



Mobile Apps Use Pattern By Engineering College Students Of CMR Engineering College: Telangana State

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Abstract:

Mobile phones are becoming an increasingly important aspect of daily life, transforming how people connect and interact with the world. Smart phones are now used to access personal e-mails, browse the web, educate, entertain, and inform video chat, connect and discuss on social media, and download various mobile applications, among other things.

The major objective of this study was to identify what type of devices are using by the students, duration of usage time, what purpose mobile applications are using, Use Pattern of Mobile Phones by engineering college students. The 750 responses received for above study out of which 703 responses was considered Majority of the students 633 (90.04%) using 'social networking apps' for their academic purpose. The utilizations of mobile apps, 502, (71.41%) students agreed mobile apps are the Application tools and aggregator of resources and information. Mobile Apps, 620 (88.19%), students agreed mobile apps were helping tool for group discussions. The study also revealed that majority of the respondents 676 (96.16%), opined that students are addicting to Social Networking websites.

Key Words: Mobile Apps, Use Pattern, Mobile Development, Social Networking, CMR Engineering College Students, Telangana

Introduction:

A mobile application, known as an app, it is a computer program that runs on mobile devices such as smart-phones, tablets, and other mobile devices. Apps are often small, standalone software entities with limited capabilities. Apps and smart-phones are available through application distribution platforms, which first appeared in 2008 and are typically run by the mobile operating system's owner. Apple Inc.'s App Store, Google Play Store, Windows Phone Store, and BlackBerry App World, which sells thousands of i-Phone apps, popularized the use of software. The rise of smart phone apps has altered how people look for and access information.

Mobile Applications Development:

Motorola exhibited the first hand-held mobile phone in 1973. "0G" systems were not cellular, could only handle a limited number of simultaneous calls, and were extremely expensive. The initial generation ("1G") of mobile phones deployed the second generation (2G) digital cellular technology on the GSM standard in Finland in 1991, NTT DoCoMo released the third generation (3G) on the WCDMA standard in Japan ten years later, in 2001. Then came upgrades based on the High-Speed Packet Access (HSPA) such as 3.5G, 3G+, or turbo 3G, for faster data transmission speeds and capacity. The expansion of bandwidth-intensive applications like streaming media would overburden 3G networks. As a result, the industry began to look to data-optimized 4th-generation technologies, which promised speeds up to 10-fold faster than existing 3G technology. Following 3G and before 5G, 4G is the fourth generation of broadband cellular network technology. A 4G system must support the ITU's IMT Advanced capabilities. Modified mobile online access, IP telephony, gaming services, high-definition mobile TV, video conferencing, and 3D television are some of the potential and present applications. The 5G wireless cellular network is the most recent radio technology designed to provide high-speed performance. It's not a better version of 4G, but a completely new technology that's worth discussing in this day and age. According to experts, it will do a lot more than just boost the network connection. Connecting devices to gather and share information in real-time will become more pleasant and useful thanks to 5G's unified connection fabric. Multiple domains can benefit from lag-free networking, from minimizing road accidents to anticipating production lines. It's no surprise that 5G has gotten a lot of attention since its long-awaited rollout in April 2019. Despite the fact that an extensive rollout has been postponed due to COVID-19, the world is watching 5G. Mobile operators are investing \$160 billion a year in the rollout of 5G to extend and upgrade their networks.

Mobile Apps for Information Professionals:

Today's number of the academic institution like universities, research labs, technical institution and libraries have developed own library app or adopted application software (apps) with a unique goal to spread the information to all users and every bit of information to its user. Libraries and information professionals integrate library catalogue called Web OPAC, patron accounts, library hours, rules and regulation, bulletin board, newsletters, upcoming workshop lecture and more to mobile users. Designing a library mobile Website is a great opportunity for libraries and professionals to transform user services with recent technological trends. Mobile applications can help to access Library electronic resources. Use of mobile apps in library sector as a means to connect libraries with their users, libraries may be able to reach out to more customers, resulting in stronger and better online communities for students.

