

Project Dissertation Report on
USAGE PATTERN ANALYSIS OF SMARTPHONES

Submitted By

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DECLARATION

I hereby declare that this project report is my own work, and it does not contain any material previously published or is written by another person which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in text. I also hereby undertake that the work is original and free from any kind of plagiarism.

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CERTIFICATE

This is to certify that Karishma (2K20/DMBA/056) has submitted research project titled “**USAGE PATTERN ANALYSIS OF SMARTPHONES**” to Delhi School of Management for the partial fulfilment of the requirements for the award of the degree of Master of Business Administration (MBA).

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I am thankful to my faculty guide **Prof. Rajan Yadav at Delhi School of Management (DTU), New Delhi** for his guidance during my project and giving me full guidance and valuable information, without which it would not be possible for me to complete this project.

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Executive Summary

So, in today's world, mobile phones offer many advantages not only in communication but also in increased productivity, entertainment, and ubiquitous availability of personal and business data, thanks to the ease of connectivity, always-on accessibility of online content and services, and the explosion in the number and variety of apps. Also, we've all noticed that once we Google search for a thing, we get adverts for that product on practically every app we use later. As a result, firms may use digital marketing to target potential clients who are looking for their products.

So, this study will be conducted to analyse the usage pattern of users on their smartphones i.e., how they are engaging with their smartphones, what mobile applications they are using most, their mobile usage time, type of content they are engaging, type of social media applications they are using most, purposes of using smart phones etc. Later relationships between various factors like user's age, gender, mobile usage time, preferred content, most used mobile apps, most used social media platform etc can be found by making use of hypothesis testing. Deriving relationships between these factors could be beneficial for businesses.

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CHAPTER 1
INTRODUCTION

1.1 Background

The amount of traffic generated by mobile devices has grown, and these devices have become indispensable in our daily lives. Making voice and video chats, perusing the Internet, and playing games are all things that people do with their mobile devices. Because of the ease of connectivity, always-on accessibility of online content and services, and the explosion in the number and variety of apps, mobile phones today offer many advantages not only in communication but also in increased productivity, entertainment, and ubiquitous availability of personal and business data.

The name 'Smartphone' refers to a multimedia phone handset, which is a multipurpose electronic device having capabilities such as a camera, audio-video playback, Web surfing, and a high-density screen display, among other things. Smartphones are small and typically just slightly larger than traditional cell phones. A Smartphone is a mobile phone that runs on an operating system and has all of the key computer capabilities, such as online surfing, emailing, video and voice chatting, audio-video playing, and so on. A Smartphone was formerly a PDA (personal digital assistant) with mobile phone-like calling capabilities.

Today's mobile phones, on the other hand, have extra media players, a tiny digital camera, and GPS. Practically all Smartphones today have a high-density screen resolution, allowing them to display almost all websites in their conventional forms, just as they would on a computer screen. A smartphone is a device that can make phone calls as well as do operations that formerly required the use of a computer or personal digital assistant (PDA), such as sending and receiving emails, updating an office document, and so on. Most websites now have mobile versions, and several apps can be opened directly from the Smartphone OS. Wi-Fi is also utilised to provide Internet access.

The rapid development of mobile – applications has resulted in the emergence of a new mobile applications market in the last 2-4 years, allowing for a lot of trade to take place via mobile platform as well, which has been a major reason for people to adopt the Smartphone. In the recent half-decade, mobile phones have greatly enhanced communication among individuals. The number of people using mobile phones is growing every day, and this trend is projected to continue. Smartphones are powerful computers that can perform a range of things in addition to email. BM has evolved from a "phone-centric" (mobile phones that can only handle limited software) to a "data-centric" (mobile phones that can perform multiple functions such as instant messaging, picture messaging, video and audio playback, global positioning system (GPS), games, a video camera, and picture and video editing) since its introduction in 1992-93. This transformation was highlighted by the introduction of the first-generation iPhone in 2007 and the release of the Linux-based Android operating system in 2008. A smartphone could assist a business in getting the most

out of its operations.

The smartphone has transformed how individuals conduct business. People no longer need to sit at workstations with desktop computers all day; instead, they may check e-mail, work on the go, and so on. When it comes to applications, Google apps on Android outperform its competitors (iOS, Windows Phone OS, and so on). This is due to its open-source nature and the range of packages accessible for application development. There are millions of free and paid applications accessible for download on the internet. If you have an iPhone or an Android, you should explore all of the applications available on the internet that may help your business function more smoothly. "Smartphones are devices that can serve as both a mobile phone and a portable computer," according to Wikipedia. As a result, computer features such as applications (apps), which are defined as "small programmes that run on a mobile device and perform tasks ranging from banking to gaming and web browsing" distinguish smartphones from mobile phones, allowing them to be used for more than just calling and texting. sending text messages. Smartphones have an operating system that allows them to run a variety of apps. Apple's iOS, Google's Android, Nokia's Symbian & Windows Phone OS, and RIM's BlackBerry OS are the most popular operating systems on the market.

1.2 History of Smartphones

In the twenty-first century, the telephone and the Internet are the two technologies that have the most influence on politics, economy, and society (O'Leary & O'Leary, 2005). 24. Headphones and the internet are merging (Baily et al, 2001) Smartphone was born at the age of 25. Though smartphones have been around for many years, it has only been a few years since they became a mass-market product, namely since the debut of the first iPhone (2007). IBM's "IBM Simon" was the first device to combine voice, data, and personal information management functions. The IBM Simon was originally shown in 1992 at CONDEX, a Las Vegas-based computer industry trade exhibition, and was released into the market the following year.

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Windows Mobile, and Symbian, its performance is even more astonishing. However, Google's open-source mobile operating system has risen to prominence in the smartphone market. The Motorola Droid was debuted in the competitive Smartphone industry in 2009, and it was the first significant hit for the Android platform with long-term brand awareness. HTC released the HTC EVO 4G26, the first ever 4G enabled smartphone, in 2010. Finally, simply monitoring the market shows that the smartphone business will never reach the end of its age.

