Gender Differences in Usage of Smartphone Among College Students

Malkar Vinod, Bhayani Mital, Bobade Priyanka.

Abstract*: Internet usage on a smartphone in India is increasing with the exponential rate because of affordable prices of smartphone and availability of unlimited data plans from mobile service providers. Simultaneously social media, YouTube, and other apps had kept people engaged in the smartphone. The smartphone improved standard of living by doing many tasks in a very short time. Mobile Banking, Newspaper, study apps, dictionary, answer to any question from Google, learning from YouTube, fitness apps, safety apps, Google maps, photo, video shooting helps every individual to become smarter. This research is focused on gender differences in the usage of the smartphone. Descriptive research methodology applied. Primary data collected from 336 college students studying in Engineering, Commerce, and Management from India through a structured questionnaire. It has been found that there is a significant relationship between gender and cost of a smartphone, data consumption and different purpose of use of a smartphone. Female students are spending more time on online shopping than male students. The findings of the research will help to understand college student's behavior towards data consumption, which helps to formulate the strategies for the marketers, college teachers, government, parents, NGO, etc

***Index Terms*: College students, Gender differences, Smartphone, usage patterns**

I. INTRODUCTION

The smartphone has become an inseparable part of today's world. In recent years, policymakers in India have given top priority to the information and communication industry and have taken a number of favorable steps for development. The internet came to India in the year 1990 through some leading Internet Service Providers (ISPs). In the last two decades, the way we live and the way we work has changed due to the developments in the communication and information industries (Unsal, Ruzgar & Ruzgar,2008). The fast development of telecom infrastructure in India leads to easy access to the internet. The internet helps students as well as teachers for the study purposes, all literature regarding the use of the Internet to the year 2005 shows the benefits of using the internet in the study. Later on, the internet slowly becomes an addiction to some college students. Internet addiction, as an impulse control disorder that does not involve the use of an intoxicating drug and is very similar to pathological gambling (B. Young, 2006).Now Smartphone and the 4G Internet have become an almost essential part of daily life since their rapid growth and popularity in today's world. A nationwide survey conducted in 2010 shows that mobile phones are the most necessary medium of communication. There is the conflicting priority of young people, parents, and teachers in relation to the mobile phone device, with teachers more concerned about issues such as discipline and disturbance in the classroom and parents worried about means of contacting their children at every point in time. The entry of smartphone, the evolution of social media like Facebook, Instagram, LinkedIn, Twitter, WhatsApp, and affordable data plans, smartphone leads to excess data use which creates problems in the last five years. A famous quote of Chanakya (371 - 283 B.C) - "Everything in excess acts like a poison". Now excess use of internet causes multiple problems (Loan, 2011). The problems are found in both male and female. Now a day's parents started providing all facility to their daughters equally with son, which is one of the reasons the percentage of girls in higher education is increasing every year. Parents are providing them hostel, smartphone all necessary things equal to sons. Male and female students differ in spending their time on the Internet. Female students spend more time on researching and gathering information for their study, and male students spend more time online playing games (Horvat, Oreski, Markic, 2014). The set of the most popular online activities is similar for both sexes, including checking e-mails, surfing or browsing the Web, and looking for news. The most significant gender difference in Internet usage patterns lies in men's greater interest in the entertainment function of the medium (Anna Bujała,2012). There is a strong positive relationship between using the internet for educational practices such as active and collaborative learning and student-faculty interaction. (Laird and Kuh 2004). Students of business and commerce lead in using the internet for information, students of computer science use it predominantly for communication purposes and students of social sciences and humanities use it for education purposes compared to others. Information overload is the most common problem faced by students of all faculties while searching the relevant information (Loan 2011). The excessive internet usage adversely affects one's physical health, family life and academic performance of the students. Academic problems caused by internet addiction include a decrease in study habits, drop in marks, poor attendance and poor participation in extracurricular activities. (Akhter 2013). The students spend 3 to 5 hours daily on the internet.

Revised Manuscript Received on June 05, 2019

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The fact that 40% of students use the internet for nonacademic work when looked along with the time spent daily on (Limaye, G. F. 2015). Absence of gender gap in internet usage is probably due to both genders having high exposure to technology through their educational experience. (Rajasekhar P, Veena CN, Kumar S. 2018)

II. OBJECTIVES OF THE STUDY

a) To study mobile data consumption behavior among college students.
b) To study the purpose of data consumption.
c) To study the relationship between gender with the cost of smartphone and data consumption

III. HYPOTHESES

a) There is a significant relationship between gender and the cost of a smartphone
b) There is a significant relationship between gender and mobile data consumption
c) There is a significant relationship between gender and use of smartphone for a different purpose.
d) There is a significant relationship between the age of students and data consumption
e) There is a significant relationship between the cost of smartphone and data consumption

IV. METHODOLOGY

The Primary data collected with a structured questionnaire from 336 college students of the course Engineering, BBA, MBA, B.Com from various colleges of India and data analyzed through SPSS. The data was collected in the Feb-March 2019.