Mobile Apps and their Futures

Sl No	Name of the Mobile App	Usefulness/Feature of Mobile App /Website Address
1	LibAnywhere	This app helps users to search library catalogues, attend library events, use SDI services, and contact librarians. It is compatible with both the iOS and Android operating systems. (www.libanywhere.com)
2	Catch	Users can generate notes (text, audio, or video, for example) and save them to 'spaces' in this app. It provides three places to users, each of which can be private or shared with other users. It provides 70MB of free storage space per month. (https://catch.com)
3	Ever Note	The function of this app is similar to that of catch. It enables users to save notes and sync their mobile and desktop devices. Ever-Note allows you to store entire WebPages or portions of them by clipping them. The app is compatible with both Android and Apple iOS Smart phones. (http://evernote.com)
4	Inspiration Maps	Inspiration Maps is an instructional programme for the iPad that only supports Apple iOS mobile phones. We can make mind maps and other useful diagrams with this software (https://itunes.apple.com/us/app/inspirationmaps/id510173686?mt=8)
5	EasyBib	Apple iOS and Android mobile devices are both supported by EasyBib. Users can write bibliographies in MLA (Modern Language Association), APA (American Psychological Association), and Chicago styles, as well as scan a book's barcode. (www.easybib.com)
6	Trello	Users can use this software to manage projects, modify team work, and send reminders via email notifications. (https://trello.com)
7	AccessMyLibrary	This app is compatible with both Android and Apple iOS devices. With login credentials, users can access their organization's subscription Gale Database. (www.gale.cengage.com/apps/aml/College Library/)
8	ArticleSearch	Users can search for scholarly articles and other academic publications, as well as retrieve documents, using this smartphone app. Only iOS mobile devices are supported.. (https://itunes.apple.com/us/app/articlesearch/id401914624?mt=8)

9	NPTEL Swayam	In 2003, the Ministry of Human Resource Development (MHRD) launched the National Programme on Technology Enhanced Learning (NPTEL), which was overseen by seven Indian Institutes of Technology and the Indian Institute of Science, Bangalore. It is a Web-based learning open course with videos in various degree levels for everyone. Currently, there are over 1100 subject video courses available for viewing and downloading on the web platform. (https://swayam.gov.in/nc_details/NPTEL)
10	NGL Library Mobile App:	NGL Library App supports only on android phones for those who are using NGL Library Software. Through this app library users can be able to search and retrieve the library holdings of a particular library and also they can know the new arrivals added to their library and they can check their account status. (https://m.apkpure.com/carbon/org.newgenlib.carbon)
11	British Council Online Library	It provides access of e-books, e-journals, classical movies, short films, audio books with subscription. (https://www.britishcouncil.in/library/online-library)

Review of Literature:

Gunawan, and others (2021) study found that use of an integrated mobile academic system can be located anywhere; the implementation of the system is carried out in stages through trials, outreach, and training in the use of the system. **Illhum and others (2021)** study reveals that creation of a mobile library application has an online conservatory feature, a reminder of the date of rejoiner of issued books, and the amount of late fines. It increases curiosity in student learning and services and improves effective and efficient library management. **Isebe, Marcus L. (2021)** study found that the most important effects of anxiety involving to the usage of mobile phones as indicated by the users are less attentiveness and lack of interest in their academics. Study also reveals that the main effects of techno stress involving to the usage of a mobile phone as indicated by the users are that they feel worn out most of the times after using their mobile phone. **Chen Xuan, (2020)** discussed that the functions of the mobile library service model in colleges are comparable, the performance is deficient, resource sharing degree is low, and user penetration is inferior. **Mwambakulu, (2020)** studied on the use of mobile phones and the extent to which such policies shape patterns of smart phone usage of students in public universities in Malawi, founds that students enrolled in face-to-face programmes, and also involved only students among several stakeholders such as lecturers, administrators, support staff and technologists. **Sunitha Ravi (2020)** revealed that Mobile phone enables teachers and students to share their knowledge and experience at any time anywhere. Implementation of Mobile applications in education plays a significant role in changing the traditional teaching learning process. **Veronica Olufunmilola (2020)** studied in South-West, Nigeria, The analysis revealed a significant influence of motivation on job performance of library workers in colleges of education in South-West, Nigeria. **Hossain (2019)** studied that many students access Google and other search engines, thereby turning their smart phones into research tools, 60% of the students rarely use or never use this application and it was actually surprising that the respondents use the camera more than voice recording. **Larson, R. (2019)** study library managers must always anticipate the benefits that will accrue to their information centers when they adopt new technologies as well as the costs components associated with such technological implementations. **Pahade, and others (2019)** study found that 83.38% students have registered themselves on Face book and the inclination of nearly the same in Metro cities and Mini Metro cities in India. Others social networking sites such as Twitter, LinkedIn and Orkut are