According to a recent report by App Annie, Indian smart phone users stand third in the list of 'Maximum time spent on smart phones. An Indian smart phone user on average spent 4.6 hrs a day on their smartphone. Before pandemic an Indian user used to spend 3.3 hrs on a smart phone. So, it is very evident that lockdown or the pandemic made people engage more with their smart phones (Shikhar Malhotra, 2021).

But knowing alone how much time people are spending on their smart phones isn't sufficient. To know the pattern of their usage i.e., how they are spending their time on smart phone, what things are making them to stick to their smart phone are also equally essential. So, this study will be focused to work on analyse the usage pattern of smart phone as there is still a lot to explore. .

1.3 Relevance of the study

This study determined the relationship between various factors like user's age, gender, their content choice, their favourite mobile applications etc. Knowing these things can greatly improve your business decision. As we, known in today's world digital marketing is considered more effective medium of connecting with consumer base. So, knowing the presence of their consumer base can be highly beneficial for businesses e.g., suppose a company's target audience are old people of age above 50, so this type of study can help such businesses in deciding whether the medium of reaching them through would be a good choice or not. And if it is found to be a good way of approaching them then on which platforms reaching them will be less costly and most effective choice.

1.4 Scope of the study

This analysed the usage time of smart phones of respondents and then relationship between mobile usage time and different factors such as age, gender, locality, occupation, Wi-Fi availability etc. will be carried out to find out how such factors affect the mobile usage time of respondents. Also, the study analysed the purposes of using smart phones i.e., for what purposes people are using and spending most time on smart phones. This study will also analyse if age and gender demographics of respondents affect their social media and content choice.

CHAPTER: - 2
LITERATURE REVIEW

2. Literature Review

2.1 Review

Nosipho Mavis et al. (2020), An Evolution of Students Addiction to Mobile Devices at a South African University: In this study, they found out that students within the selected institution spend a lot of hours on their mobile phones (16.385 mean hours). Students rely on the mobile device to be able to perform most of the academic related activities. The usage both for academic studies and general communication purposes clearly show the addiction of students to mobile devices.

Farah A. Genene et al. (2019), investigating mobile usage patterns and reasons by university students in the UAE inside classrooms: This study found out that most students do not use their mobile phones on campus as often as off campus. 63% of the female students agree to this fact as well as 60% of the male agree. It also found out that students use their cell phones during class because they get bored and zone out due to lack of interest in the topic of the lecture or lack of motivation. Almost half of the students spend at least 5 to 10 min on their phones during a class. A hypothesis formed stated that when students zone out of the lecture and use their mobile phones, they get distracted and lose track of where the lesson is going. 56% of the female students agree to this statement; on the other hand, 43% of the male students think that they do not lose concentration.

Sonya Zhang et al. (2016), A Survey Study of Young Generation's Mobile Phone Usage and Security Concerns: This study found out that student still ranked basic communications such as phone call, text, and email as the most important purposes of using mobile phone. Facebook and Instagram emerged as the most frequently used mobile applications. They ranked social media higher than web browsing. This study also found out that students are generally aware and concerned about mobile security, not only on losing the phone physically but also on data theft, web threat and mobile malware.

Arora Shivani & Okubo Daniel (2015), Social Media Applications: Are the youth Addicted? The comparative analysis of the respondents from the United States of America and India has been made and it reveals that Social media (SM) being a global phenomenon, the behaviour of the two set of respondents is similar, though more profound in some areas and lesser in the other. The encouraging finding of this study is that both the set of respondents agree that SM is addictive and it's the way of life. The recognition and acknowledgement that they have expressed reveals that they are aware that the path they are treading, is addictive. Again, there is a unified agreement by both the set of respondents that spending too much time on SM is harmful to physical and mental health.

2.2 Research Gaps

We have listed a number of previous research studies related to this field. The research study performed by Dr Shivani Arora et al. and another study performed by Nosipho Mavis et al. talk about the addiction to social media and smart phones respectively. Both the studies consider the mobile usage time and conclude that users find themselves addicted to their smart phones. But what things or content are making people to spend so much time on their smart phones is still missing in these previous research studies. Also, the relationship between age groups and mobile usage time is still not talked about.

Similarly, the study performed by Sonya Zhang et al., talks about students' purposes for using mobile phones and most used mobile apps by students. This study concludes that Facebook & Instagram are most used mobile apps by students. However what mobile apps are frequently used apps among various age groups and what type of contents people are engaging most on these platforms is still missing in these previous research studies.

Apart from this, In this study we can also determine the relationship between various categorical variables e.g. gender, age, usage time, preferred content etc. and also many hypothesis can be tested by making use of hypothesis testing e.g. mobile usage time is independent of age of users, preferred content of user is independent of their gender etc. such hypothesis can be tested out in this research study Also predictive model can be constructed by making use of Decision tree or Random forest model to predict user's preferable content or mobile application

CHAPTER: - 3
OBJECTIVES AND HYPOTHESES

3. Objectives and Hypotheses

- To analyse the user's usage time and find out if factors like age, gender, occupation, marital status and locality affect the people's mobile usage.
- To analyse the user's purposes of using mobile phones and their dependency on their mobile phones.
- To study the type of content users are engaging most and find out if age & gender demographics impact user's content choice.
- To study the social media platforms users are engaging most and to find out if age & gender demographics impact user's social media choice.
- To study the relationship between user's age, occupation and their dependency on their smart phones.
- To conclude if users are addicted to their smart phone or not and then determined the reasons or factors which make users prone to get addicted to their smart phone.

Hypotheses

- Ho Age has no significant association with purpose for which mobile phone is used most of the time
- H1 Age has significant association with purpose for which mobile phone is used most of the time

- Ho Age has no significant association with the time spend on smart phone
- Ha Age has significant association with time spend on smart phone

- Ho Place of living has no association with type of operating system used
- Ha Place of living has significant association with the place of living

- Ho Access to Wi-Fi does not significantly depend on place of living
- Ha Access to Wi-Fi does significantly depend on place of living

CHAPTER: - 4
RESEARCH METHODOLOGY

4. Research Methodology:

4.1 Research design

Descriptive research design

4.2 Data Collection

The data collection of research process is critical. Data collected for the aim of study aids in correct analysis, which is necessary for doing efficient research. Secondary data is an important data source in the data collection process.

