



# INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

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## Mobile phone buying behavior of people

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### ABSTRACT

*The following analysis is done to study different behaviour of people in Indian Market while buying mobile phones and what features, price qualities, etc they prefer to have in a mobile phone. The purpose of the data is to know Consumer Behaviour while buying a mobile phone.*

**Keywords**— Mobile phone, Primary data, Quantitative research, Research paper, Consumer behavior, Buying behavior, Data analysis, Correlation, Regression, Descriptive statistics

### 1. OBJECTIVES

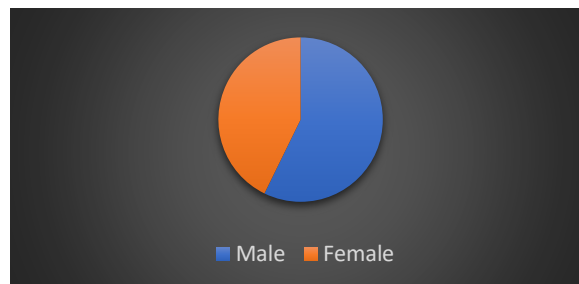
- To study the consumer behaviour while buying a mobile phone.
- To study about the consumer preferences, they require in a mobile phone.
- To study the relationship between age and price a person is willing to spend on a mobile phone.
- To study for how long a person uses the same mobile phone.

### 2. INTRODUCTION

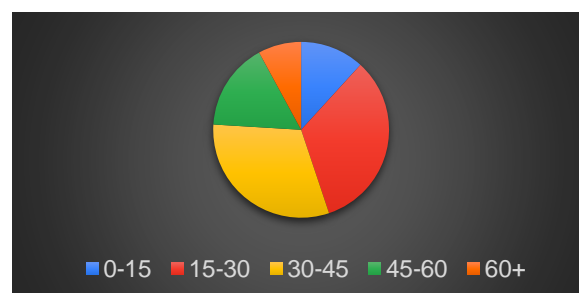
Mobile phone is one of the wonderful wonders of science. It has added a new dimension to our life and to communication system. Life without mobile phone seems impossible now. Due to its different features and the purpose it fulfils in our lives, it is required by people of all age group. Realizing the significance of customer buying behaviour in today's market scenario it is very appropriate to analyse the drivers that trigger the purchasing decision. This research paper identifies and analyses certain critical drivers of mobile phone purchasing decisions and explaining their relevance.