way behind compare to Face book. 72% students using Internet from Home, infiltration of mobile Internet is also on the rise as nearly one fifth of students are making use of mobile Internet, reducing their dependencies on School and Cyber Cafe. **Sant-Geronikolou (2019)** founds that the app facilitates many operations that can be conducted even during after hours. It also helps avoid queuing up for measures that can be executed electronically through the system and without direct interaction with library staff. **Shimray, (2019)** examined the mobile reading habits of 276 people of different people living in Hyderabad city, more than 1/3 population used mobile for general reading purpose, more than 60% of peoples taking break after every 30 minutes as habit. People felt problems like headache, eyes strain, sore eyes, body pain, detaching tears, neck pain, back pain, sleeping problem are encountered by reading on mobiles for more time. **Chaputula, A. H., (2018)** study revealed that in Malawi needed ICT resources to expedite the provision of library and information services through mobile devices. The available ICT resources were internet infrastructure and ICT systems such as library management system (LMS), servers, tablets computers, desktop computers and fiber-optic cables that facilitated access to both cable and Wi-Fi internet connections. **Nwachukwu, (2017)** study found that majority students using mobile phones for social media networking. Students are giving less importance to academics. Students also using smart phones for not their life style also for status symbol and sacrificing other essentials in their life. The study also recommends the students to use smart phones for academic enriching activities.

Objectives of the Study: The objectives of the present study as follows:

1. To find out what type of Mobile Apps are using by CMR Engineering College students in Telangana State
2. To find out the Use Pattern of Mobile Applications in CMR Engineering College students in Telangana State
3. To find out what Purpose Mobile Apps are using in CMR Engineering College students in Telangana State
4. To determine the problems to access Mobile Apps by CMR Engineering College students in Telangana State
5. To make suggestions to improve the usage pattern of Mobile Apps for CMR Engineering College students in Telangana State

Need of the study:

The Review of Related Literature reveals that there are no studies on Mobile apps usage in Telangana State. So far, no one has conducted research; however, there is a need to investigate the state of the art of mobile app application, as well as awareness and usage of mobile applications among teachers and students in Hyderabad, Telangana.

Scope and limitation of the study:

The present study is confined to the students who are pursuing Engineering in CMR Engineering College Hyderabad. Hence, the study is geographically limited to Hyderabad and empirically limited to CMR Engineering College.

Methodology

The Methodology used for the study was Descriptive Survey. A simple random sampling technique was used for data collection through a self-designed questionnaire. The questionnaire was distributed to the respondents. A total of 750 responses received out of which, 703 questionnaires were filled in and considered for analysis. Data analyzed as tables using percentage, chi-square test using SPSS.

Data Analysis and Interpretation

Type of Device Using:

Mobile is considered as hub of information and ocean of knowledge. It possesses myriad resources to meet the information needs of the students. The information has been elicited from the respondent's type of device using, the replies given by them are shown in the Table 1

Table 1 Type of Devices Using

Device	Gender			Chi-Square Test	Degree of Freedom	Chi Square Table Value
	Female	Male	Total			
Laptop	74 (10.53)	150 (21.34)	224 (31.86)	2.591	3	7.815
Tablet	54 (7.68)	136 (19.35)	190 (27.03)			
Mobile	84 (11.95)	151 (21.48)	235 (33.43)			
Others	18 (2.56)	36 (5.12)	54 (7.68)			
Total	230 (32.72)	473 (67.28)	703 (100)			

(Figures in parenthesis indicate percentages)

The Table depicting an analysis of different types of devices used. Data reveals that 33.43% (235 of 703) of the total sample used 'Mobile Phones'. The next device preferred was the 'laptop' used by 224, i.e. 31.86% of the collected sample while the 3rd preferred device was the 'tablet' by 27.03% (190 out of 703). The least used is 'Others' by 7.68% representing only 54 of the total sample. The 'Other device' was used by less population samples as the device lacks new features when compared to other devices like mobile phone and laptop. The computed chi-square value is 2.59 is lesser than the chi square table value (7.815). Hence the difference in gender status is statistically identified as significant concerning respondents' Types of mobile devices used.