Primary survey has been used in this study. The survey form was distributed which resulted in responses from 100 people. Tools like Microsoft Excel have been used in the study.

Primary Data

- Questionnaire

Secondary Data

- Journal
- Articles
- Websites

4.3 Sampling

Convenience sampling method was used to collect the responses. This study will help us to Establish the relationship between various categorical variables like mobile usage time, age groups, gender, locality, occupation, preferred content, preferred social media platform, purposes of using mobile phone etc.

Descriptive Statistics

“Descriptive analysis such as Frequency Distribution Tables, Cross Tabulations, Bar Graphs, and Pie Charts were utilised. A frequency distribution is a table that shows the number of observations (frequency) in each of multiple non-overlapping groups or classes. The percentage frequency of the data for each class is summarised in a percentage frequency distribution. A bar chart is a graphical

representation of categorical data in the form of a frequency, relative frequency, or percent frequency distribution. Another graphical representation of relative frequency and percent frequency distributions for categorical data is a pie chart. A cross tabulation is a two-variable tabular summary of data.

Hypotheses Testing

Hypothesis testing is a type of statistical inference that involves drawing conclusions about a population parameter or probability distribution using data from a sample. First, an assumption about the parameter or distribution is formed. The null hypothesis, abbreviated as H_0 , is this assumption. After that, an alternative hypothesis (denoted H_a) is defined, which is opposite of the null hypothesis. Using sample data, the hypothesis-testing technique determines whether H_0 may be rejected. The statistical conclusion is that the alternative hypothesis H_a is true if H_0 is rejected.

In this study Pearson's Chi Square test was conducted to test the above hypothesis testing and determine the relationship between various categorical variables presented in our sample data

+

CHAPTER: - 5
DATA SOURCES AND DESCRIPTION

5. Data Sources and Description:

Primary Survey has been used for the Study. Convenience random Sampling has been carried out using questionnaires. A total of 100 responses were collected using Google forms survey.

Demographic distributions of respondents:

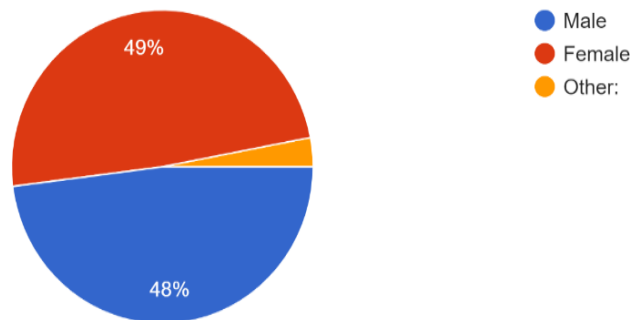
According to Gender

Out of total respondents 49% respondents are female ,48% are male and 3% Others.

Table 1.1

Gender	Frequency	Percent (%)
Female	49	49
Male	48	48
Other	3	3
Total	100	100

1.Gender
100 responses



[Fig-1]

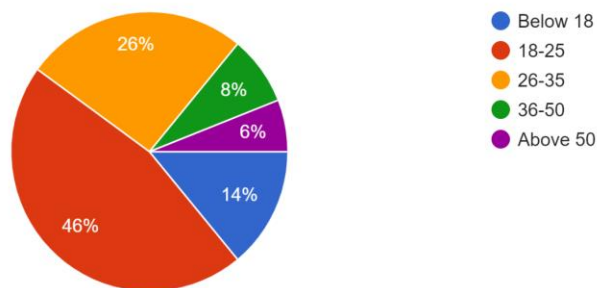
According to Age

Out of total respondents 14% are of age below 18, 46% are of age 18-25, 26% are of age 26-35, 8% are age 36-50 and remaining 6% respondents are of age above 50.

Table 1.2

Age (in years)	Frequency	Percent
Below 18	14	14
18-25	46	46
26-35	26	26
36-50	8	8
Above50	6	6
Total	100	100

2.Age
100 responses



[Fig-2]

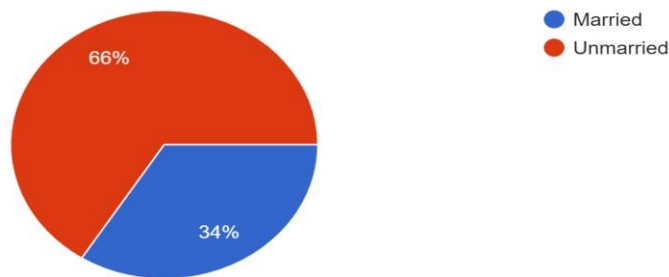
According to Marital Status

Out of total respondents 68% are married and remaining 32% Respondents are unmarried.

Table 1.3

Marital Status	Frequency	Percent
Married	68	68
Unmarried	32	32
Total	100	100

3. Marital Status?
100 responses



[Fig 3]

According to Occupation

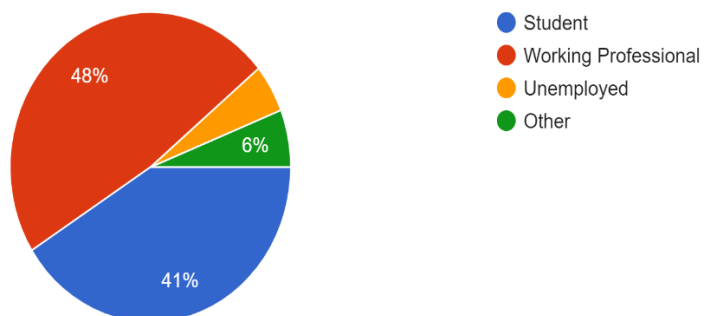
The percentage of student respondents is 41% while that of working professionals is 48%, remaining 13% are unemployed and rest 5% and others as 5%

Table 1.4

Occupation	Frequency	Percent (%)
Student	41	41
Unemployed	5	5
Working Professional	48	30
Others	6	6
Total	100	100

4.Occupation

100 responses



[Fig 4]

According to location

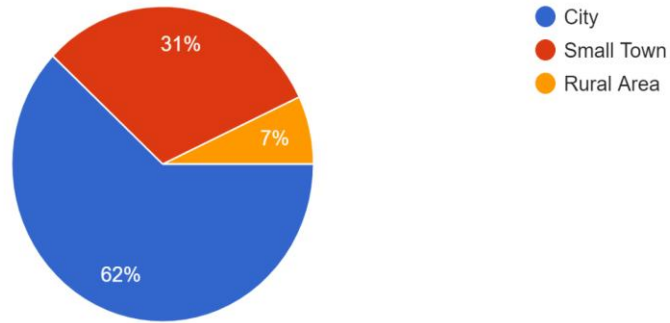
The respondents living in cities are 62% of the total respondents while those living in rural areas are 7%. The remaining 31% live in small towns.

