

# RESEARCH PAPER ON MOBILE PHONES

SIDDHANT MUNKA

NARSEE MONJEE INSTITUTE OF MANAGEMENT STUDIES



## ABSTRACT

*India's telecommunication market is the second largest in the world. There has been tremendous growth in the use of mobile phones in India. It has become essential parts of business and personal life. Now the mobile phones are coming up with a variety of features. A handheld mobile radio television service was envisioned in the early stages of radio engineering. Early predecessors of mobile phones included analogue radio communications from ships and trains. The creation of fully portable telecommunication devices began after World War II.*

*The mobile phone technology has brought the world one step closer. It solved the disruption in communication by way of either calling or texting. The contacts are established easily and instantly with the help of mobile phones which was not possible earlier. The results of the research also confirm that the regulatory focus has an influence in consumer behavior towards smartphone purchase decision by affecting their perception, motivation and lifestyle. Global mobile data traffic is forecast to increase from 7 exabytes per month in 2016 to 49 exabytes per month by 2021.*

*In 2019, number of mobile subscriptions was estimated to pass the 8 Billion mark for the first time, reaching a total of 8.3 Billion mobile subscriptions worldwide up from 7.9 Billion in 2018.*

## OBJECTIVE

To study the consumer behavior towards mobile phone. To study the importance of mobile in the life of a consumer, how much the consumers are willing to pay for a new phone and the duration for which they use their mobile phone in their daily life.

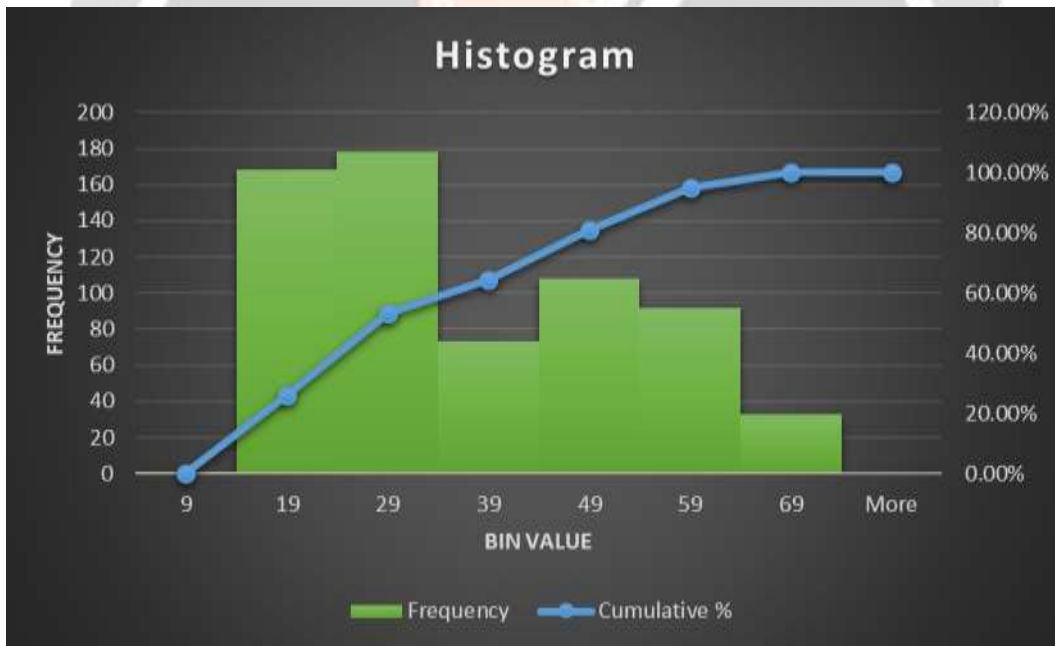
## Summary

The data was collected from a survey conducted by me which includes responses from people of various age groups. The purpose of the survey is to know about the preferences of people while buying a mobile phone based on its importance in life its usage and different factors that influence to buy it.

