**Research Paper**

# Usage Of Mobile Devices: A Study At The Engineering Students Of Kerala University

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***ABSTRACT:****As the result of the IT, the size of the computers was reduced and can be easily held in our hands. The middle of the 21st century is marked as the century of worldwide use of mobile devices. Mobile devices have taken a crucial role in the entire field. Mobile technology helps the people to carry their small computers that contain exceptional computing power, such as laptops, Personal Digital Assistants (PDAs), tablet personal computers (PCs), cell phones, and e-book readers .The main aim of this study is to know the purpose of using mobile devices and to identify the problems encountered by the engineering students of Kerala University.*
***KEY WORDS****: Mobile devices, smart phone, internet, engineering students*

## I.   INTRODUCTION

Mobile devices are the computing devices, they are small, easy to hold to operate and handle on the palm of the hand. They have LCD flat screen interface, touch screen interface with digital buttons and keyboard or physical buttons along with a physical keyboard. "They can be easily connected with internet through Bluetooth, Wi-Fi, cellular networks or near field communications. Integrated cameras, digital media players, the ability to place and receive telephone calls, video games, and Global positioning system (GPS) capabilities are available through mobile devices. Power is typically provided by the lithium battery. From 2010, mobile devices have sensors such as accelerometers, magnetometers, and gyroscopes allowing detection of orientation and motion. They provide biometric user authentication such as face recognition or fingerprint recognition". (Wikipedia)

**Characteristics of Mobile Devices**

In the modern world of electronic devices, mobile devices are the inevitable part of human life, due to its great influence in the social academic life. A mobile device is a general term used for any handheld computer or Smartphone, which are used for communication and storage of information. Some of the characteristics of mobile devices are as follows.

**Portability**

Portability is one of the important characteristics of mobile devices. They have the ability to be transported from one place to another. To aid the free mobility of mobile devices they have rechargeable batteries that provide power for several hours and external charges or power sources. Mobile devices have a physical or on-screen keyboard for entering information.

**Compatible Size and Weight**

Mobile devices are usually fit in the average adult's hand or pocket or may fold or slide from a compact, portable mode to a slightly larger size. To maintain their size, they have compatible screens, keyboards, and their features.

**Wireless Communication**

Mobile devices provide the solution for the inconvenience of communication through cable connections. Due to the development of wireless connections through Wi-Fi, Bluetooth communication has become easier and faster than before. Wireless data networks provide the user on the spot facility of communication and exchange of information. Communication with Friends, Family and Co-workers

Mobile devices have a remarkable role in human relations today by connecting people beyond place, distance and time. They serve us to keep lasting contact with friends, care with family members and updated communication with co-workers. Mobile devices brought all people under the same roof as human relations.

**Constant Internet Access**

It's an amazing fact that mobile devices are bringing all information at your fingertips at any time you need it. Mobile devices help us to stay connected and also make us a part of the World Wide Web for twenty-four hours. With the help of the mobile devices, one can be connected to the internet and carry out the activities according to one's conveniences.

## II.  LITERATURE REVIEW

**Elaine Long (2009)** in his project evaluates the use of mobile devices by students at Boise State University and to study the relationship between the use of mobile phones and current syllabi mobile phone policies. The sample of the study was 126 students from the Boise State University. The report of the students indicated that 55% of students sending an average of one text message per class period, 85% of students were aware of classroom policies that prohibit cell phone use in the classroom. Majority of the students found that the use of the mobile phone during the learning was distracting them and they could not concentrate on their studies.

**Tara Coffin (2013)** made an attempt to study the use of mobile devices for academic purposes at the University of Washington. An annual EDUCAUSE ECAR survey viewed a noticeable Increase from 2013 to 2014 in the ownership and use of mobile devices for educational purposes.  The findings of the survey were that there was a significant growth in the use of the mobile phone around students. 80 to 90% of students own smartphones and it brought significant changes in their academic purposes. Using mobile devices for registrations is very important and it's growing day by day and it saves the time of many students.

**Huseyin Bicen (2103)** studied about the evaluation of the most used mobile devices applications by students. A structured questioner was distributed to 72 university students using mobile devices. The result showed that the university students did not use their mobile devices applications for educational purpose but mainly they used for social networking and communication purposes. If the students used the mobile devices application for their academic purpose a more convenient, effective and innovative educational environment could be created.

**Helen Farley (2015)** conducted a study about how do students Use their mobile Devices to Support Learning. The aim of the study was how the university students perceive mobile learning they undertake, the mobile technologies they own or access and their mobile learning preferences. The result of the study viewed that the students were actively using mobile devices and have access to support their academic learning. The students used their smartphones for various tasks such as news, games scanning, navigation, photography, entertainment, sharing the information, reference. It is clear from the study that the students constantly used mobile devices for their learning.

