A STUDY ON USAGE OF SMARTPHONE AMONG ENGINEERING AND MANAGEMENT STUDENTS IN PUNE

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ABSTRACT

A Smartphone is a cell phone having an advanced operating system which can be performed like a normal computer. In this study, we examine the usage of Smartphone among first-year engineering and management students of affiliated colleges of SSPU. The research will be carried out using questionnaires distributed to 100 students. Based on this data, the trends will be evaluated, by categorizing usage into 2 types; normal usage and usage for learning. To study, the trends in Smartphone usage for learning, questions related to learning activities such as the benefit of Smartphone for education in terms of technical topics, soft skills, aptitude and reasoning, general knowledge are asked.

This paper is organized as follows; Section 2 presents a literature review, Section 3 presents objectives, Section 4 discusses the methodology used. Section 5 presents tables and graphs, section 6 discusses research findings and section 7 gives suggestions. This study is concluded in Section 8.

KEYWORDS*: Smartphone, Smartphone Usage, Smartphone for Learning*

INTRODUCTION

The first Smartphone was developed by IBM and BellSouth, which came out to the public in 1993. A Smartphone is the type of gadget which merges cell phone and computer functionality. All activities which can be performed on normal computers such as sharing information, sending and receiving emails, chatting, opening and editing documents, paying for products, browsing and shopping can be done using Smartphone; a small device which can be kept inside a pocket of a trouser or a shirt.[1].

With time, Smartphone has replaced computers and has become a dynamic and sophisticated trend in communication. According to The Economic Times latest study, in India, the number of Smartphone users grew 54 per cent during 2014, reaching 140 million in number and the number of Smartphone will grow 4.7-fold between 2014 and 2019, reaching 651 million in number.

The progress of any nation depends on the system of education adopted by it to groom the next generation. With the proliferation of mobile technologies in all walks of life, it is need of the hour for India to remodel and upgrade the current education system. Studies of trends in Smartphone usage among Management students have been conducted in colleges affiliated to SPPU.

LITERATURE REVIEW

Nowadays Smartphone has a variety of features which was not there a few years back. College students can access the Internet, send or receive text messages, check email, and even video chat with others quite literally with the click of their hand. A study on adopting Smartphone as learning technology at Seoul National University, Korea has conducted by Kim and co-researcher who focused on the use of Smartphone applications for learning among Education and Engineering students (Kim 2013). Their findings revealed that generally every student had 80 applications on their Smartphone and 16% of the applications were used for some kind of learning.

K.B. Payne et al. have done a study on the usage of Smartphone among medical students in the United Kingdom. In this research, an online survey of medical students was undertaken within one of the United Kingdom healthcare region. Participants were asked if they own a Smartphone and if they used apps on their Smartphone to support their education. Their study found a high level of Smartphone ownership and participants endorsed the development of more applications to support medical students (K.B Payne 2012).

Survey on Smartphone usage at a South African University was conducted by Uys and co-researchers and the focus of their survey was to assess the usage of Smartphone applications for social networking applications (SNS). Findings of their research have revealed that students spent an average of five hours per day on their Smartphone interacting with others via SNS, and remain online for about 16 hours per day (Kukulska-Hulme A. 2007).

According to the survey conducted by Course Smart, the world's largest provider of e-Textbooks and digital course materials found that college students can't go long without checking their digital devices, including smartphones, laptops and more. As portable equipment, they can promote learning both inside and beyond the physical space of educational institutions (UNESCO, 2012).

According to Leslei Kahari M-Learning is a natural extension of E-Learning and it involves using mobile devices such as, cell phones, smartphones and palmtops that allow students to learn in different environments and whilst on the move instead of being restricted to the classroom or library(Leslei Kahari 2011) Since more activities are occurring on Smartphone equipped with audio, video, SMS, and other numerous applications, there must be methods put in place to use such effectively in education—for both instructors and students (Jessica L 2013). Herrington discusses how Smartphones were used to collect video, image and audio data for creating digital narratives or stories for using as a curriculum resource (Herrington 2009).

McNeal and Hooft found cell phones as important resources which make teaching more relevant and meaningful thereby improving student's literary and numerical skills (McNeal and Hooft 2006)

Kukulska-Hulme and Traxler believe that a cell phone is a form of multiple literacies providing a bridge between the real-life texts of the community and formal learning thereby providing a multi-model literary approach to learning (Kukulska-Hulme and Traxler 2007)

Cell phone use has also been found to reduce students thinking abilities and shortening the attention span of students so dramatically that students struggle to read anything longer than a social network posting suggested by Young (1996).

OBJECTIVE

- To study the usage of Smartphone for the favorite features used by students.