### 3. DATA

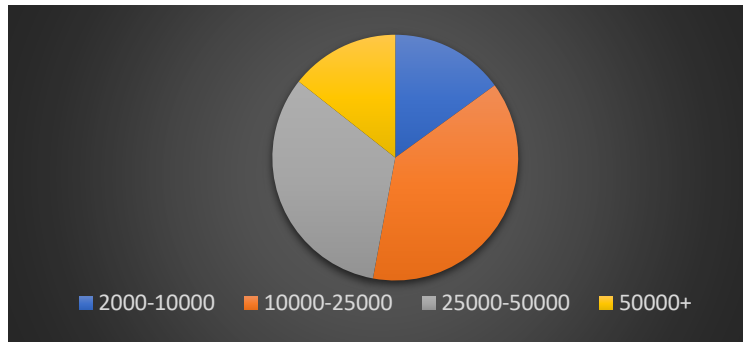
#### 3.1 Gender



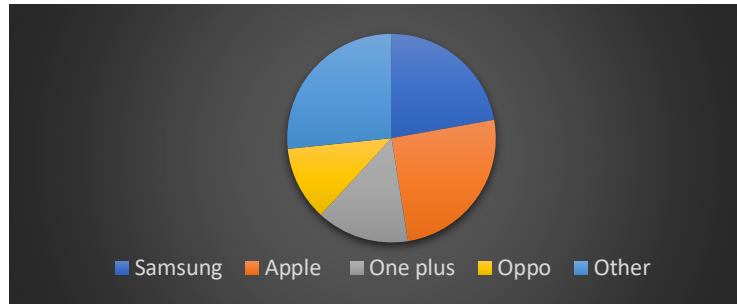
#### 3.2 Age



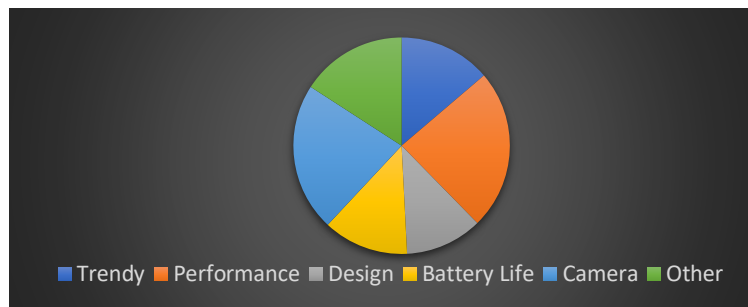
3.3 How much are you willing to spend



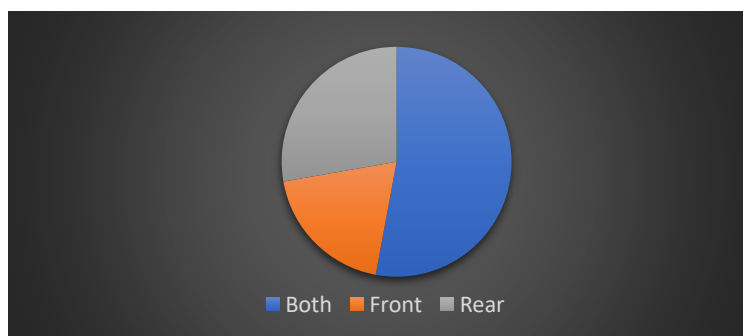
3.4 What brand do you own personally?



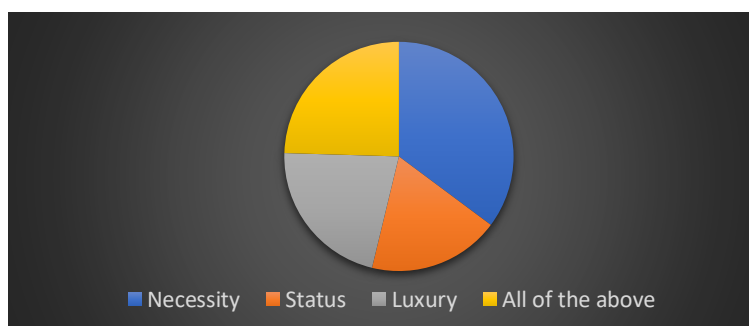
3.5 Which feature attracts you the most



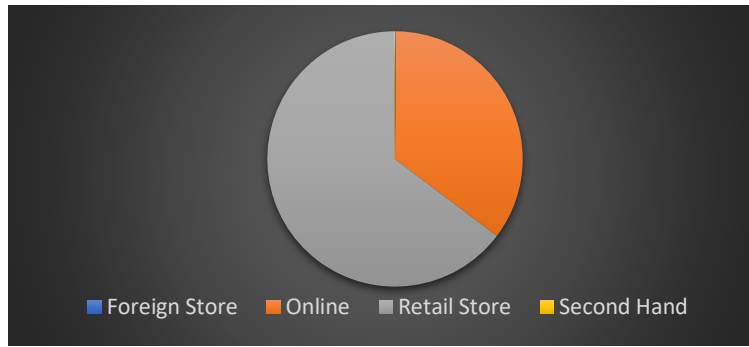
3.6 Which camera is most useful to you?