Table 1.5

Locality	Frequency	Percent
City	62	62
Rural Area	7	7
Small Town	31	31
Total	100	100

5. In which area do you live? *

100 responses



[Fig – 5]

CHAPTER: - 6
ANALYSIS AND RESULTS

6. Analysis and Results

6.1 Descriptive Analysis

Operating system used by respondents:

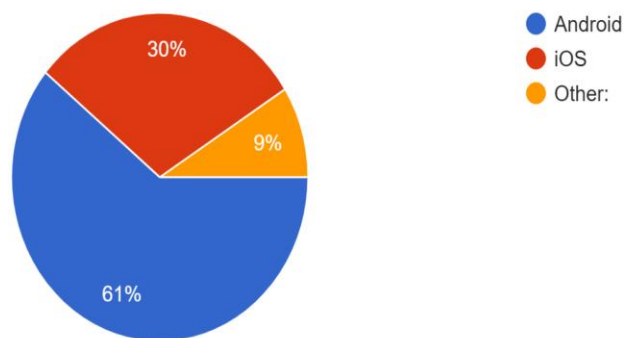
Out of total respondents 61% are Android users while the remaining 30% and 9% are iOS users and others respectively.

Table 1.6

Operating System used	No. of Respondents	Percentage
Android	61	61%
iOS	30	30%
Other	9	9%
Total	100	100

6.Which mobile operating system do you use? *

100 responses



[Fig – 6]

Wi-Fi usage among respondents:

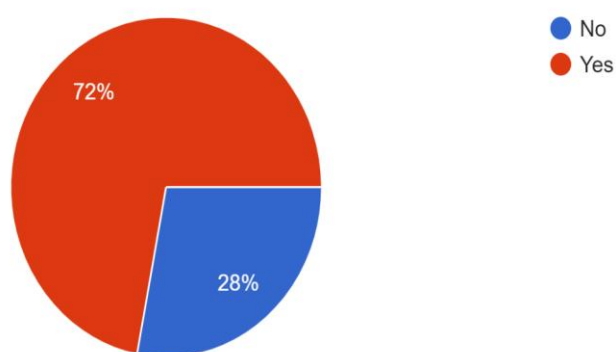
Out of total respondents 72% have regular access to Broadband or Wi-Fi internet connectivity use Wi-Fi whereas 28% don't have access to Wi-Fi and Broadband.

Table 1.7

Connectivity	No. Of respondents	Percentage
Yes	72	72
No	28	28
Total	100	100

7.Do you have regular access to Broadband or WiFi internet connectivity? *

100 responses



[Fig 7]

Mobile Usage Time of Respondents:

The table given below shows the respondents' mobile usage time in hrs. 17% of total respondents spend less than 3 hrs on their mobile phones, 30% spend 3 to 6 hrs, 30% spend 6 to 9 hrs, 14% spend 9 to 12 hrs and remaining 9% respondents spend above 12 hrs on their mobile phones.

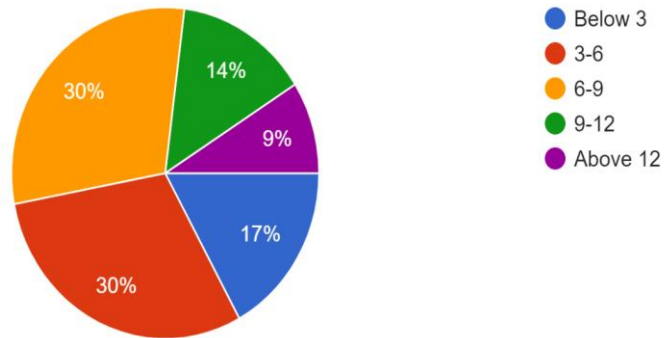
Table 1.8

No. Of Hours	No. of respondents	Percentage
Below 3	17	17%
3-6	30	30%
6-9	30	30%

9-12	14	14%
Above 12	9	9%

8. On average how many hours do you spend daily on your mobile phone? *

100 responses



[Fig – 8]

Dependency of respondents on their Smartphone:

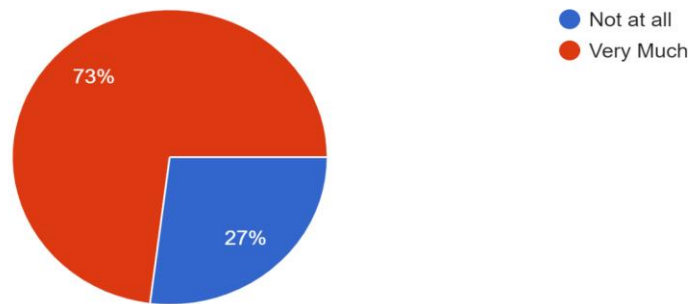
In the below chart shows no dependency shows very highly of respondents on them smart-phones. 73% respondents found themselves very highly dependent on them smart phone. Whereas 23% are not very much involved with the smart phones

Table1.9

Dependency	Number of respondents	Percentage
Very Much	73	73%
Not at all	27	27%
Total	100	100

9. How dependent are you on your smartphone? *

100 responses



[Fig – 9]

