

FACTORS AFFECTING CONSUMER BUYING DECISIONS OF SMARTPHONES

JASMINE TANEJA JHA & JOGINDER KUMAR NANDA

Research Scholar, Institute for Technology and Management, the Institute for Technology and Management,
Institute of Financial Markets Navi, Maharashtra, India

ABSTRACT

Purpose – Mobile phones are widely used amongst all age groups and are a fast-growing industry. Companies are penetrating the Asian Market for their growth. Various studies have been conducted on its consumer behavior aspects, but none covers the different facets of the issues involved. The purpose of this study is to get the inputs from various perspectives, in terms of influences, users, usage, satisfaction and replacement.

Design/ Methodology – A survey was conducted across different age groups, and respondents belonging to different social and educational backgrounds hailing from different parts of the country. Analysis was done using SPSS software.

Findings – The relative market share of major mobile phone manufacturers was ascertained. The usage pattern of mobiles for various apps was studied and it was found that Whatsapp is the most extensively used app followed by Facebook. The consumers look for attributes which were factor analyzed to give us Imperative (Camera, Multimedia, Touch screen, Memory Capacity, Color Display, Attractive Color of Phone, Design of Phone, Model/Style, Web Browsers, Brand Value/Quality, Reliability, New features and Appearance), Auxiliary (Complexity of Operating Systems, Battery Life, Language Keypad, Time taken to Charge, Warranty, Guarantee and Repair) and Trivial (FM Radio, Dual Sim and Domestic Product) factors. The findings also revealed that recommendation for review on the internet and friends influenced more than all other categories.

Originality/Value – The Psyche of Indian consumer is different from western consumers in terms of the influences, usage of products and the importance of different attributes. The reluctance of consumer of switching to competitive brands is observed giving direction to the marketing drives of different mobile brand manufacturers.

Research Limitation / Implication - The researchers have not considered the qualitative aspects of different apps while looking at only their average duration of usage. The research was conducted using online survey tools and results may vary if the research is conducted using a direct interview method.

KEYWORDS: Buying Behavior, Mobile Phones, Usage Pattern, Influencers, Mobile Applications, Consumer Purchase Decision, India.

INTRODUCTION

Globally, communication through Mobile phones is one of the fastest growing businesses. Big giants in the mobile industry are eyeing on the Asian Continent for business growth as there is huge scope in the Asian market. China and Korea are leaders in manufacturing low cost mobiles and being the competitor for leading manufacturers in this segment.

Table 1: Market Share of Various Companies, Manufacturing Smartphone's

Period	Samsung	Apple	Huawei	Xiaomi	Lenovo*	Others
2015Q2	21.4%	13.9%	8.7%	5.6%	4.7%	45.7%
2014Q2	24.8%	11.6%	6.7%	4.6%	8.0%	44.3%
2013Q2	31.9%	12.9%	4.3%	1.7%	5.7%	43.6%
2012Q2	32.2%	16.6%	4.1%	1.0%	5.9%	40.2%

Source: IDC, Aug 2015

Robertson (2001) in his research on mobile phones quoted that China is leading in mobile phones at 80% market share in 2001 as compared to the market share existing in the year 1990 and China increased 25% market share by 2004 (CMII, 2005). The competition for the mobile phone manufacturers is intense. Mobile Phone manufacturers are marketing the mobiles by advertising the features of the phone, endorsed by the celebrities. The companies are also promoting phones, comparing the unique features such as: attractive appearance, dialling speed, colour, shape and customized options. The marketing strategies that have been widely used in many different industries based on the research on consumers purchasing behavior with special reference to the influence of social influencing groups.

Lachoe, Wake ford and Pearson (2003) stated that the history of mobile phones involved developments in the areas of technology, society and political frameworks.

India is a growing economy and along with the growth of the nation the telecommunicating industry is also growing. The focus of consumer towards mobile phones is increasing the need for research in this area. People are obsessed with the usage of their mobile phones. In today's era, mobile phones are not just a necessity but people are using it for increasing their networking and staying connected with their friends and families. Various apps such as Whatsapp, LinkedIn, Facebook, and Instagram are used for business purpose. Hence, due to high usage on a personal front and in business it is becoming essential to possess a mobile phone. There is a shift in the thought process of the consumer. High usage of mobile phones is seen across all ages. Increasing income has brought about a radical shift in the type of mobile phones used by consumers.

Flourishing advertising industry also provides the necessary support to increase the sale of the mobile phones. Marketing strategies of the company's manufacturing mobile phones help in creating or destroying the brand.

Today's consumer is techno savvy and gain information about the technical configuration and features of mobile phones before buying the product. Only a few brands were available in India in the 90s and among them Nokia was the market leader.

With the boom in the industry today we have a variety of brands to choose. The leading brands available in India in today's market are Apple, Nokia, HTC, Samsung, Blackberry and Micromax and the lesser known brands such as VOX, carbon, Xolo, Lava etc. The existing price range of mobiles is INR 600 - INR 80000.

Applications on Mobile Phones

Government and Private organization of different sectors, both use Mobile Phone Apps for communication. Various Banks are also developing mobile apps for the ease and convenience of the consumer to do financial transactions. Several apps are created for information sharing by the Government of India. Apps are also used for shopping, railway bookings, and air bookings, payment modes of electricity and other utility bills, movie bookings.