**Objectives of the study**
1.  To study the purpose of using mobile devices by the engineering students.
2.  To study the frequency of using mobile devices.
3.  To identify the different problems encountered by the engineering students.

## III. METHODOLOGY

Primary data for the study was collected through an online questionnaire. An online questionnaire was randomly to send to different engineering students of some of the engineering colleges under Kerala University. A very good response was drawn from the students out of 375 questionnaires 346 were completely answered. 346 questionnaires were taken as the sample for the study.  The data was entered in MS - Excel and was coded and imported into SPSS for analysis.

## IV. DATA ANALYSIS AND INTERPRETATION

The data bearing on the questions on usage of mobile devices by the engineering students received through the questionnaire are presented in figure and tabular form and the analysis of data is given for each question

**Gender wise break up and the rate of response**

| Respondents | No. of Questionnaire Distributed | No. of Questionnaire Received back | Rate of Responses |
|---|---|---|---|
| Male | 190 | 180 | 52.02% |
| Female | 185 | 166 | 47.98% |
| **Total** | **375** | **346** | **100%** |

The study reveals that out of 346 respondents, 180(52.02%) of the respondents are male and remaining 166(47.98%) of the respondents are female.

**Purpose of using mobile devices by engineering students**

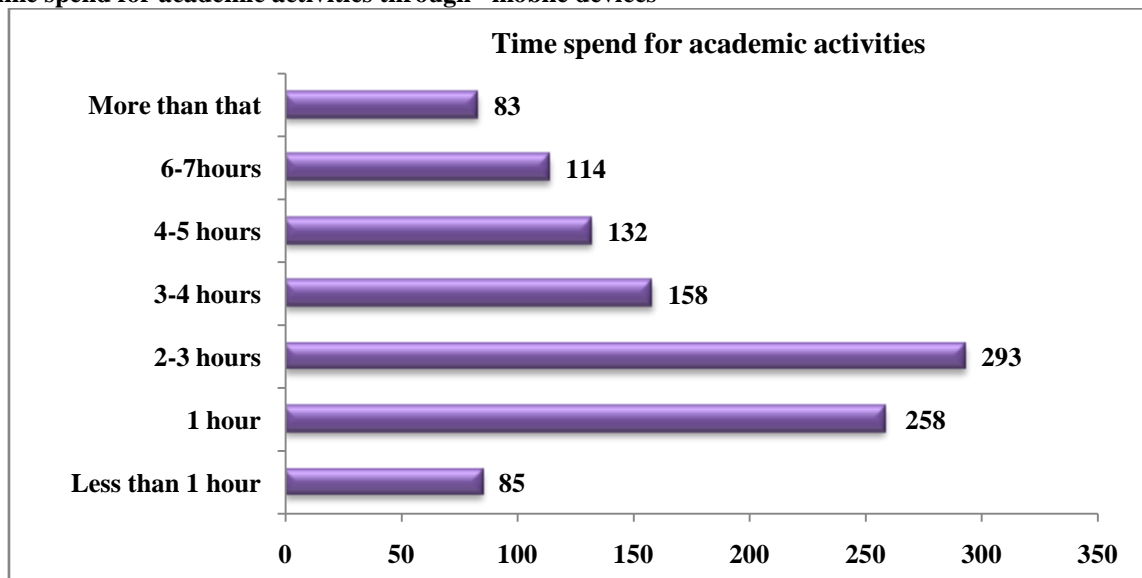| SI. No | General activities | No. of Respondents | Percentage |
|---|---|---|---|
| 1 | Portable | 341 | 98.55% |
| 2 | User friendly | 311 | 89.89% |
| 3 | Connected to Internet | 274 | 79.19% |
| 4 | Convenient | 315 | 91.04% |
| 5 | Access to mobile apps and services | 292 | 84.39% |
| 6 | 24*7 access | 310 | 89.59% |

The above table indicates that 341(98.55%) of the engineering students agree that they prefer mobile devices as they portable whereas 315(91.04%) of the students have opine that mobile devices are convenient , about 311(89.89%) have the opine that the mobile devices are user friendly, 310(89.59%) agree that mobile devices have the characteristic of 24*7 access and 292(84.39%) agree that mobile devices provide access to mobile apps and services, and 274(79.19%) agree that they are connected to internet.

**Academic activities performed by the engineering students**

| SI. No | Academic activities | No. of Respondents | Percentage |
|---|---|---|---|
| 1 | E-learning | 281 | 81.21% |
| 2 | Downloading and sharing materials | 314 | 90.75% |
| 3 | Internet browsing | 326 | 94.21% |
| 4 | Searching for information | 331 | 95.67% |
| 5 | For audio and videos books | 271 | 78.32% |

The table reveals the different academic activities performed by the engineering students through mobile devices. Out of 346 respondents 331(95.67%) used mobile devices for searching information, while 326(94.21%) respondents used for internet browsing, 314(90.75%) respondents used their mobile devices for downloading and sharing materials, 281(81.21%) respondents for E-learning, 271(78.32%) respondents used mobile devices for audio and video books.