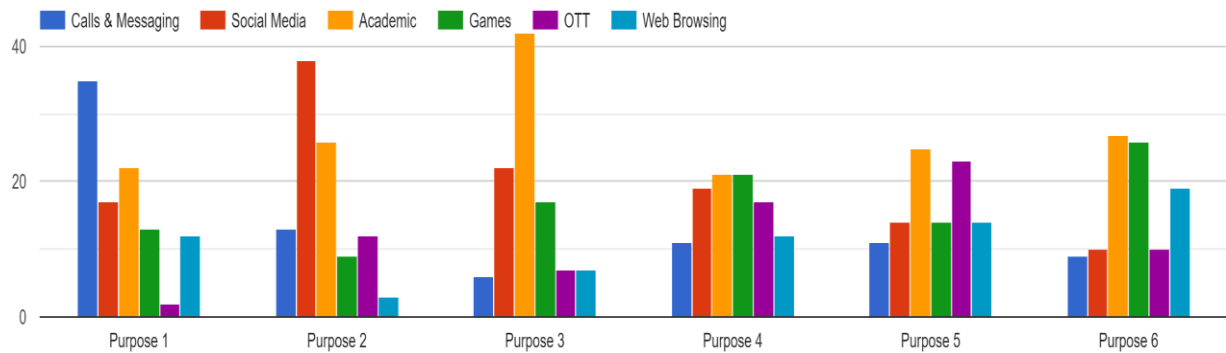
Purpose of using smart phone:

In the below chart ‘Purpose1’ talks about the purpose for which respondents spend most of their time on their smart phones and ‘Purpose6’ for the purpose they spend least time on their smart phones. “Calls & Messaging” is the very first purpose of respondents for which they spend most time on their smart phones followed by “Social Media ” and “Academic”. Respondents spend least time “calls & Messaging” And “OTT.”

Table 1.10

Purpose	Calls Messaging & Social Media	Academic	Games	OTT	Web Browsing	
Purpose1	35	17	22	13	2	11
Purpose2	12	38	26	9	11	4
Purpose3	6	21	42	17	7	7
Purpose4	11	19	21	21	16	12
Purpose5	12	13	25	24	13	13
Purpose6	9	10	27	26	10	18

10. Select the purposes for which you spend most of the time on your mobile phone and rank accordingly. (Rank 1 for most time spent, Rank 2 for 2nd most time spent and so on)



[Fig -10]

Type of content you most engage with on the smartphone

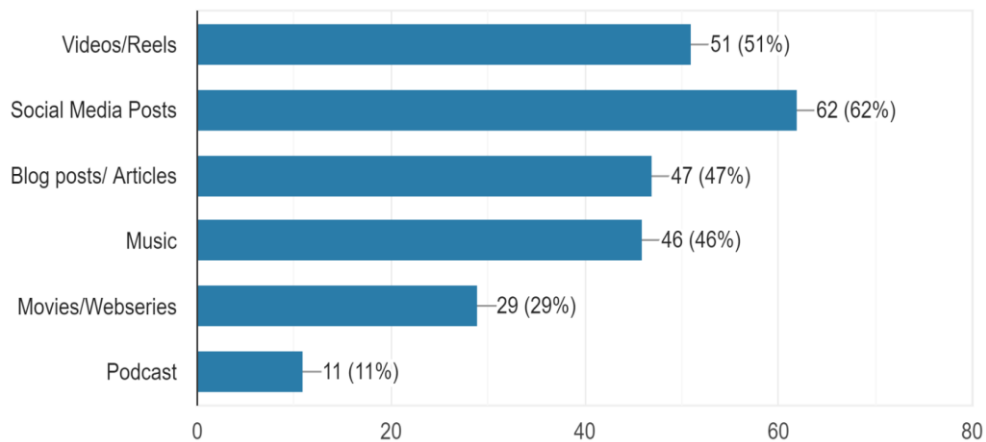
The Respondents are engaged in multiple activities in the smartphone. according to the Respondents, 62% of the employees are engaged on social media posts, 51% on video/ reels, 47% on Blog Posts/ Articles, 46% on Music, 29% on Movies/ Webs Series and 11% on Podcasts

Table 1.11

Type of content	No. of respondents	Percentage
Video/Reels	51	51
Social Media Posts	62	62
Blog Posts/ Articles	47	47
Music	46	46
Movies/ Web series	29	29
Podcasts	11	11
Total	100	100

11. Select the type of content you engage most on your smartphone *

100 responses



[Fig – 11

Most used social media platform

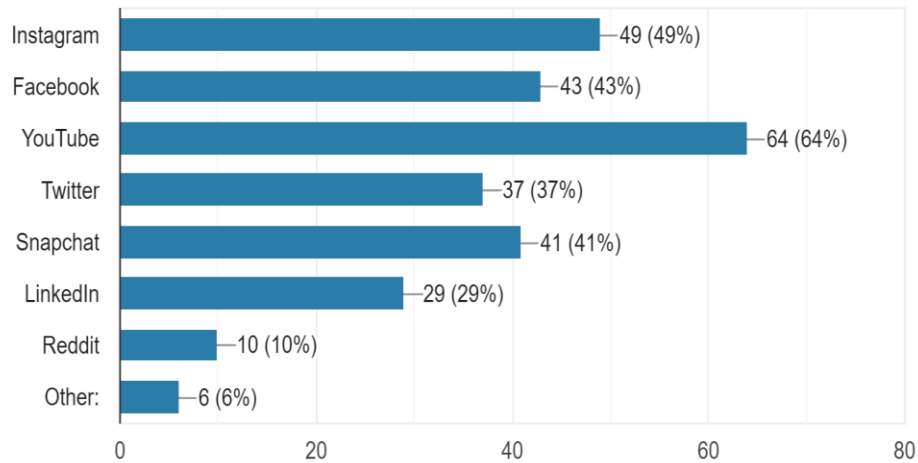
Most used social media platform is YouTube with 64% of the respondents, 49% uses Instagram, 43% uses Facebook, 37% uses Twitter, 41% uses snapchat, 29% uses LinkedIn, 10% uses reddit and 6% of the respondents uses other social media platforms.