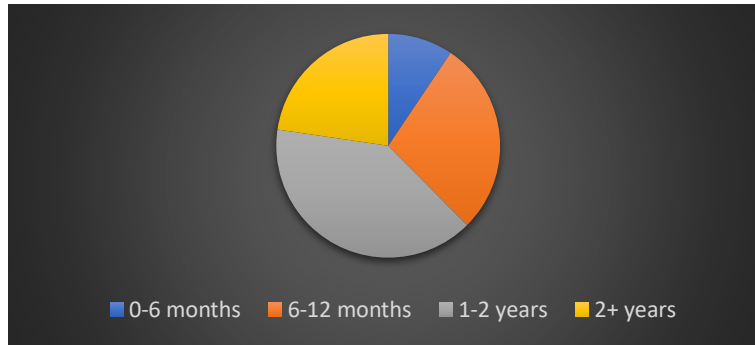
3.7 You consider owning mobile as a



3.8 From where do you prefer to purchase it



3.9 How often do you change your phone?



4. ANALYSIS

Dependent Variable:

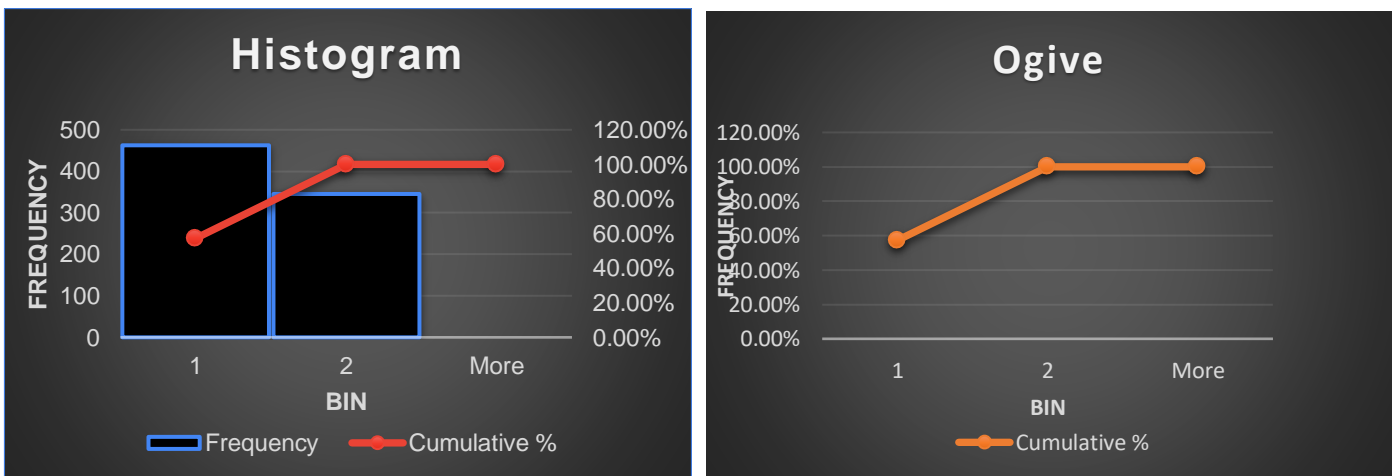
- Age
- Gender

Independent Variable:

- Price willing to spend
- Feature
- Purchase ice
- Phone usage
- No. of phones

4.1 From the following histogram and ogive curve related to gender of mobile users:

"1" represents "Male"  
 "2" represents "Female"

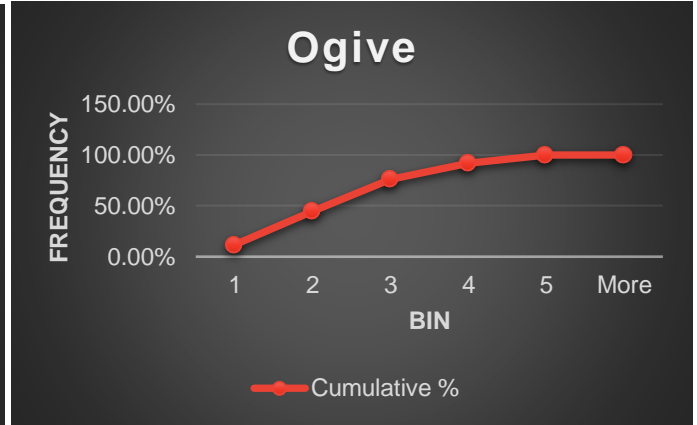
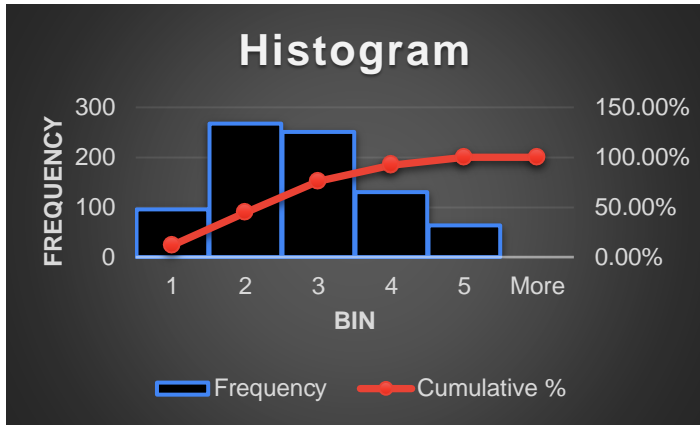