Duration of Mobile Apps usage

Duration of Mobile Apps usage by the students in day to day life with Mobile Phones. Time spent is chosen are from <1 hour to More than Three hours. Replies were given by them are shown in the Table 2.

Table 2 Duration of Mobile Apps usage

Time	Female	Male	Total	Chi-Square Test	Degree of Freedom	Chi Square Table Value
Less than one Hour	24 (3.41)	42 (5.97)	66 (9.39)	5.496	4	9.488
One Hour	57 (8.11)	144 (20.48)	201 (28.59)			
Two Hours	79 (11.24)	174 (24.75)	253 (35.99)			
Three Hours	61 (8.68)	94 (13.37)	155 (22.05)			
More than Three Hours	9 (1.28)	19 (2.70)	28 (3.98)			
Total	230 (32.72)	473 (67.28)	703 (100)			

(Figures in parenthesis indicate percentages).

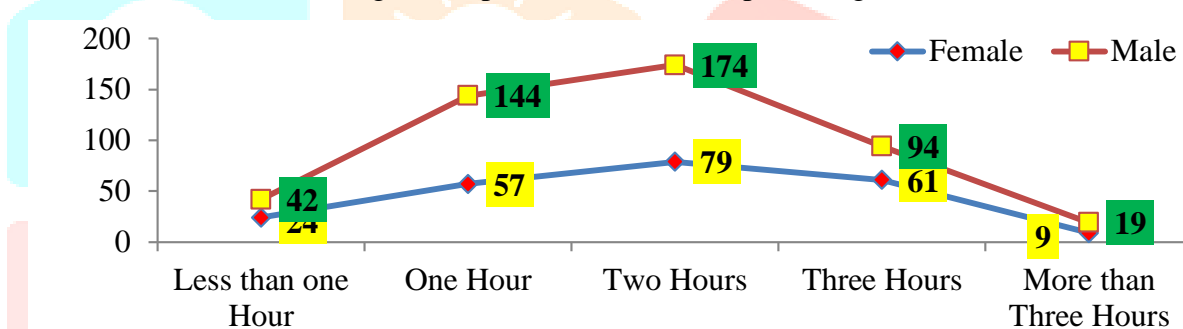


Figure 2 Duration of Mobile Apps usage

Table 2 and Figure 2 depict the opinion of engineering students’ duration of usage of apps in mobile devices. It is apparent that 35.99% (253 out of 703) students used the mobile apps 2 hours, 28.59% (201) used apps 1 hour per day, followed by 22.05% (155) used apps 3 hours, 9.39% (66) used the apps for less than 1 hour and 3.98%(28) used more than 3 hours. The time devoted by engineering students in using the apps was found to be 2 hours and 1 hour. In contrast to this, less number of students used the apps for more than 3 hours. This analysis gives a clear picture that students could not find time to extend the usage of apps due to their important preoccupation. This was revealed during an informal talk interaction with them by the researcher.

The chi-square test is conducted for additional conversation. The computed calculated chi-square value 5.496 is less than the chi-square table value (9.488) at 0.05 level. Therefore the difference in gender category is statistically recognized as not significant for respondents’ duration of using mobile applications.