Table 1.12

Social media platforms	No. of respondents	Percentage
Instagram	49	49
Facebook	43	43
YouTube	64	64
Twitter	37	37
Snapchat	41	41
LinkedIn	29	29
Reddit	10	10
Others	6	6
Total	100	100

12. Select the social media platform you use most on your smartphone *

100 responses



[Fig-12]

Messenger application used by the smartphone users

According to the respondent's most used messenger is WhatsApp, 69% of the respondents opted for WhatsApp, 44% says it is Facebook messenger, 45% go with Telegram, 45% says signal, 18% have opted for Google hangouts and 7% says that they use other messengers.

Table 1.13

Messenger used	No. Of respondents	Percentage
WhatsApp	69	69
Facebook Messenger	44	44
Telegram	45	5
Signal	18	18
Google hangouts	18	18
Other	7	7
Total	100	100

13.Which messenger application do you use most on your smartphone? *

100 responses

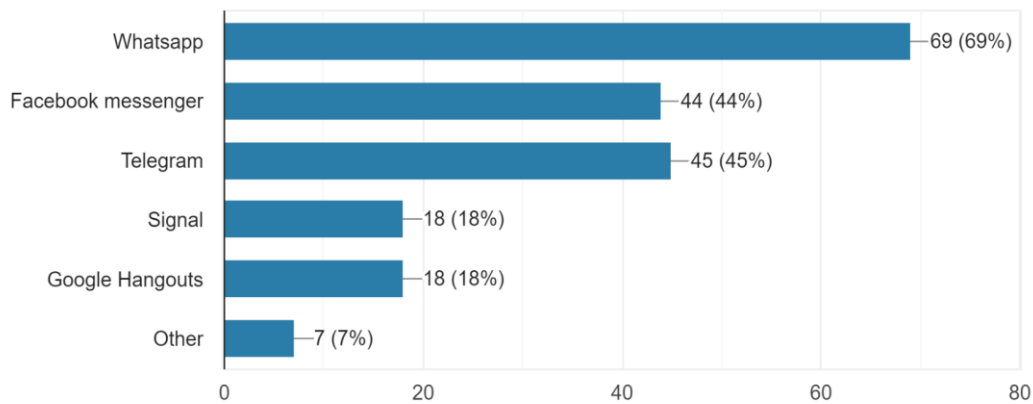


Fig 13]

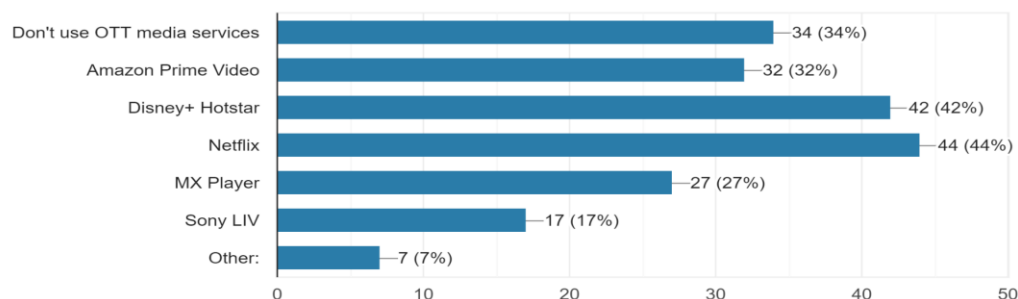
Most used OTT media platform

According to the respondents 34% Don't use OTT media Service. Among the remaining respondent most use Netflix 44% on their smart phones. 42% used Disney+Hotstar,32% use Amazon Prime videos,27% use MX Players, 17% Sony LIV.

Table 1.14

OTT media platform	No. of respondents	Percentage
Don't use OTT media service	34	34
Amazon Prime videos	32	32
Disney+ Hot star	42	42
Netflix	44	44
MX Player	27	27
Sony LIV	17	17
Other	7	7
Total	100	100

14. Which OTT media platform do you use most? (Select option 1 if you do not use OTT media services) *
100 responses



[Fig -14]

Online payment method used to make online payment

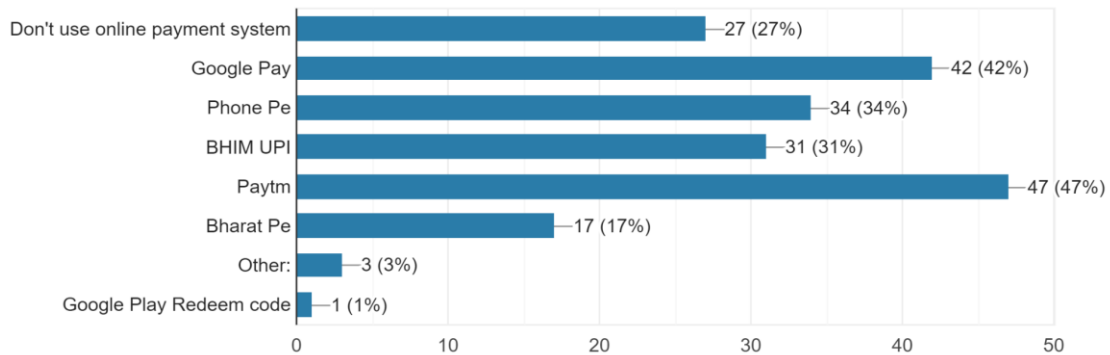
According to respondents 27 % don't use online payment systems. Among remaining respondents 47% use Paytm emerged as the most popular choice followed by Google pay, Phone Pay, respectively.