**Interpretation:** According to the histogram and frequency polygon, male use more mobile phones than female by 14.5%.

4.2 From the following histogram and ogive curve related to age of mobile users:

"1" represents "0-15"  
 "2" represents "15-30"

"3" represents "30-45"  
 "4" represents "45-60"  
 "5" represents "60+"

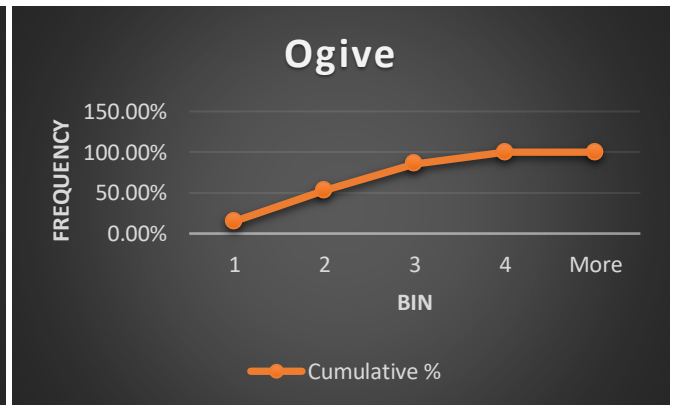
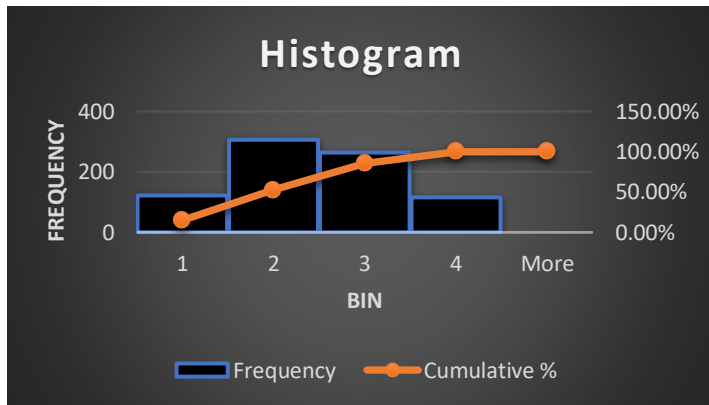


**Interpretation:** According to the histogram and frequency polygon, maximum number of mobile phones is used by people in age group 15-30 with close usage by people of age group 30-45. So, usage is maximum by Young Adults and Adults with minimum usage by people of age group more than 60.