- To identify the primary purpose of using the Internet.

- To analyze usage behavior of students using education applications in Smartphone.

METHODOLOGY

For data gathering and to investigate the study, a questionnaire with closed and open-ended questions was designed by the researcher and was distributed to a sample of 88 engineering and management students of 2015. Out of which, 56 are male students and 32 are female students. The selection of participants was random and the only criterion was ownership of a Smartphone. The format of the survey was based on a mixed method of seeking qualitative and quantitative responses. The questionnaire consisted of three main parts; Part 1 collected demographic features such as gender, age group, program and level of studies. Part 2consists of questions which focus on the regular usage of Smartphone, favorite Smartphone feature, the overall performance of Smartphone providers while accessing the internet. Part 3consists of questions related to how Smartphone is used for learning. Multiple choices and multiple selection questions were employed. The survey was conducted in a classroom and monitored by teaching faculty member.

Tables and Graphs

Table 1: Percentage of Male and Female Students

Answer Options	Reponses Percentage
Male	63.6%
Female	36.3%

Table-1 indicates that the students surveyed (n=88) 63.6% are males and 36.3% are females.
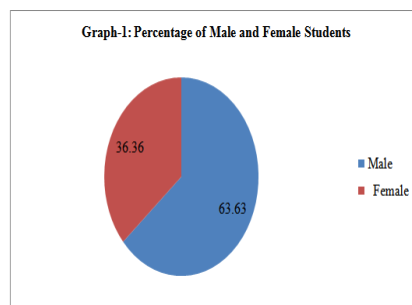
Figure 1

Table 2: Percentage of Students According to Age Group

Age Group	Reponses Percentage
15- 20	45%
21-25	41%
26-30	2%
31-35	0%

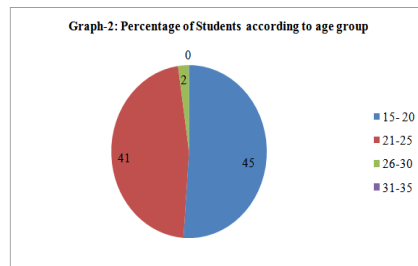Table -2 indicates that the majority of students are in the age of 15-20 years old.

Figure 2

Participants were asked whether they own Smartphone. As Shown in table-3, 90.9% students own Smartphone (n=88) and 9.1% were not using Smartphone.

Table 3: Percentage of Students Own Smartphone

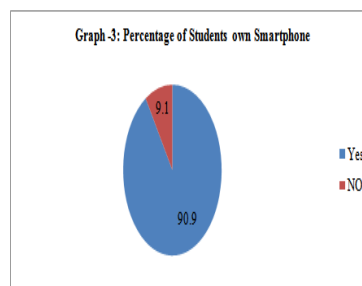| Answer Options	Reponses Percentage
Yes	90.9%
No	9.1%

Figure 3

The trends in Smartphone usage is evaluated based on two categories- normal usage and usage for learning. The following research questions were used:

R1: What is the favorite Smartphone feature?

R2: What is the primary purpose for using internet on Smartphone?

R3: Which education-related topics are you surfing?

R4: Are you using this information for exam purpose?

Table 4: Percentage of Smartphone Feature Using Students

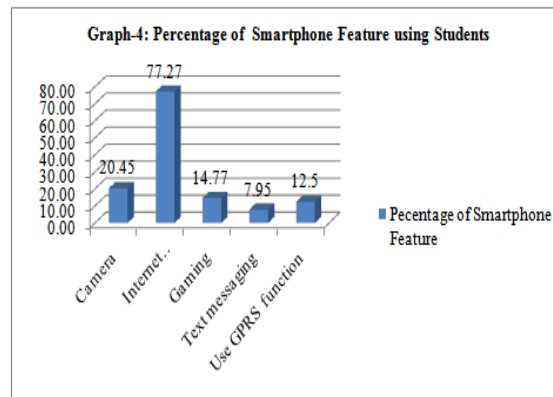| Answer Options	Reponses Percentage
Camera	20.45%
Internet Browsing/applications	77.27%
Gaming	14.77%
Text messaging	7.95%
Use GPRS function	12.5%

Figure 4

The study indicates 77.27% students use Smartphone for Internet Browsing, 20.45% uses for Camera, 14.77% uses for gaming, 12.5% uses for GPRS and 7.95% uses for text messaging. This reveals that the frequency of using Smartphone is more for internet browsing. Therefore, we can say that internet browsing is an important feature of using Smartphone.