### HISTOGRAM

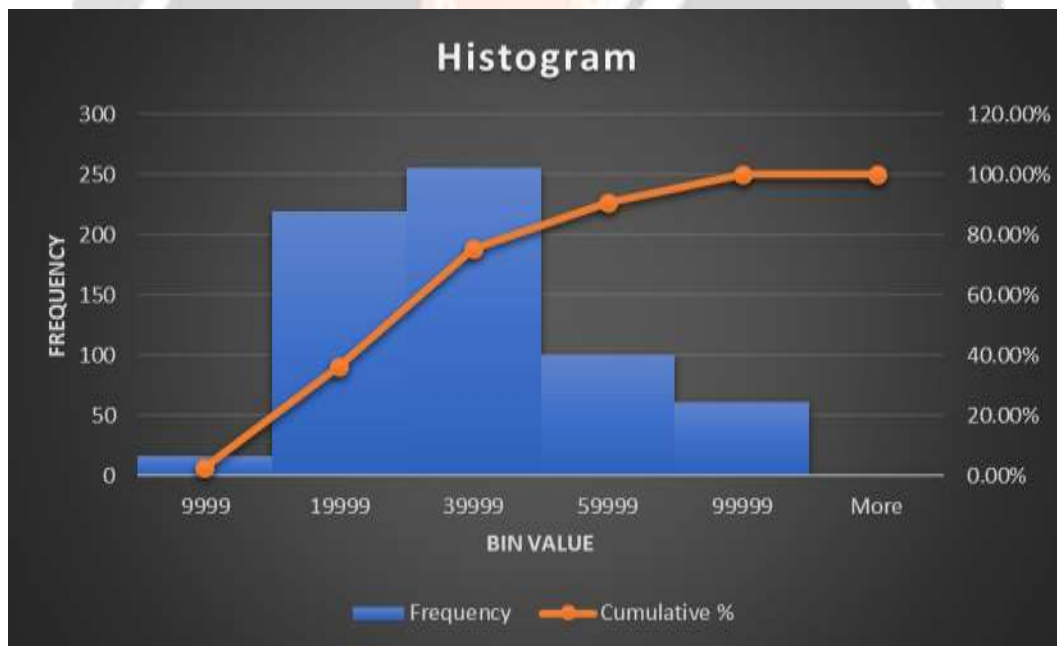
1. What is your age?

CLASS INTERVAL	BIN VALUE	Frequency	Cumulative %
0-10	9	1	0.15%
11-20	19	168	25.88%
21-30	29	178	53.14%
31-40	39	73	64.32%
41-50	49	108	80.86%
51-60	59	92	94.95%
61-70	69	33	100.00%



2.How much would you pay for a new Mobile?

CLASS INTERVAL	BIN VALUE	FREQUENCY	CUMULATIVE %
0-10000	9999	16	2.45%
10001-20000	19999	220	36.14%
20001-40000	39999	256	75.34%
40001-60000	59999	100	90.66%
60001-100000	99999	61	100.00%



**DESCRIPTIVE STATISTICS**

<i>How many hours a day do you spend on your mobile phone?</i>		<i>INTERPRETATION</i>
Mean	6.022970904	THE AVERAGE HOURS SPENT ON MOBILE IS 6.02 HOURS
Standard Error	0.088128034	
Median	6	50% OF DATA LIES BETWEEN 6
Mode	8	MOST PEOPLE SPEND 8 HOURS ON MOBILE PHONE IN A DAY
Standard Deviation	2.25201186	ON AN AVERAGE DEVIATION BETWEEN EVERY PERSON'S TIME SPENT AND ITS MEAN IS 2.25
Sample Variance	5.071557418	
Kurtosis	-0.830719586	
Skewness	-0.004428785	
Range	10	THE DIFFERENCE BETWEEN THE HIGHEST AND THE LOWEST HOURS SPENT ON A MOBILE IN A DAY IS 10 HOURS
Minimum	2	THE LOWEST HOUR SPENT ON MOBILE PHONE IS 2 HOURS
Maximum	12	THE HIGHEST HOUR SPENT ON MOBILE PHONE IS 12 HOURS
Sum	3933	
Count	653	TOTAL NUMBER OF PEOPLE SURVEYED IS 653