**4.3 Price people are willing to spend on a mobile phone**

From the following histogram and ogive curve related to price a person is willing to spend to buy a mobile phone:

"1" represents "2000-10000"  
 "2" represents "10000-25000"  
 "3" represents "25000-50000"  
 "4" represents "50000+"

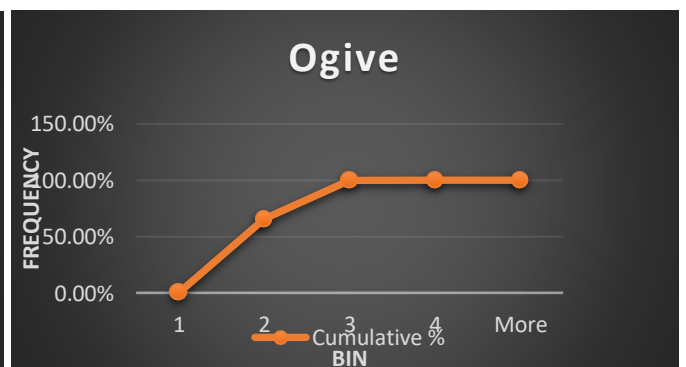
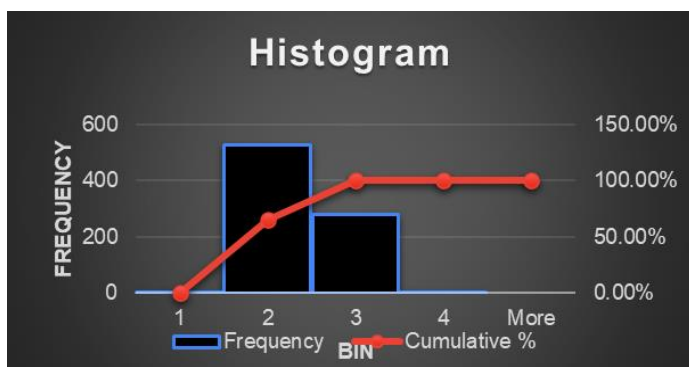


**Interpretation:** According to the histogram and frequency polygon, maximum number of people prefer to buy mobile phone with range - "10000-25000". Many people buy mobile phones between range "25000-50000" and least number of people buy mobile phones with price above Rs. 50000.

**4.4 Where people prefer to purchase a mobile phone**

From the following histogram and ogive curve related to from where people prefer to buy a mobile phone:

"1" represents "Foreign Stores"  
 "2" represents "Retail Stores"  
 "3" represents "Online (Amazon, Flipkart, etc)"  
 "4" represents "Second hand"



**Interpretation:** According to the histogram and frequency polygon, Maximum number of people prefer to purchase mobile phones from Retail Stores while very few people purchase mobile phones from Foreign stores or Second hand Stores.

**4.5 For what purpose for you use your phone the most?**

From the following histogram and frequency polygon related to the purpose for which people use mobile phones:

"1" represents "WAP (Mobile Internet)"

"2" represents "Call"

"3" represents "Gaming"

"4" represents "Photography"

"5" represents "SMS"



**Interpretation:** According to histogram and frequency polygon, people use mobile phones mostly for making calls and do not prefer to play games much on mobile phones. Hence the maximum usage is for "Calls" i.e. 292 people and minimum usage is for "Gaming" i.e. only 68 people. also, many people use mobile phones for "WAP (Mobile Internet)".

**5. DESCRIPTIVE STATISTICS**

**5.1 Gender**

**Mean** **1.427509294**

This implies on an average Male have more mobile phones than Female.

**Median** **1**

This implies more than 50% of people in the study are Male and other are Female.

**Mode** **1**

This implies maximum number of people who took part in the survey are Male.

**Standard Deviation** **0.495023991**

This implies data points tend to be very close to the mean.

**Sample Variance** **0.245048751**

This implies data points tend to be very close to mean and to each other.

**Kurtosis** **-1.918556942**

This implies data is Platykurtic.

**Skewness** **0.293605194**

Positively Skewed

**Count** **807**

This implies survey was conducted on 807 people.

**5.2 Age**

**Mean** **2.753407683**

This implies maximum number of people who use mobile phones lies between the age 15-30 and 30-45 so average age is 23-37.

**Median** **3**

This implies 50% of reviewers are aged less than 45 and the other 50% are older than 45.

**Mode** **2**

This implies maximum number of people who took the survey are between the age group 15-30.

**Standard Deviation** **1.104877596**

This implies data points tend to be close to the mean

**Sample Variance** **1.220754502**

This implies data points tend to be close to mean and to each other.