Types of Apps used for accessing the electronic resources

There are different types of apps are using CMR Engineering College students. They are mainly education apps, communications apps and others. The information collected from the students and replies given by them are shown in the Table 3

Table 3 Types of Apps used for accessing the electronic resources

Types of Apps	Female	Male	Total	Chi-Square Test	Degree of Freedom	Chi Square Table Value
Education apps	205 (29.16)	384 (54.62)	589 (83.78)	19.481	11	19.671
Communication apps	194 (27.60)	305 (43.39)	499 (70.98)			
Messaging/texting/SMS apps	217 (30.87)	394 (56.05)	611 (86.91)			
Social networking apps	224 (31.86)	409 (58.18)	633 (90.04)			
Entertainment apps	184 (26.17)	275 (39.12)	459 (65.29)			
News apps	197 (28.02)	303 (43.10)	500 (71.12)			
Games apps	225 (32.01)	384 (54.62)	609 (86.63)			
Engineering-related apps	174 (24.75)	248 (35.28)	422 (60.03)			
Health apps	195 (27.74)	242 (34.42)	437 (62.16)			
Multimedia apps	208 (29.59)	304 (43.24)	512 (72.83)			
Business apps	147 (20.91)	218 (31.01)	365 (51.92)			
Others	102 (14.51)	154 (21.91)	256 (36.42)			

(Figures in parenthesis indicate percentages)

Table (3) reveals the types of apps used by engineering college students. It was found that mobile apps were used by all sample students (100%). Out of the 703 respondents, the majority of students 633(90.04%) used 'social networking apps' for their academic purpose. It is observed that 611(86.91%) and 609(86.63%) students have used Messaging/texting/SMS apps and games apps, respectively. Similarly, 589(83.78%) students also used 'educational apps' for recent updates. It appeared from the analysis that 512(72.83%) students used the app for accessing the 'multi-media applications'. In addition, students were also found using the 'news' app 500(71.12%); communication apps 499(70.98%); 'Entertainment app' 459(65.29%); health apps 437(62.16%); 'engineering related apps' 422(60.03%); 'business apps' 365(51.92%) and 'other app' 256(36.42%). However, the result shows that despite the hectic schedule comprising academic work and classes, students are inclined to use different medical apps in their mobile devices. The chi-square test is conducted for additional conversation. The computed calculated chi-square value 19.481 is lower than the chi-square table value (19.671) at 0.05 level. Therefore the difference in gender category is statistically recognized as not significant for respondents' Types of Apps used for accessing the electronic resources.

Utilization of Mobile Application

Table 4 showing that the utilization of mobile applications in CMR Engineering College. They are performance support tool, learning platform all rolled in one, application tools and aggregator of resources and information and people to come together around an idea or topic of interest and others. The responses of the students and replies given by them are shown in the Table 4.

Table 4 Utilization of Mobile Application

Utilization	Female	Male	Total	Chi-Square Test	Degree of Freedom	Chi Square Table Value
Mobile Applications are a performance support tool, learning platform all rolled in one.	134 (19.06)	302 (42.96)	436 (62.02)	32.292	11	19.671
Mobile Apps are the Application tools and aggregator of resources and information.	182 (25.89)	320 (45.52)	502 (71.41)			
Mobile Apps enable the people to come together around an idea or topic of interest.	110 (15.65)	118 (16.79)	228 (32.43)			
Mobile Applications promote inter-cultural and cross-cultural dialogue.	98 (13.94)	222 (31.58)	320 (45.52)			
Mobile Apps provide new opportunities to create and communicate with people that care.	128 (18.21)	254 (36.13)	382 (54.34)			
Mobile Apps encourage professional engagement, training and continuing education.	108 (15.36)	168 (23.90)	276 (39.26)			
Mobile Apps stimulate engagement, discussion and understanding among the students.	132 (18.78)	220 (31.29)	352 (50.07)			
Mobile Applications increase communication between the students, researchers and teachers.	126 (17.92)	192 (27.31)	318 (45.23)			
Mobile Applications enable the students to get more online tutorial classes to the topics that they did not understand in class.	112 (15.93)	188 (26.74)	300 (42.67)			
Mobile Applications provide relevant and reliable information to the students for research endeavors more than their assignments and projects.	138 (19.63)	214 (30.44)	352 (50.07)			
The interactive nature of e-learning and other mobile technologies results in a better learning environment for students.	132 (18.78)	188 (26.74)	320 (45.52)			

Mobile Apps can be integrated into the curriculum and mainstream of academic life.	128 (18.21)	208 (29.59)	336 (47.80)			
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(Figures in parenthesis indicate percentages)

