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USE OF SMART PHONES FOR ACADEMIC PURPOSE BY FACULTY MEMBERS OF BHARATHIAR UNIVERSITY

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Abstract

Purpose: To study the use of smart phones for academic purpose by faculty member of Bharathiar university. The Smartphone has become an indispensable device for effective communication and information-gathering. **Aim:** The study aims to assess the level of use of smart phones for academic purpose by the faculty members of Bharathiar University. **Design/Methodology/Approach:** Data has been collected through questionnaire from faculty members of Bharathiar University using a random sample technique. The data were analyzed using SPSS and MS Excel. **Findings:** The finding of the study shows that everybody uses a Smartphone. The top three reasons for using a Smartphone are communication, browsing, and academic purpose. Majority of the respondents reported that they use smart phones for reading academic papers. Overall, the significance of smart phones helps to generate and exchange information, improve the learning and assist in projects.

Key words: Smartphone usage, Faculty members, Bharathiar University, use of educational apps.

Introduction

Technology has become an integral aspect of living in the twenty-first century. According to a research published by the Groupe Special Mobile Association (GSMA) in 2015, half of the world's population has a mobile subscription, with Smartphone adoption in developed nations. Smartphone currently account for 60% of all worldwide Internet access. With the advancement of technology, this type of technology has become more sophisticated. Hence smart

phones have become an indispensable device for effective communication and information-gathering. It features a wide range of apps for social media communications. Smartphone with Wi-Fi connection can connect to the internet and access the internet using browsers.

The Ministry of Human Resource Development (MHRD), Government of India has developed many ICT-based educational initiatives throughout the last decade. Both students and instructors will profit from these initiatives. Institutional teaching, learning, and research processes have all been significantly altered as a result of these efforts. NPTEL, SWAYAM, NPEEE, INDEST, Shodhganga, Shodhgangotri, N-LIST, UGC-INFONET, VIDWAN, and other MHRD initiatives have become quite popular among academics and students in higher education institutions. Because these are all web-based projects, the usage of the Internet for educational purposes has risen dramatically across numerous platforms. The Internet allows users to socialize with one another in addition to offering access to large volumes of material.^[10]

Use of smart phones in academic sector

Smart phones have taken over in the academic sector due to many reasons, the most common of them are

- It breaks the geographical and time barriers in learning. Learning can be accomplished on the fly, notes can be easily taken during class, and learning continues effortlessly outside class hours.
- It enables the students to learn through audio-visual aids
- It enables the teacher to grade his/her students from a remote tablet or device, and analyze a student's progress based on the received real time data. This helps the teacher keep track of students that are falling behind and can assist them with the queries.
- Enables the students to clear their subject related queries and make them learn a lot more about a specific topic with the help of a Virtual Assistant.
- Helps the students acquire essential life skills, such as collaboration and cooperation. Students can form groups using mobile applications to collaborate on

a group activity or work on a research easily, which also instill in them the characteristic of team work.

Review of Literature

Madhusudhan, M (2015) conducted a study to assess the use of mobile devices for improving the research work by research scholars of the university of Delhi and university of Hyderabad. The study reported that most of the research scholars use mobile phones for communication and e-learning activities. The big drawbacks in the use of mobile phone are lack of high speed and authentic e-resources. ^[4]

Lepp, Andrew, Barkley, Jacob E. & Karpinski, Aryn C (2015) examined the relationship between cell phone use and actual college grade point average (GPA). It was found that cell phone use was significantly ($p < .001$) and negatively ($\beta = -.164$) related to actual college GPA ^[3]

Hossain & Ahmed (2016) investigated the use of Smartphone for academic purposes by scholars of Dhaka University in Bangladesh. They found that two-third of the respondents used their mobile phones to access academic information. Around 90% of respondents were interested in downloading various apps for their academic learning ^[2].