V. RESULTS AND DISCUSSION

Results and Discussion

Table No. 1 Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Male	180	53.6	53.6	53.6
	2. Female	156	46.4	46.4	100.0
	Total	336	100.0	100.0	

(Source: Survey)

Out of 336 respondents, 180 respondents are male and 156 are female

Table No.2 Age group of Respondents

		frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 (16-18)	7	2.1	2.1	2.1
	2 (19-21)	77	22.9	22.9	25.0
	3 (22-24)	233	69.3	69.3	94.3
	4 (25 &Above)	19	5.7	5.7	100.0
	Total	**336**	**100.0**	**100.0**	

(Source: Survey)

92% of respondents are in the age group of 19 to 24 years, in that 69% in the age group of 22-24

Table No. 3: Course Of Study

		freq	Percent	Valid Percent	Cumulative Percent
Valid	1(Engineering)	119	35.4	35.4	35.4
	2 (B.Com/BBA)	83	24.7	24.7	60.1
	3 (MBA)	134	39.9	39.9	100.0
	Total	**336**	**100.0**	**100.0**	

(Source: Survey)

119 (35.4%) respondents are from Engineering, 134 (39.9%) respondents are from MBA and 83 (24.7%) are from BBA and B.Com)

Table No. 4 Monthly Family Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 (Below 15K)	17	5.1	5.1	5.1
	2 (15-25K)	63	18.8	18.8	23.8
	3 (25-50K)	181	53.9	53.9	77.7
	4 (Above 50K)	75	22.3	22.3	100.0
	Total	**336**	**100.0**	**100.0**	

(Source: Survey)

54% of respondents having monthly family income is in the range Rs.2500.00 to Rs.50000.00.

Table No. 5 User of Smartphones

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 No	6	1.8	1.8	1.8
	1 Yes	330	98.2	98.2	100.0
	Total	336	100.0	100.0	

(Source: Survey)

98.2% of respondents are using a smartphone

Table No. 6.Cost of Smartphone

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 (Below 5K)	8	2.4	2.4	2.4
	2 (5-10k)	108	32.1	32.7	35.2
	3 (10-15k)	159	47.3	48.2	83.3
	4 (15 Above)	55	16.4	16.7	100.0
	Total	**330**	**98.2**	**100.0**	

(Source: Survey)

47% of students are using smartphone costing in the range Rs.10000.00 to Rs. 15000.00

Table No. 7 .No. of Hrs use of smartphone per day

		F	Percent	Valid Percent	Cumulative Percent
Valid	1 (less than 2 hrs	31	9.2	9.4	9.4
	2 (2-4 hrs)	95	28.3	28.8	38.2
	3 (more than 4 hrs)	204	60.7	61.8	100.0
	Total	330	98.2	100.0	

(Source: Survey)

61% of students spending more than 4 hrs per day on a smartphone

Table No. 8 analysis of "Do you believe that YOUR use of the smartphone negatively affects your grades"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	May be	135	40.2	40.2	40.2
	No	105	31.3	31.3	71.4
	Yes	96	28.6	28.6	100.0
	Total	336	100.0	100.0	

(Source: Survey)

28% of students agreed that their use of smartphone negatively affects the grades, while 40% of students are not sure about the use of smartphone negatively affects the grades

Hypothesis: a

There is a significant relationship between gender and the cost of a smartphone

Table No. 9 Gender and Cost of smartphone

			Cost of a Smartphone				Total
			1 (Below 5K)	2 (5K-10K)	3 (10k-15k)	4 (Above 15K)	
Gender	1 (Male)	Count	6	45	81	46	178
		Expected Count	4.3	58.3	85.8	29.7	178.0
	2 (Female)	Count	2	63	78	9	152
		Expected Count	3.7	49.7	73.2	25.3	152.0
Total		Count	8	108	159	55	330
		Expected Count	8.0	108.0	159.0	55.0	330.0

(Source: Survey)

Table No. 10 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)

Pearson Chi-Square	28.073[a]	3	.000
Likelihood Ratio	30.338	3	.000
Linear-by-Linear Association	15.276	1	.000
N of Valid Cases	330		
a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 3.68.			