<i>What is your age?</i>		<i>INTERPRETATION</i>
Mean	33.2924961 7	THE AVERAGE AGE IS 33.29 YEARS
Standard Error	0.59377276 9	
Median	28	50% OF DATA LIES BETWEEN 28
Mode	19	MOST PEOPLE WHO USES MOBILE PHONE IS OF AGE 19
Standard Deviation	15.173189	ON AN AVERAGE DEVIATION BETWEEN EVERY PERSON'S AGE AND ITS MEAN IS 15.17
Sample Variance	230.225664 5	
Kurtosis	-0.99302583	
Skewness	0.53184463 8	
Range	60	THE DIFFERENCE BETWEEN THE HIGHEST AND THE LOWEST AGE IS 60 YEARS
Minimum	9	THE LOWEST AGE IS 9 YEARS
Maximum	69	THE HIGHEST AGE IS 69 YEARS
Sum	21740	
Count	653	TOTAL NUMBER OF PEOPLE SURVEYED IS 653

<i>How much would you pay for a new phone?</i>		<i>INTERPRETATION</i>
Mean	32272.58806	THE AVERAGE AMOUNT IS Rs. 32272.59
Standard Error	739.0078295	
Median	29000	50% OF DATA LIES BETWEEN 29000
Mode	18000	MOST PEOPLE IS WILLING TO PAY Rs.18000
Standard Deviation	18884.50607	ON AN AVERAGE DEVIATION BETWEEN EVERY PERSON'S WILLINGNESS TO PAY FOR A NEW PHONE AND ITS MEAN IS 18884.51
Sample Variance	356624569.5	
Kurtosis	1.104188168	
Skewness	1.253602288	
Range	89000	THE DIFFERENCE BETWEEN THE HIGHEST AND THE LOWEST AMOUNT IS Rs. 89000
Minimum	6000	THE LOWEST AMOUNT IS Rs.6000
Maximum	95000	THE HIGHEST AMOUNT IS Rs.95000
Sum	21074000	
Count	653	TOTAL NUMBER OF PEOPLE SURVEYED IS 653

### **CORRELATION**

	<i>What is your age</i>	<i>How much would you pay for a new phone</i>
<i>What is your age</i>	1	
<i>How much would you pay for a new phone</i>	0.302300937	1

**INTERPRETATION****IMPERFECT POSITIVE CORRELATION**

Since there exist imperfect positive correlation it means there is direct relation between the two variables i.e. as the age increases the willingness to pay for a mobile increases but since it is imperfect, the relation may not be proportional.

	<i>What is your age</i>	<i>How many hours a day you spend on your mobile phone</i>
What is your age	1	
How many hours a day you spend on your mobile phone	0.118120918	1

**INTERPRETATION****IMPERFECT POSITIVE CORRELATION**

Since there exist imperfect positive correlation it means there is direct relation between the two variables i.e. as the age increases the time spent on mobile increases but since it is imperfect, the relation may not be proportional.

	<i>What is your age</i>	<i>How important is mobile phone in your life</i>
What is your age	1	
How important is mobile phone in your life	0.322277781	1

**INTERPRETATION****IMPERFECT POSITIVE CORRELATION**

Since there exist imperfect positive correlation it means there is direct relation between the two variables i.e. as the age increases the importance of mobile increases but since it is imperfect, the relation may not be proportional.



**REGRESSION**

1. 1.HOW MANY HOURS A DAY YOU SPEND ON YOUR MOBILE PHONE?

<b>SUMMARY OUTPUT</b>							
<i>Regression Statistics</i>							
Multiple R	0.118120918						
R Square	0.013952551						
Adjusted R Square	0.012437885						
Standard Error	2.237962906						
Observations	653						
<b>ANOVA</b>							
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>			
Regression	1	46.13627949	46.13627949	9.21164			
Residual	651	3260.519157	5.008477968				
Total	652	3306.655436					
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	5.439301433	0.211311444	25.74068549	3E-101	5.8542357	5.024367175	5.854235691
What is your age?	0.017531562	0.005776333	3.035067826	0.0025	0.0288741	0.00618907	0.028874055

<b>Y ESTIMATE EQUATION</b>
y=a+bx
y=5.44+(0.02)x



**INTERPRETATION**

To increase 1 unit of hour spent on mobile phone the age should be increased by 0.02 unit as b is positive.