Ng et al (2017) studied the relationship between Smartphone use and academic performance of student's in a Malaysian tertiary institution. For seven consecutive days, 176 students from three academic programs recorded their daily smart phone use for learning. Significant differences were found in uses of smart phones depending on academic program. Further, it was found that, higher the utilization of smart phone for university learning activities, the lower was their CGPA. ^[5]

Sumathi, k., Selvalakshmi, N. and Kundhavai, S.K (2018) explored the impact of Smartphone on academic performance of higher learning students in Virudhunagar district, Tamilnadu. Based on the data collected from the student, 60% of the students have android mobile with internet connection. Out of 373 students 223 students having mobile phones with net connection, 200 actively used internet mobile services to surf and browse the net. ^[7]

Kumar et al (2019) aimed at finding how teachers used mobile devices to satisfy their information demands. A questionnaire survey was e-mailed to faculty members of several departments. The findings revealed that

- Majority of instructors use their cell phones for educational purposes.
- Majority of professors read and downloads research papers on their smartphones.
- Majority of teachers spend 3 to 4 hours per day on their cell phones.
- Smartphone is the most important instrument for increasing their learning and teaching abilities^[8]

Darko-Adjei, Noah (2019) conducted a research to assess the use and impact of smartphones in students' learning activities. This research has a total of 294 participants. The study's findings suggest that distance learning students contribute significantly to academic activities. Also, certain unfavorable aspects influence Smartphone use, such as Smartphone freezing at crucial learning periods. ^[9]

The review of literature on the study area attests the use of smart phones for various purposes and the impact on the academic achievement of the users. Also, the use of cell phones has negative impact on academic achievement.

Objectives of the study

1. To find out whether faculty members own a Smartphone and the time span of using it
2. To know the purpose of using Smartphone by the faculty members of Bharathiar University.
3. To examine the usefulness of smart phones for academic purposes and the frequency of its use.
4. To find out the types of educational apps downloaded in their smart phones and their uses.
5. To find out the relationship between age of faculty members and duration of using Smartphone.
6. To examine the relationship between gender and use of educational application.
7. To investigate the overall significance of Smartphone use on academic achievements of faculty members.

Research methodology

The study was carried out through survey method using a questionnaire. The respondents were randomly selected. 100 questionnaires were distributed among the Faculty Members of Bharathiar University. Out of them, Seventy three questionnaires have been received which indicate that the response rate was 73%.

Analysis of Data

Data were analyzed based on three factors such as

1. Usage of Smartphone
2. Purpose
3. Significance

Profile of the Respondents

Table 1: Profile of the Respondents

Variables	Frequency	Total		Percentage	Total
Gender	Male	41		56.16%	
	Female	32	73	43.84%	100%
Educational level	Ph.d	42		57.53%	
	Ph.d with net	31	73	42.47%	100%
Age group	25-35 years	21		28.77%	
	36-45years	24	73	32.87%	100%
	46-55years	28		38.36%	
	Above 56 years	-		-	

Table 1 shows the profile of the respondents: 41 were male and 32 were female. More than fifty per cent of the respondents were PhD's (57.53 percent) and 42.72 per cent were PhD's with Net/SET. There are three age groups among the respondents. Twenty-one respondents are

between the ages of 25 and 35 (28.77 percent), 24 are between the ages of 36 and 45 (32.87 percent), and 28 are between the ages of 46 and 55 (38.36 percent).

5.2 Ownership and duration of using Smartphone

Table 2: ownership and duration of using Smartphone

Owning Smart Phone	Yes	Duration Using Smartphone			
		Less than 1 year	1-2 years	3-4 Years	Above 5 Years
	73	-	(08)10.96%	(24)32.88%	(41)56.16%
	No	-	-	-	-

Table 2 shows that all the faculty members use the smartphones . In terms of duration, majority of the respondents are using smart phones for more than 5 years (56.16%) and 10.97% of the respondents have been using Smartphone for 1-2 years. The faculty members using smart phones for more than 3 years is 89.04%.

5.3 Purpose of using Smart phone

Table -3 :Purpose of using smart phone

S.No	Reasons	Nos.	Percentage
1.	Communication	48	65.8%
2.	Browsing	35	47.9%
3.	Academic	35	47.9%
4.	Music	31	42.5%
5.	Entertainment	31	42.5%
6.	Pictures	31	42.5%
7.	E-mails	35	47.9%
8.	Others	-	-

Table 3 shows that smart phone usage was highest for communication purpose (65.8%) , An equal importance is given for browsing, email and academic purposes (47.9%). Similarly 42.5 per cent of the respondents use smart phones for entertainment, music and pictures.