Table 4 reveal that the utilizations of mobile apps, 71.41 %(502) students agreed mobile apps are the Application tools and aggregator of resources and information., 62.02%(436) were given using mobile apps for mobile applications are a performance support tool, learning platform all rolled in one.,54.34%(382) were given as mobile apps provide new opportunities to create and communicate with people that care.,50.07%(352) were given both mobile apps stimulate engagement, discussion and understanding among the students and mobile applications provide relevant and reliable information to the students for research endeavors more than their assignments and projects.,47.80%(336) students were response as utilization of mobile apps can be integrated into the curriculum and mainstream of academic life.,45.52%(320) for both interactive nature of e-learning and other mobile technologies results in a better learning environment for students and mobile applications promote inter-cultural and cross-cultural dialogue.,45.23(318) as mobile applications increase communication between the students, researchers and teachers., 42.67%(300) mobile applications enable the students to get more online tutorial classes to the topics that they did not understand in class.,39.26% (276) as mobile apps encourage professional engagement, training and continuing education, and the least preference utilization 32.43%(228) for mobile apps enable the people to come together around an idea or topic of interest.

For more update, the chi-square calculated value 32.292 is greater than chi square table value (19.671)at 0.05 level. Consequently, the difference in gender status is statistically identified as significant with respect to respondents’ utilization of mobile applications.

Advantages of Mobile Applications

Table 5 shows that the advantages of mobile applications in CMR Engineering College. They are 24X7 Alerts Keep in Touch, Essential Communication System and others. Data received from the students and replies are shown in the Table 5.

Table 5 Advantages of Mobile Applications

Advantages of Mobile Applications	Female	Male	Total	Chi-Square Test	Degree of Freedom	Chi Square Table Value
24X7 Alerts Keep in Touch	108 (15.36)	168 (23.90)	276 (39.26)	4.863	7	14.071
Essential Communication System	182 (25.89)	320 (45.52)	502 (71.41)			
Sharing Assignments	126 (17.92)	192 (27.31)	318 (45.23)			
Academic Information Discussions	212 (30.16)	388 (55.19)	600 (85.35)			
Any Doubts was asking to Faculty though these mobile Apps	138 (19.63)	214 (30.44)	352 (50.07)			
Very Helping Tool for Group Discussions	222 (31.58)	398 (56.61)	620 (88.19)			
Urgent Circulation is very helpful tool	128 (18.21)	208 (29.59)	336 (47.80)			
At a Time all information	210	318	528			

and Discussions was single platform	(29.87)	(45.23)	(75.11)			
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(Figures in parenthesis indicate percentages)

Table 5 reveals that the advantages of Mobile Apps, 88.19%(620) students agreed mobile app is very helping tool for group discussions as a advantages, 85.35%(600) were given using mobile apps for academic information discussion, 75.11%(528) were given feedback as advantage at a time all information and discussions was single platform, 71.41%(502) mobile app is essential communication system, 50.07%(352) confident with any doubts was asking at faculty through these mobile apps, 47.80%(336) students are feel mobile apps are helping tool in urgent circulation,45.23%(318)of students feel mobile apps helps in sharing assignments,39.26%(276) students feel mobile apps help as 24X7 alert keep in touch, this indicates mobile apps very much supported in touch to subject update.

For more update, the chi-square calculated value 4.863 is lesser that chi-square table value (14.071) at 0.05 level. Consequently, the difference in gender status is statistically identified as not significant with respect to respondents’ advantages of mobile applications.

Limitations of Mobile Apps:

Table 6 shows that the limitations of mobile applications in CMR Engineering College. They are addict to mobile applications, Psychological Problems and others. Data collected from the students and their replies are shown in the Table 6.