**2.HOW MUCH WOULD YOU PAY FOR A NEW PHONE?**

<b>SUMMARY OUTPUT</b>							
<i>Regression Statistics</i>							
Multiple R	0.302300937						
R Square	0.091385857						
Adjusted R Square	0.089990136						
Standard Error	18014.76828						
Observations	653						
<b>ANOVA</b>							
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>			
Regression	1	21248968018	21248968018	65.4758			
Residual	651	2.1127E+11	324531876.1				
Total	652	2.32519E+11					
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	19746.5244	1700.978464	11.60892087	1.9E-28	23086.591	16406.45809	23086.59071
What is your age?	376.2428505	46.49732995	8.091708726	2.9E-15	467.54569	284.9400101	467.5456909

<i>Y ESTIMATE EQUATION</i>
$y=a+bx$
$y=19746.52+(376.24)x$

## INTERPRETATION

To increase 1 unit of money(rupee) spent on mobile phone the age should be increased by 376.24 unit as b is positive.

## APPENDIX

	What is your gender?	Where do you live (Urban/Rural)?	What do you prefer while purchasing a mobile phone?	What is brand do you prefer for your phone?	What influence do you have on buying a mobile phone?	How often do you change your mobile phone in a year?	How important is mobile phone in your life?	How many hours a day you spend on your mobile phone?	What is your income?	How much would you pay for a new phone?
1	Female	Urban Area	Design	Apple	It helps	1	5	18	10000	
2	Male	Urban Area	Specifications	One Plus	Current Trends	1	7	16	30000	
3	Female	Rural Areas	Design	Apple	It helps	2	9	20	45000	
4	Female	Urban Area	Brand	One Plus	It helps	1	9	17	25000	
5	Male	Urban Area	Specifications	HTC/One/Vivo/Exp	It helps	1	4	18	17000	
6	Female	Urban Area	Specifications	HTC/One/Vivo/Exp	Current Trends	1	8	16	12000	
7	Female	Urban Area	Specifications	HTC/One/Vivo/Exp	It helps	1	8	17	14500	
8	Female	Rural Areas	Specifications	Apple	Current Trends	1	7	18	16000	
9	Female	Urban Area	Specifications	HTC/One/Vivo/Exp	It helps	1	8	16	17000	
10	Female	Urban Area	Brand	Samsung	Current Trends	1	8	16	9000	
11	Male	Urban Area	Brand	Apple	Current Trends	1	4	16	90000	
12	Female	Rural Areas	Specifications	Apple	It helps	1	9	15	16000	
13	Male	Rural Areas	Specifications	Samsung	It helps	1	8	17	18000	
14	Female	Rural Areas	Specifications	HTC/One/Vivo/Exp	Current Trends	1	9	18	7000	
15	Female	Rural Areas	Specifications	HTC/One/Vivo/Exp	Current Trends	1	8	16	10000	
16	Male	Urban Area	Specifications	One Plus	Current Trends	1	1	17	30000	
17	Male	Urban Area	Specifications	One Plus	It helps	1	4	18	17000	
18	Female	Rural Areas	Specifications	HTC/One/Vivo/Exp	It helps	1	8	16	18000	
19	Female	Rural Areas	Specifications	HTC/One/Vivo/Exp	It helps	1	8	16	18000	
20	Female	Urban Area	Brand	Apple	It helps	1	8	16	18000	
21	Female	Rural Areas	Brand	Apple	It helps	1	8	16	29000	
22	Male	Urban Area	Specifications	One Plus	It helps	1	7	16	15000	
23	Female	Rural Areas	Specifications	Apple	It helps	1	8	17	35000	
24	Female	Rural Areas	Specifications	HTC/One/Vivo/Exp	It helps	1	8	16	18000	
25	Female	Urban Area	Brand	One Plus	It helps	1	8	16	24000	
26	Female	Rural Areas	Brand	Apple	It helps	1	8	16	30000	
27	Male	Urban Area	Specifications	One Plus	It helps	1	8	16	25000	