5.4 Academic purposes for which smart phones smart phones are used

Table 4: Academic purposes for which smart phones smart phones are used

S.No	Variables indicating usefulness of Smartphone	Frequency	Percentage
1.	To read scholarly articles	37	50.7%
2.	To read electronic books	18	24.7%
3.	To record class lectures	24	32.9%
4.	To create and share files	40	54.8%
5.	To make videos on class presentation	18	24.7%
6.	To search for resources in library databases	24	32.9%
7.	To get reference service from libraries	12	16.4%
8.	To prepare notes with the help of search engines	24	32.9%

Table 4 demonstrates that in terms of academic contexts, 54.8% of the respondents use smart phone to create and share files and 50.7% of the respondents use smart phones to read scholarly articles. An equal per cent of the respondents use Smartphone for recording class lectures, prepare notes with the help of search engines and to search for resources in library databases. This shows the academic nature of cell phones usage by faculty members of Bharathiar University. Only 16.4 per cent of the respondents use smart phones for getting reference service from libraries.

5.5 Frequency of using Smartphone for Academic purposes

Table -5: Frequency of using Smartphone for Academic purposes

Frequency	Number	Percentage
Many times on a day	55	75.3%
At least once a day	06	08.2%
A few times in a week	05	06.8%
At least once a week	07	09.7%
Total	73	100%

From the table 5, it is found that 75.3 % use their Smartphone for academic reasons many times in each and every each day and 8.2 percent of respondents use Smartphone at least once a day, while 6.8 percent and 9.7 % use Smartphone a few times a week, respectively.

5.6 Using Educational Apps

Table -6: Use of Educational Apps

Educational app	Frequency	Percentage
Using	67	91.9%
Not Using	06	8.1%
Total	73	100%

Table 6 indicates that majority of the respondents (91.9%) use educational app in Smartphone. Remaining 8.1% are not using educational apps in their Smartphone.

5.7 Educational Applications used by Faculty members

Table-7: Educational Applications used by Faculty Members

Application	Frequency	Percentage
Google meet	61	83.6%
Google class room	43	58.9%
Zoom	36	49.3%
Total	73	

Table 7 indicates the Educational applications used by faculty members of the Bharathiar University. The result indicates that majority of the respondents are using Google meet 88.9% and the rest of them are using Google class room and zoom.

5.8 Significance of Smartphone

Table-8: Significance of Smartphone

Statements	Strongly agree	Agree	Agree to some extent	Disagree	Strongly disagree	Score
Help to create and	(43)58.9%	(14)19.1%	(14)19.1%	(2)2.7%	-	86.85
Enhance learning	(25)34.2%	(28)38.4%	(20)27.4%	-	-	81.37

Helps to connect with other faculty members	(42)57.5%	(12)16.4%	(19)26.1%			86.30
Help in projects	(18)24.7%	(21)28.8%	(18)24.7%	(16)21.8%		71.23
Assists in searching	(33)45.2%	(24)32.9%	(16)21.9%			84.67

In this part of the study, the Faculty members indicate their level of agreement to the statements regarding the significance of using Smartphone in various academic contexts. The analysis given in table 8 shows that the highest level of agreement is for creating and sharing files (Score = 86.85%) and connecting with other faculty members (score = 86.30%). Smart phones assists in searching ranks third (score = 84.67%) followed by enhancement of learning (Score = 81.37%). The least significance is for projects (score = 71.23%).

Statistical Significance of Time Spent on Academic Purpose

There arise a question whether there exist any variation by gender in the use of smart phones for academic purpose. This is answered by performing t-test

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Frequency of using smartphone for Academic Purposes	Male	41	1.78	1.061	.166
	Female	32	2.00	1.047	.185

Independent Samples Test		
	Levene's Test for Equality of	t-test for Equality of Means

		Variances								
		F	Sig.	t	df	Sig. (2- taile d)	Mean Differen ce	Std. Error Differ ence	95% Confidence Interval of the Difference	
									Lower	Upper
Freque ncy of using smartp hone for Acade mic Purpos es	Equal variances assumed	.000	.996	-.882	71	.381	-.220	.249	-.716	.277
	Equal variances not assumed			-.884	67.15 8	.380	-.220	.248	-.715	.276

From the t-test, it is observed that the p-value is 0.381, which is greater than 0.05. Hence, the null hypothesis is accepted and it is concluded that there is no significant difference between males and females with respect to the time spent (hours/day) on activities for academic purposes.