**Time spend for academic activities through mobile devices**
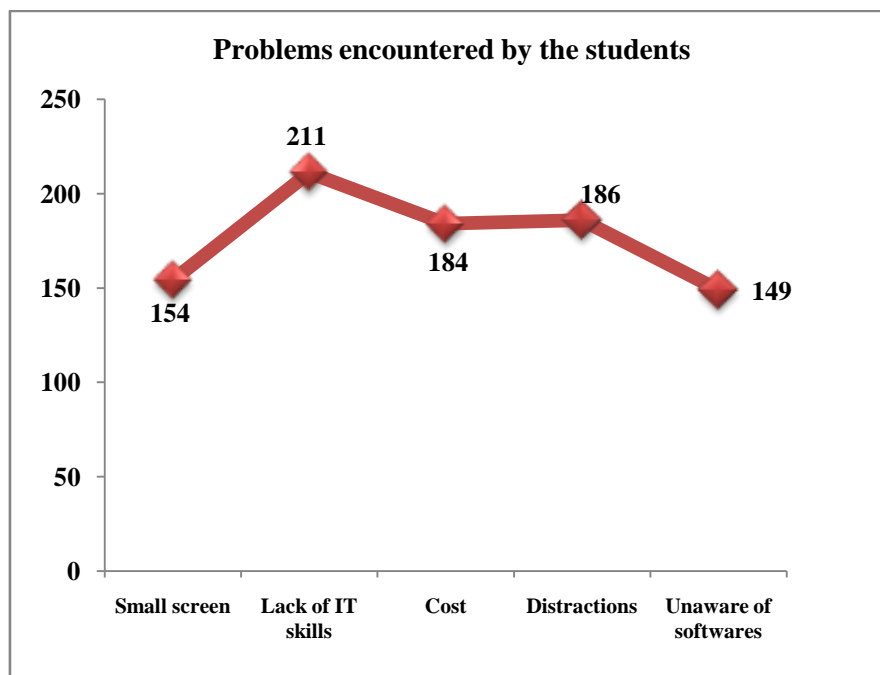


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The bar graph provides the data of how much time the students spent for their academic activities through mobile devices. Most of the students 293(84.69%) opined that they used mobile devices 2-3 hours, followed by 258(74.57%) of the students spent 1 hour, 158(45.67%) of the student spent 3-4 hours, 132(38.15%) of the students spent 4-5 hours, and only 85of the students spent less than 1 hour.

**Access of E-Resources on mobile devices**

| Resources | Respondents | Percentage |
|---|---|---|
| E-Books | 221 | 63.88% |
| E- Journals | 185 | 53.47% |
| Online database | 224 | 64.73% |
| Open access repository | 157 | 45.38% |
| CD Rom databases | 112 | 32.37% |
| Library website | 236 | 68.20% |
| Web resources | 191 | 55.20% |

The above table shows the different E-Resources accessed through mobile devices. About 236(68.20%) respondents accessed library website through mobile devices, followed by 224(64.73%) online database, 221(63.88%) E-Books, 191(55.20%) web resources, 185(53.47%) E-Journals, 157(45.38%) open access repository about 112(32.37%) respondents accessed CD Rom through mobile devices.

**Problems encountered by the engineering students**



The line chart shows the different problems encountered by the engineering students while using mobile devices for the academic purposes. 211(60.99%) students stated that they lack IT skills, about 186(53.75%) opined that they were distracted while using mobile devices for their academic purposes. 184(53.17%) agreed the problem of cost, 154(44.50%) had the problem of small screen, about 149(43.06%) agreed that they were unaware of the softwares.

## V. FINDINGS

1. Out of 346 respondents, 180(52.02%) of the respondents were male and the remaining 166(47.98%) of the respondents were female and they make the sample for the study.
2. It was found that majority of the respondents agreed that they prefer the mobile devices because of their portability.
3. About 331(95.67%) of the respondents agreed that they used mobile devices for searching for the academic information and only 271(78.32%) used mobile devices for audio and video books.
4. Majority of the respondents 293(84.69%) daily spent 2-3 hours to mobile devices for their academic purposes.

5. The students faced different problems the highest number of the students agree that 211(60.99%) they lack IT skills.

## VI. CONCLUSION

Today the academic studies have become more digitalized due to advanced technology. Mobile devices have brought tremendous advantages in the academic performance of the student's life. The findings of this study show that majority of the students do their academic activities through their mobile devices and they daily spent 2-3 hours to access the mobile devices. Mobile devices facilitate the students to engage in learning activities outside the classroom. From the study it was clear that the engineering students make use the mobile devices for their academic activities.

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