Table 6 Limitations of Mobile Apps

Limitations	Female	Male	Total	Chi-Square Test	Degree of Freedom	Chi Square Table Value
Addict to Mobile Applications	308 (43.81)	368 (52.35)	676 (96.16)	28.652	8	15.507
Psychological Problems	242 (34.42)	320 (45.52)	562 (79.94)			
Every Time depending to others	223 (31.72)	392 (55.76)	615 (87.48)			
Affect my studying	212 (30.16)	388 (55.19)	600 (85.35)			
Insomnia (not Sleeping Properly)	138 (19.63)	214 (30.44)	352 (50.07)			
Personal Information Hacking	194 (27.60)	364 (51.78)	558 (79.37)			
Road to crime	128 (18.21)	208 (29.59)	336 (47.80)			
Lack of Security	210 (29.87)	318 (45.23)	528 (75.11)			
Excellent source of killing time	224 (31.86)	403 (57.33)	627 (89.19)			

The students was asked about the limitations of mobile apps, it was revealed that majority 96.16%(676) feel mobile apps with a disadvantage Addict to Social Networks, 89.19%(627) were feel mobile app is excellent source of time killing, 87.48%(615) satisfied with a disadvantage helped with Every Time depending on to others, 85.35%(600) met with the penalty mobile app affect their studying as disadvantage, 79.94%(562) feel raise Psychological Problems, 79.37%(558) feel with Personal Information Hacking for weakness, 75.11(528%) students were feel mobile app has lack of security, 50.07% (352) satisfied with the disadvantage of Insomnia (not Sleeping Properly), 47.80(336). The principal problem identified was concerned about Addict to mobile.

The chi-square test is conducted for additional discussion. The computed calculated chi-square value 28.652 is greater than Chi-square table value (15.507) at 0.05 level. Therefore the distinction in gender category is statistically predictable as significant for respondents' disadvantages of mobile applications.

Findings of the Study:

- Majority of the students 633(90.04%) using 'social networking apps' for their academic purpose.
- Majority of the students 589(83.78%) using Educational Apps for academic assignments.
- Majority of the students 611(86.91%) using Message Texting, SMS apps.
- The utilizations of mobile apps, 502 (71.41%) respondents agreed mobile apps are the Application tools and aggregator of resources and information.
- Mobile Apps, 620(88.19%), students agreed mobile apps were helping tool for group discussions.
- Majority of the students 627(89.19%) expressed that Mobile Apps are excellent source for time killing.
- The study also revealed that majority of the respondents 676(96.16%), opined that students are addicting to Social Networking websites.
- The respondents also revealed that 352(50.07%) are suffering with Insomnia/Not sleeping properly

Conclusion:

The invention of Mobile Phones has been a significant catalyst in the digital world. Mobile usage currently is in the increase by engineering students in colleges in Telangana and across the globe. Mobile Phones have become smaller, download speed faster, text messaging almost gone, surfing the internet with mobile phones became common, social media posting continues and apparently there is an app for nearly everything to improve the student's academic skills.

First Generation Mobile Phones provided basic voice services, low sound quality, no roaming support, no security with 2.4kbps download speed. Second Generation Mobile Phones designed as Text Messaging, improved sound quality, reduced noise, popular for Ring Tones, with 64kbps download speed, Third Generation Mobile Phones designed for web browsing, video streaming, video conference, Broad band services with 2mbps download speed, Fourth Generation Mobile Phones designed with features as high quality video chat, fast mobile web access, with 100mbps to 1gbps speed. Fifth Generation Mobile Phones designed with new features as IP Based Protocols, Device to Device Communication, Better Battery consumption, improved overall wireless coverage, faster download and upload speed, no buffering with more than 35.46gbps download speed. This generation treated as a Game changer in the world. The rapid advancement of mobile technology will be the next big wave, allowing users to enjoy network services on their mobile devices.

Academic Libraries may better serve their patrons, offering mobile access to their websites and online public access catalogues, giving on-the-go mobile reference services, and providing mobile access to e-books, journals, video, audio books, and multimedia content are all ways they can promote and expand their existing offerings. Revolutionary mobile phones, such as i-Phones and smart phones, will undoubtedly be utilized to distribute learning over the world.

Recommendations:

The following Recommendation are made from the study:

- Parents should control their children's excessive use of mobile phones in higher education institutions.

- Engineering Colleges offering internet access within campuses should block some sites which is non academic purposes. Example. Gambling sites.
- Social Media sites should only be allowed for collaboration and information sharing which is in academic nature.
- Engineering colleges in induction programme during students orientation should discuss about the excessive use of mobile phones lead to anxiety, techno stress, which affect their health, sleep and happiness.
- Regular training should be conducted for engineering undergraduates on how to use their phones for accessing library resources and for other academic purposes.

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