Test for Independence of Attributes

Different times of time spent on their academic purpose are categorized under four titles in our study. There may be some associations, of course. To test this chi-square tests for independence of attributes have been performed for differences that exist between the time preferences and course of each of these cases. The following are the details.

Educational level * Frequency of using Smartphone for Academic purpose Crosstabulation						
Count						
		Frequency of using Smartphone for Academic purpose				Total
		Few times in a day	At least once a day	A few times in a week	Atleast once a month	
Educational level	Phd	32	4	3	3	42
	phd with net	23	2	2	4	31
Total		55	6	5	7	73

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.844a	3	.839
Likelihood Ratio	.840	3	.840
Linear-by-Linear Association	.301	1	.583
N of Valid Cases	73		
a. 6 cells (75.0%) have expected count less than 5. The minimum expected count is 2.12.			

- The value of the test statistics is 0.844
- The footnote for this statistics pertains to the expected cell count assumption(i.e expected cell counts are all greater than 5) no cells had an expected count less than 5, so this assumption was met
- The degrees of freedom (df) for the test statistics is

$$df = (R- 1)*(C-1)= (2-1)(4-1)=1*3=3$$

- the corresponding p-value of the test statistics is $p=0.839$

Discussion

Since the p-value is greater than our chosen significance level ($\alpha = 0.05$), we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between educational level and frequency of using Smartphone for academic purposes.

Based on the results, we can state the following:

Association was found between educational level and frequency of using Smartphone for academic purposes. ($X^2(2) = 0.844, p = 0.839$).

Findings

Smartphone have become an important part of modern life for all irrespective of their life style. It is impossible for a rational person to deny the advantages of smart phones as they are devices suitable for a wide variety of tasks. Though it is basically a communication device, it is used for different purposes for different type of people. For academicians, smart phones serve as an important tool for teaching, learning and research. This study reveals the fact that none of the faculty members are without a smart phone. Majority of faculty members been using cell phones for at least five years. The important findings of the study are

- Smart phone usage was highest for communication purpose. The other important purposes are browsing, academic and E-Mails. More than 40 per cent of the faculty use smart phones for entertainment, music and pictures.
- Faculty members' use Smartphone was to mainly for reading scholarly articles and to create and share files. Searching databases, recording class lectures and preparing notes with the help of search engines are also other reasons for using smart phones.
- More than three fourth of the faculty use smart phones many times a day for academic purposes

- There is no significant association between gender and the frequency of using Smartphone for academic purposes.
- Most of the respondents were using educational apps on their smart phones. The majority of the respondents preferred Google Meet, followed by those who used Google Classroom and Zoom.
- There is no significant relationship between educational level of the respondents and the frequency of using smart phones for academic purposes.
- Majority of the respondents said the Smartphone is significant because it helps connect with teachers and classmates, create and share files, and enhance learning.

Conclusion

One of the finest inventions in the field of information technology in the 21st century is smart phone. Smartphone use is especially common among youngsters and educated groups. The Smartphone has become a useful 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. Though there are a number of positive advantages of using smart phones, there are also negative effects. Faimau, Gabriel, Tlhowe, Kelebogile and Tlhaolang, Omphile (2022) reports that “based on an analysis of Smartphone use among students for these activities, previous studies have identified Smartphone use as a contributing factor to poor academic performance among students, as it decreases motivation to do academic work^[1]. Among others, it has been suggested that there are many entertainment apps and social media platforms that can disturb learning and encourage procrastination, such as watching videos, playing games, or texting.

Too much of anything is good for nothing. Hence it is advisable that smart phones may be used only if it is found utmost necessity.

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