Table 1.15

Online payment system	No. of respondents	Percentage
Don't use online payment system	27	27
Google pay	42	42
Phone Pay	34	34
BHIM UPI	31	31
Paytm	47	47
Bharat Pe	17	17
Other	3	3
Google pay Redeem code	1	1
Total	100	100

15. While online payment system do you use to make online payment? (Select option if you don't use online payment system on your smart phone)*

100 responses



[Fig -15]

Most used E- Commerce Platform

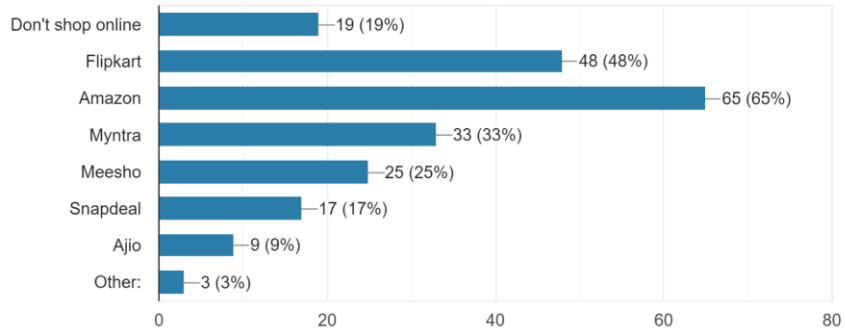
According to survey 19 % of respondents don't shop online on their smart phone. Among remaining respondents Amazon (65%) emerged as the most popular choice followed by Flipkart, Myntra, Meesha respectively.

Table-1.16

E- Commerce Platform	No. Of respondents	Percentage
Don't shop online	19	19
Flipkart	48	48
Amazon	65	65
Myntra	33	33
Meesha	25	25
Snapdeal	17	17
Ajao	9	9
Other	3	3
Total	100	100

16. Which E-commerce platform do you use on your smartphone to make online purchases?
(Select option 1 if you don't make online purchase using your smartphone) *

100 responses



[Fig.16]

6.2 Hypothesis Testing`

Hypothesis 1

Ho Age has no significant association with purpose for which mobile phone is used most of the time

H1 Age has significant association with purpose for which mobile phone is used most of the time

The chi square test was conducted to test the above hypothesis. The output of the hypothesis is given below:

Output Created		
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	104
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=Age BY @10. Select the purposes for which you spend most of the time on your mobile /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Dimensions Requested	2
	Cells Available	174762

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * 10. Select the purposes for which you spend most of the time on your mobile phone and rank accordingly. (Rank 1 for	N	100.0%	0	0.0%	104	100.0%

most time spent, rank 2 for 2nd most time spent and so on) [Purpose 1]					
---	--	--	--	--	--

Purposes for which you spend most of the time on your mobile phone and rank accordingly

Count						
10. Select the purposes for which you spend most of the time on your mobile phone and rank accordingly. (Rank 1 for most time spent, rank 2 for 2nd most time spent and so on) [Purpose 1]						
		Academic	Calls & Messaging	Games	OTT	
Age		5	0	0	0	0
	18-25	0	8	16	6	0
	26-35	0	6	8	5	0
	36-50	0	1	5	0	0
	Above 50	0	0	4	0	1
	Below 18	0	6	1	2	1
Total	5	21	34	13	2	

purposes for which you spend most of the time on your mobile phone and rank accordingly

Count					
10. Select the purposes for which you spend most of the time on your mobile phone and rank accordingly. (Rank 1 for most time spent, rank 2 for 2nd most time spent and so on) [Purpose 1]					
Social Media				Web Browsing	Total
Age		0		0	5
	18-25	9		7	46
	26-35	3		3	25
	36-50	2		0	8
	Above 50	0		1	6
	Below 18	3		1	14
Total		17		12	104

Chi-Square Tests

Value	df	Asymp. Sig. (2-sided)
-------	----	-----------------------

Pearson Chi-Square	133.472 ^a	30	.000
Likelihood Ratio	70.164	30	.000
N of Valid Cases	104		

a. 35 cells (83.3%) have expected count less than 5. The minimum expected count is .10.

Since the value of Pearson Chi square is significant, we accept the alternate hypothesis where it is accepted that age and purpose of using smart phone addition to normal calling vary from age group to age group.

Hypothesis 2

Ho Age has no significant association with the time spend on smart phone

Ha Age has significant association with time spend on smart phone

Age * On average how many hours do you spend daily on your mobile phone? * Cross Tabulation								
Count								
	On average how many hours do you spend daily on your mobile phone? *						Total	
		3-6	6-9	9-12	Above 12	Below 3		
Age		5	0	0	0	0	0	5
	18-25	0	16	14	5	3	8	46
	26-35	0	7	9	4	1	4	25
	36-50	0	2	3	2	0	1	8
	Above 50	0	3	0	0	0	3	6
	Below 18	0	2	3	3	5	1	14
Total	5	30	29	14	9	17	104	
Chi-Square Tests								
	Value	df	Asymp. Sig. (2-sided)					
Pearson Chi-Square	130.695 ^a	25	.000					
Likelihood Ratio	63.864	25	.000					
N of Valid Cases	104							
a. 30 cells (83.3%) have expected count less than 5. The minimum expected count is .24.								

Since the value of Pearson-Chi Square is significant, it is proved that age has significant association with time spent on smart phone.

Hypothesis 3

Ho Place of living has no association with type of operating system used

Ha Place of living has significant association with the place of living.

Case Processing Summary						
Cases						
Valid		Missing		Total		
N	Percent	N	Percent	N	Percent	
Age * Which mobile operating system do you use? *	104	100.0%	0	0.0%	104	100.0%

Age * Which mobile operating system do you use? * Cross tabulation

Count						
		Which mobile operating system do you use? *			Total	
		Android	iOS	Other:		
Age		5	0	0	0	5
	18-25	0	27	14	5	46
	26-35	0	13	11	1	25
	36-50	0	4	2	2	8
	Above 50	0	5	0	1	6
	Below 18	0	12	2	0	14
Total		5	61	29	9	104

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	116.496 ^a	15	.000
Likelihood Ratio	54.260	15	.000
N of Valid Cases	104		

a. 19 cells (79.2%) have expected count less than 5. The minimum expected count is .24.

Since the value of Pearson Chi-Square is significant, the alternate hypothesis is supported.

Hypothesis 4

Ho Access to Wi-Fi does not significantly depend on place of living

Ha Access to Wi-Fi does significantly depend on place of living

Case Processing Summary						
Cases						
Valid		Missing		Total		
N	Percent	N	Percent	N	Per cen	

						t
In which area do you live? * * Do you have regular access to Broadband or Wi-Fi internet connectivity? *	104	100.0%	0	0.0%	104	10 0.0 %

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	112.538 ^a	6	.000
Likelihood Ratio	47.471	6	.000
N of Valid Cases	104		

a. 8 cells (66.7%) have expected count less than 5. The minimum expected count is .24.