<b>Kurtosis</b> This implies data in Platykurtic	<b>-0.554297466</b>
<b>Skewness</b> Positively Skewed	<b>0.327351174</b>
<b>Count</b> This implies survey was conducted on 807 people.	<b>807</b>
<b>5.3 Which feature attracts you in a mobile phone?</b>	
<b>Mean</b> This implies on an average people prefer to have a mobile phone with.	<b>4.104089219</b>
<b>Median</b> This implies 50% of people want Camera Quality and Performance as a feature of mobile phone	<b>5</b>
<b>Mode</b> This implies maximum number of people want Good Performance as a feature of mobile phone.	<b>2</b>
<b>Standard Deviation</b> This implies data points tend to be scattered from the mean.	<b>2.293386896</b>
<b>Sample Variance</b> This implies data points tend to be scattered from the mean and from each other.	<b>5.259623456</b>
<b>Kurtosis</b> This implies data is Platykurtic.	<b>-1.166316127</b>
<b>Skewness</b> Positively Skewed	<b>0.263071249</b>
<b>Count</b> This implies survey was conducted on 807 people.	<b>807</b>
<b>5.4 Phone often used for what purpose?</b>	
<b>Mean</b> This implies people mostly use their phones to make Calls and to use Mobile Internet as average is 2.48	<b>2.482032218</b>
<b>Median</b> This implies more than 50% of people use phone for calls and WAP and other 50% for other purposes.	<b>2</b>
<b>Mode</b> This implies maximum number of people use mobile phone to make Calls.	<b>2</b>
<b>Standard Deviation</b> This implies data points tend to be close to the mean	<b>1.365786055</b>
<b>Sample Variance</b> This implies data points tend to be close to mean and to each other.	<b>1.865371547</b>
<b>Kurtosis</b> This implies data in Platykurtic	<b>-0.912095379</b>
<b>Skewness</b> Positively Skewed.	<b>0.630956181</b>
<b>Count</b> This implies survey was conducted on 807 people.	<b>807</b>

**6. CORRELATION**

**6.1 Age and Price willing to spend:** Correlation between Age and Price willing to spend

		<i>Price willing to spend</i>
Age	1	
Price willin	0.138036	1

**Interpretation:** This implies that age of people and price they are willing to spend on a mobile phone have LOW IMPERFECT POSITIVE CORRELATION. This means that as the age of person increases, he is willing to spend more money to buy a mobile phone. They have Direct Relation.  
r=0.1380

6.2 Gender and Number of Phones

Correlation between Gender and Number of Phones

	Gender	No of phones
Gender	1	
No of phor	0.074008	1

**Interpretation:** This implies that gender and number of phones a person has have low imperfect positive correlation. This means that male users have more number of mobile phones than female users at a point of time. They have Direct Relation.  $r=0.074$

7. REGRESSION

7.1 Age

Variable Y= Price Willing to Spend

Variable X= Age

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R								
R Square								
Adjusted R Square								
Standard Error								
Observations								
<i>ANOVA</i>								
		SS	MS	F	Significance F			
Regression		12.85661	12.85661	15.63646	8.35E-05			
Residual		661.8869	0.82222					
Total		674.7435						
		Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept		0.085756	25.0704	5.7E-103	1.981612	2.318276	1.981612	2.318276
Age		0.028908	3.954297	8.35E-05	0.057566	0.171052	0.057566	0.171052

$a=2.1499$

$b=0.114$

$Y=a+Bx$

$Y=2.1499+0.114X$

**Interpretation:** This implies that if age increases by 0.144 units, then price willing to spend increases by Rs. (10000-15000)

7.2 Gender

Variable Y= No. of Phones

Variable X= Gender

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R								
R Square								
Adjusted R Square								
Standard Error								
Observations								
<i>ANOVA</i>								
		SS	MS	F	Significance F			
Regression		1.081808	1.081808	4.433471	0.03555			
Residual		196.4275	0.244009					
Total		197.5093						
		Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept		0.041106	32.81988	1.3E-150	1.268397	1.42977	1.268397	1.42977
No of phor		0.021348	2.105581	0.03555	0.003046	0.086854	0.003046	0.086854

$a=1.349$

$b=0.044$

$Y=a+bX$

$Y=1.349+0.044X$

**Interpretation:** This implies that if Variable Y (Gender) changes from Female to male, their tendency to keep more mobile phones increases by 0.044 units.