- 26% Male using smartphone having cost more than Rs.15000.00 while only 6% female using smartphone price more than Rs. 15000.00,
- 41% of Female students use a smartphone in the range of Rs.5000-10000, while only 25% of Male uses smartphone having priced in this range.
- With the above data, the alternative hypothesis "There is a significant relationship between Gender and cost of the smartphone" is accepted and null hypothesis There is no relationship between gender and cost of the hypothesis is rejected"

Hypothesis b:

There is a significant relationship between gender and mobile data consumption

Table No. 11 Gender and Data Consumption in a day Cross-tabulation

			4. Data consume in a day				Total
			1 Upto 500 MB	2 500MB -01GB	3 1 GB-1.5 GB	4 Above 1.5 GB	
Gender	1 Male	Count	6	59	69	44	178
		Expected Count	8.6	60.4	73.4	35.6	178.0
		% within Gender	3.4 %	33.1%	38.8%	24.7%	100.0%
		% within. Data consume in a day	37.5 %	52.7%	50.7%	66.7%	53.9%
		% of Total	1.8 %	17.9%	20.9%	13.3%	53.9%
	2 Female	Count	10	53	67	22	152
		Expected Count	7.4	51.6	62.6	30.4	152.0
		% within Gender	6.6 %	34.9%	44.1%	14.5%	100.0%
		% within 4. Data consume in a day	62.5 %	47.3%	49.3%	33.3%	46.1%
		% of Total	3.0 %	16.1%	20.3%	6.7%	46.1%
Total		Count	16	112	136	66	330
		Expected Count	16.0	112.0	136.0	66.0	330.0
		% within Gender	4.8 %	33.9%	41.2%	20.0%	100.0%
		% within 4. Data consume in a day	100.0%	100.0 %	100.0 %	100.0 %	100.0%
		% of Total	4.8 %	33.9%	41.2%	20.0%	100.0%

Table No. 12 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.677a	3	.083
Likelihood Ratio	6.787	3	.079
Linear-by-Linear Association	4.078	1	.043
N of Valid Cases	330		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.37.			

With above data, the male students consume more data than female students so the alternative hypothesis "There is a significant relationship between Gender and data consumption" is accepted and null hypothesis There is no relationship between gender and data consumption of hypothesis is rejected"

Hypothesis c:

There is a significant relationship between gender and use of smartphone for a different purpose.

Table No. 13 Gender and Use of smartphone Cross-tabulation

			Use of smartphone						Total
			1 Music	2 News	3 Gaming	4 (Shopping	5 Social Media	6 Browsing)	
Gender	1 Male	Count	14	12	30	7	78	37	178
		Expected Count	22.7	15.1	23.7	16.2	67.4	32.9	178.0
		% within Gender	7.9 %	6.7 %	16.9 %	3.9 %	43.8 %	20.8 %	100.0 %
		% within Use of smartphone	33.3%	42.9 %	68.2 %	23.3%	62.4 %	60.7 %	53.9 %

		% of Total	4.2%	3.6%	9.1%	2.1%	23.6%	11.2%	53.9%
	2 Female	Count	28	16	14	23	47	24	152
		Expected Count	19.3	12.9	20.3	13.8	57.6	28.1	152.0
		% within Gender	18.4%	10.5%	9.2%	15.1%	30.9%	15.8%	100.0%
		% within Use of smartphone	66.7%	57.1%	31.8%	76.7%	37.6%	39.3%	46.1%
		% of Total	8.5%	4.8%	4.2%	7.0%	14.2%	7.3%	46.1%
Total		Count	42	28	44	30	125	61	330
		Expected Count	42.0	28.0	44.0	30.0	125.0	61.0	330.0
		% within Gender	12.7%	8.5%	13.3%	9.1%	37.9%	18.5%	100.0%
		% of Total	**12.7%**	**8.5%**	**13.3%**	**9.1%**	**37.9%**	**18.5%**	100.0%

Table No. 14 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	28.175[a]	5	.000
Likelihood Ratio	28.787	5	.000
Linear-by-Linear Association	8.882	1	.003
N of Valid Cases	330		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.90.

- Most students are spending maximum time on social media(37.9%) to connect with friends, next to Browsing (18.5), Gaming (13.3), Music (12.7), shopping(9.1) and last news (8.5%).
- Female students are listening more music than male students on the smartphone.
- Male students playing more games than female students on smartphone
- Male students spending more time on social media than female students
- Female students are spending more time on online shopping than male students

The above table shows that there is a significant positive correlation between family income and the cost of the smartphone (.328) and data consumption (.231) per day. Also, there is a positive correlation between age group and data consumption per day (.231)

There is a significant positive correlation between the cost of smartphone and data consumption (.272)

VI. CONCLUSION

Smartphone penetration among college students in both genders is equal. Both genders use a smartphone, some of the activities related to study are common but there is a significant difference in the cost of the handset. Male students use costly handset than female students. Also, the data consumption of male students is more than female students. Female students are listening more music than male students on the smartphone. Male students playing more games than female students on the smartphone. Male students spending more time on social media than female students. Female students are spending more time online shopping than male students. It would be of interest to study the patterns how value of money is considered by different gender while selecting smart phone. Also it can be further explored to find is there any correlation in amount of spent on phone and usage of data. Further research can also be conducted on studying relationships between age and amount spend on buying smart phones.

Published By:
Blue Eyes Intelligence Engineering
& Sciences Publication

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