In which area do you live? * * Do you have regular access to Broadband or Wi-Fi internet connectivity? * Cross tabulation

Count					
		Do you have regular access to Broadband or Wi-Fi internet connectivity? *			Total
			No	Yes	
In which area do you live? *		5	0	0	5
	City	0	13	48	61
	Rural Area	0	5	2	7
	Small Town	0	10	21	31
Z		5	28	71	104

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	112.538 ^a	6	.000
Likelihood Ratio	47.471	6	.000
N of Valid Cases	104		

a. 8 cells (66.7%) have expected count less than 5. The minimum expected count is .24.

Since the Pearson Chi-Square value is significant, alternate hypothesis is supported and it is proved that place of living has significant association with access to Wi-Fi

CHAPTER: -7
CONCLUSION AND LIMITATION

7. Conclusion and Limitation

7.1 Conclusion

In the present, smartphones have been an essential part of people's lives. People are spending a lot of their time on their Smartphones. This study finds that almost 3 out of 4 people daily spend more than 3 hrs on average on their Smartphone, whereas 1 out of every 3 people spend more than 6 hrs. This thing clearly depicts the importance of smartphones in people's lives. The study finds that a user's mobile time is associated with the user's age, occupation, locality & marital status. However, the user's gender is not associated with the user's mobile usage time. Also, availability and non-availability of Wi-Fi does impact the user's mobile usage time Also the same test has been used to find association among user's age & gender demographics and their preferred social media platforms and content they engage.

This study finds that where the age demographic does impact the preferred social media of people but doesn't impact the preferred content of people. However, gender demographic has association with both preferred social media and preferred content choice of people.

Descriptive analysis is also performed in this study. YouTube and Instagram emerged as the most used social media platforms among respondents. WhatsApp clearly dominates in messaging application category almost 9 out of 10 respondents use WhatsApp as messaging application. While talking about content consumed by respondents on their Smartphone, Social media posts emerged as the most consumed content by respondents followed Videos/Reels which is also not very behind. While 34. % Respondents don't use OTT media services on their Smartphone among rest Netflix emerged as the most popular choice of respondents. "Phone Calls & Messaging" emerged as the purpose for which respondents spend most of their time on Smartphones followed by using social media & Academic learning respectively. While 19% respondents don't shop online using their Smartphone, among the rest Amazon emerged as the most popular choice followed by Flipkart. Whereas 27% respondents don't make online payments using smartphones, among the rest "Paytm" emerged as the most popular choice among respondents followed by "Google play". Whereas 19% don't shop E-commerce platforms. Among remaining respondents Amazon (65%) emerged as the most popular choice followed by Flipkart.

7.2 Limitations and Future Research:

In this study we basically analysed the users' pattern of using their smartphones i.e., what mobile applications they are using, what actions they are performing and how much time they are engaging with their smartphone. We analysed the user's usage time and we found out that those factors such as the user's age, gender, occupation, marital status and locality does affect the user's phone usage time. We also analysed user's purposes of using mobile phones and their dependency on their smartphone. We also studied the type of content users engage and relationship between user's age, gender and their content choice. We also studied the social media platforms users are engaging most and found out how age & gender demographics impact user's social media choice. At last, but not least, we concluded if users are addicted to their smartphone or not and then determined the reasons or factors which make users prone to get addicted to their smartphone.

But there is still a lot to explore in this field. The limitations of this research study are as follows:

- This study only considers the most used applications and the purposes for which user spend most of them time on smartphones. But exactly how much time/hrs they are spending on their most used application and their primary purpose is still missing in the study.
- What online educational platforms users are using, can be explored in further studies related to this field
- What is the impact of smart phone on user's daily life is what we haven't talked about in this study

this study doesn't consider online food ordering using smart phone. This purpose can also be added if any further studies are made on this topic.

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ANNEXURE



Usage Pattern Analysis of Smartphones

* Required

1. Gender *

- Male
- Female
- Other

Untitled Section

2. Age *

- Below 18
- 18-25
- 26-35
- 36-50
- Above 50

3. Marital Status? *

- Married
- Unmarried

4. Occupation *

- Student
- Working Professional
- Unemployed
- Other

5. In which area do you live? * *

- City
- Small Town
- Rural Area

6. Which mobile operating system do you use? * *

- Android
- iOS
- Other:

7. Do you have regular access to Broadband or WiFi internet connectivity? * *

- No
- Yes

8. On average how many hours do you spend daily on your mobile phone? * *

- Below 3
- 3-6
- 6-9
- 9-12
- Above 12

9. How dependent are you on your smartphone? * *

- Not at all
- Very Much

10. Select the purposes for which you spend most of the time on your mobile phone and rank accordingly. (Rank 1 for most time spent, Rank 2 for 2nd most time spent and so on) *

	Calls & Messaging	Social Media	Academic	Games	OTT	Web Browsing
Purpose 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purpose 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purpose 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purpose 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purpose 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purpose 6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Select the type of content you engage most on your smartphone * *

- Videos/Reels
- Social Media Posts
- Blog posts/ Articles
- Music
- Movies/Webseries
- Podcast

13. Which messenger application do you use most on your smartphone? * *

- Whatsapp
- Facebook messenger
- Telegram
- Signal
- Google Hangouts
- Other

14. Which OTT media platform do you use most? (Select option 1 if you do not use OTT media services) *

- Don't use OTT media services
- Amazon Prime Video
- Disney+ Hotstar
- Netflix
- MX Player
- Sony LIV
- Other:

15. Which online payment system do you use to make online payment? (Select option 1 if you don't use online payment system on your smart phone)*

- Don't use online payment system
- Google Pay
- Phone Pe
- BHIM UPI
- Paytm
- Bharat Pe
- Other:

16. Which E-commerce platform do you use on your smartphone to make online purchases? (Select option 1 if you don't make online purchase using your smartphone) *

- Don't shop online
- Flipkart
- Amazon
- Myntra
- Meesho
- Snapdeal
- Ajio
- Other:

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