## 8. CONCLUSION

From the analysis it can be concluded that male use more mobile phones than female by 14.5%. Maximum number of mobile phones is used by people in age group 15-30 with close usage by people of age group 30-45. So, usage is maximum by Young Adults and Adults with minimum usage by people of age group more than 60. Maximum number of people prefer to buy mobile phone within range - "10000-25000". Many people buy phones between range "25000-50000" and least number of people buy phones with price above Rs. 50000. Maximum number of people prefer to purchase mobile phones from Retail Stores while very few people purchase mobile phones from Foreign stores or Second hand Stores. People use mobile phones mostly for making calls and do not prefer to play games much on mobile phones. As the age of person increases, he is willing to spend more money to buy a mobile phone. Male users have a greater number of mobile phones than female users at a point of time.

## 9. REFERENCES

- [1] Primary data collected from Google forms.
- [2] <https://www.wikipedia.org/>
- [3] <https://www.investopedia.com/terms/c/correlation.asp>
- [4] <https://hbr.org/2015/11/a-refresher-on-regression-analysis>

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## APPENDIX

### 1. QUESTIONNAIRE

#### Mobile Phone Survey

##### Gender

- Male
- Female

##### Age

- 0-15
- 15-30
- 30-45
- 45-60
- 60+

#### 1. How much are you willing to spend on a mobile phone?

- 2,000-10,000
- 10,000-25,000
- 25,000-50,000
- 50,000+

#### 2. What brand of mobile phone do you own presently?

- Apple
- Samsung
- One Plus
- Motorola
- Xiaomi
- Oppo
- Jio
- Other:

#### 3. You prefer to buy a mobile phone based on-

- Brand
- Features
- Customer Service
- Price Range
- Other:

#### 4. Which feature attracts you the most in a mobile phone?

- Design
- Camera
- Display
- Trendy
- Battery Life
- Performance
- Other:



**5. Which camera is more useful to you?**

- Front
- Rear
- Both

**6. You consider owning a mobile handset as a-**

- Necessity
- Status
- Luxury
- All of the above

**7. From where do you prefer to purchase a mobile phone?**

- Online (Amazon, Flipkart, etc)
- Retail Store
- Other:

**8. How often do you change your phone?**

- 0-6 months
- 6 months - 1 year
- 1 year - 2 years
- 2+ years

**9. How many phones do you have?**

- 1
- 2
- 3
- 3+

**10. You use your phone often to-**

- Call
- SMS
- WAP (Mobile Internet)
- Photography
- Gaming

**11. Would you be open to buying a brand that is totally new to the market?**

- Yes
- No
- Maybe

**2. DATA IN QUANTITATIVE TERMS**

**Gender**

"1" represents "Male"

"2" represents "Female"

**Age**

"1" represents "0-15"

"2" represents "15-30"

"3" represents "30-45"

"4" represents "45-60"

"5" represents "60+"

**Price people are willing to spend**

"1" represents Rs. "2000-10000"

"2" represents Rs. "10000-25000"

"3" represents Rs. "25000-50000"

"4" represents Rs. "50000+"

**Purchase place**

"1" represents "Foreign Stores"

"2" represents "Retail Stores"

"3" represents "Online (Amazon, Flipkart, etc)"

"4" represents "Second hand"

**Purpose of phone usage**

"1" represents "WAP (Mobile Internet)"

"2" represents "Call"

"3" represents "Gaming"

"4" represents "Photography"

"5" represents "SMS"

**Features**

"1" represents "Battery life"

"2" represents "Performance"

"3" represents "Design"

"4" represents "Security"

"5" represents "Camera"

"6" represents "Durability"

"7" represents "Display"

"8" represents "Trendy"