]. Makoe, M. (2010). Linking Mobile Learning to the Student-Centred Approach, 2010.http://www.checkpointelearning.com/articl e/8044.html, downloaded

[6]. Mikre, F (2012). The Roles of Information Communication Technologies in Education: Review Article with Emphasis to the Computer and Internet. *Ethiopian Journal of Education and Sciences*. Vol. 6, pp. 109-126.

[7]. Mohtar, N. M. M., Hassan, M. A. and Hassan, M. S., Osman M. N. (2013). The Importance of Smartphone's Usage among Malaysian Undergraduates. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*.Vol. 14, Issue 3, pp.12-118.

[8]. Payne, K. F. B., Wharrad H. and Watts, K. (2012). Smartphone and medical related App use among medical students and junior doctors in the United Kingdom (UK): a regional survey.

[9]. Peterson, D. (2011). Stats on College Students & their cellophanes. Retrieved from Generation Mobile:http://thedrewpeterson.com/2011/11/10/s tats-on-college-students-their-cell-phones/

[10]. Rismark, M., et al (2007). Using mobile phones to prepare for University lectures: student experiences. *TOJET: The Turkish Online Journal of Educational Technology*, 6 (4).

[11]. Rung, A., Warnke, F. and Mattheos, N. (2014). Investigating the use of smartphones for learning purposes by Australian dental students. *JMIR Mhealth Uhealth*. Vol.2, No.2), e20. Doi: 10.2196/mhealth.3120.

[12]. Yusuf, M. O. (2005). Information and communication education: Analyzing the Nigerian National policy for information technology. *International Education Journal* Vol. 6, No. (3), pp.316-321.