In order to study research question (R2), following observation was made:

Table 5: Percentage of Using Internet Application

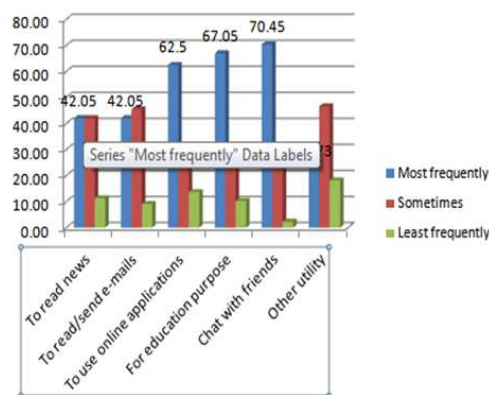| Questions	Most Frequently	Sometimes	Least Frequently
To read news	42.05%	42.05%	11.36%
To read/send e-mails	42.05%	45.45%	9.09%
To use online applications	62.5%	23.86%	13.64%
For education purpose	67.05%	23.86%	10.23%
Chat with friends	70.45%	25%	2.27%
Other utility	22.73%	46.59%	18.18%

Figure 5: Percentage of Using Internet Applications

The result shows that the frequency of using internet application for a chat with friends is more i.e.70.45% than other parameters. This shows that students are taking more interest in using the internet for chatting purpose rather than learning enhancement.

In order to study research question (R3), the following data is observed:

Table 6: Percentage of Surfing Education Topics

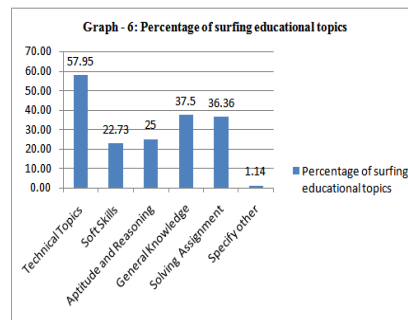| Answer Options	Reponses Percentage
Technical Topics	57.95%
Soft Skills	22.73%
Aptitude and Reasoning	25%
General Knowledge	37.5%
Solving Assignment	36.36%
Specify other	1.14%

Figure 6

The above graph-5 shows that students are surfing technical topics more with 57.95%. The percentage for other parameters is still less. In order to study research question (R4), the following data is observed:

Table 7: Percentage of Using Above Education Related Topics for Exam Purpose
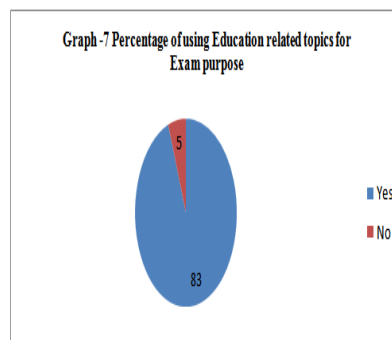
Yes	No
83	5

Figure 7

The above graph-6 shows that 83% of students use the education topics for exam purpose.

DISCUSSIONS

After analysis of the responses, 88 have responded correctly. Result analysis indicates that 90.9% of students in Engineering and Management colleges of Pune have Smartphone. The result shows that Smartphone has been used as a Camera, internet browsing, text messaging and for GPRS function. The findings suggest that almost all engineering and management students in Pune can afford to own Smartphone. Findings suggest that engineering and management student's utilized Smartphone as a regular mobile phone, as a computer with an internet connection and a digital camera. Findings also reveal that students have not fully utilized their Smartphone for learning purpose. Also, they are using Smartphone for learning purpose only for the sake of examination purpose. Research results indicate that 52% of students have used Smartphone to log in to their academic portal. However, results also indicate that 59.95% of participants use Smartphone for technical topics, 20% students use Smartphone for soft skill, 22% use Smartphone for Aptitude and reasoning,33% for General knowledge and 36.36% use Smartphone for Solving Assignments.

SUGGESTIONS

The usage of Smartphone for education purpose is less compared to other parameters i.e chat with friends. This shows that students are taking interest to chat with friends using Smartphone. It is also observed that they are using education portals for exam purpose and not to increase learning capabilities. In other words, to enhance Smartphone usage for learning, more and more education-related applications should be developed with attention on acceptance by students.

CONCLUSIONS

The results show that Smartphone is a very important tool for study as most of the respondents used their phones for chatting purpose. Smartphone is one of the most popular information access devices and what stands out from the study is the high usage of interactive, multi-user functions which can at times be disruptive or beneficial during the study. In essence, the study revealed that Smartphone is beneficial for learning. Findings of the study also show that mobile phone designers must take into account how young people use Smartphone for educational purpose. The advancements in Smartphone present a host of options and challenges for today's students. Smartphone is undeniably convenient, helpful tools for study and can be a hurtful source of distraction depending on the attitude and usage pattern of the student.

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