OBJECTIVE

- To understand the role of influencers on purchase of smart phones.
- To study the usage pattern of mobile phone
- To understand the relative importance of different attributes while buying a Smartphone
- To understand the factors affecting the buying decision of the consumer in the purchase of smart phones
- To find the average life of a branded mobile.

LITERATURE REVIEW

Several researches have been conducted on the factors influencing the purchase of smartphones. According, to Uddin, Lopa & Oheduzzaman (2014), the most important factor is the physical attributes, which are looked by the consumer while buying a new mobile phone. The researcher also states that, some other factors influencing the consumer buying behavior are pricing, charging and operating facilities, size and weight, friends' and colleagues' recommendations, neighbors' recommendations and advertising.

Basha, Lakshmana and Fayaz (2011) have also studied the various factors influencing the consumer buying behavior on Mobile phones, and have summarized it that the choices of mobiles differ, amongst various age groups and income levels, and the choice depends on the services derived and hold for longer duration, based on the quality of the mobile phone.

In the study conducted by Mesay Sata (2013) majority of the consumers own Nokia mobile phones. In recent times, Nokia mobile phone users have plans to shift to other brands such as Samsung, Apple and BlackBerry. The analysis conducted by the researcher shows that, price is the most dominant factor in the purchase decision of the consumer. The consumer's second preference is attractive features prevalent in the mobile handset. However, some features of mobile phones are given more importance and some are considered as not important. Brand name and durability of mobile phones were given due importance in buying a mobile phone, since these two features are related to the quality of the mobile phones and the least importance, being social influence and after sales service.

Debasish and Mallick (2015) in their research found that, companies should develop action plans with specific marketing strategies considering the complexity of the set of factors influencing consumer behavior and to target the potential of rural market in Asia. Strategic Planning is required to market in rural areas and new mobile phones launch cannot be successful if this is not implemented in a proper manner. Rural market should have different branding activities and plans as the consumer mindset does not have similarity with the mindset of the consumer staying in urban areas. Success has been achieved by companies which have adopted an integrated plan of urban marketing strategies and action

plans.

Kaur (2015) studied consumer purchase behavior towards mobile phone. The study conducted in India by the researcher revealed that consumers prefer to use single mobile phone with android operating system. The consumers were found to be satisfied with their existing brand of mobile phone. This study also showed that the consumers replaced the phones between one to two years. The consumers preferred Samsung brand mobiles.

Martensen (2007), in the empirical survey-based study proved that teens show low loyalty towards their mobile phone brand as compared to the adults. The study also concluded that in case of twins a weak relationship existed between satisfaction and loyalty. It was also observed that satisfaction levels of teens were higher than that of adults despite their lower levels of loyalty. Due to this teen do not go for the same brands at the time of repurchase nor do they recommend their current brand of mobile phones to others.

Mohankumar and Dineshkumar (2015), in their study mentioned that, the consumers are buying a variety of mobile phones, which satisfy their needs and wants. They are always influenced in their purchasing activities by some considerations, which lead him to select a brand or a store, which is preferred by others. Consumers mostly preferred Nokia mobile phones.

Kumar and Chaubey (2015) studied the functional attributes which affected the consumers buying decision of mobile phones. The research mentions that the consumers give great importance to the product attributes than the functional factors while purchasing a mobile phone.

Karjaluoeto et al. (2005) study dealt with the choice criteria of the consumers in buying mobile phones. The factors studies were the influence intention to acquire new mobile phones and factors influencing the change of mobile phones. The technical problem in mobiles was found to be the main reason to change the mobile phone and the most influential features sought by consumers before the purchase of mobile phones were price, interface, brand and properties.

Singh and Goyal (2009), studied the consumers buying behavior of mobile handset by different age groups and gender. The research conclusion mentions that the age group of 18-30 years were less sensitive to pricing and physical attributes, brand, value added features and technical features were more important in making a purchase decision. Moreover, the consumers belonging to the age group of 50 years or more gave more importance to price rather than features. Significant differences also prevailed between different age groups with regards to the importance given to all factors except the repairs and after sales services. There was a high difference between the core technical features and brand of handset. Differences of opinion between male and female were also existed with the brand and technical features of the mobile handsets.

METHODOLOGY

A survey was carried out across different cities, different age groups, various educational qualifications, various occupations and ranges of annual family income. There were 700 respondents and the data was collected through Google forms. The results were of primarily quantitative in nature and the data analysis was done using SPSS.

The questionnaire was validated by performing reliability analysis. The Cronbach alpha was found to be 0.942, which is above 0.7. Reliability test was also carried out separately, for usage of apps and Cronbach Alpha was also found

to be 0.858. Reliability test was also conducted for attributes where the Cronbach alpha was 0.971. Since, all the readings were above 0.7, hence, we confirm that, the questionnaire can be used to conduct the study and preceded with further analysis.

Table 2: Reliability Analysis

	Cronbach's Alpha	N of Items
All parameters	.942	85
Usage of Apps	.858	11
Attributes	.971	26

DATA ANALYSIS

The descriptive statistics of age group of respondents revealed that 2 respondents were from the age group of 5-10 years, 8 were from 10-15 yrs, 26 were from 15-18 yrs, 500 were from 18-25 yrs, 97 were from 25-35 yrs and 67 were from the age group of 35 yrs & above.

Maximum number of respondents belonged to 18-25 years which represents the youth and major users of smartphones.

The educational qualifications of the respondents belonged to the following categories: 3 respondents didn't attend school, 14 respondents were from the children studying from 1st to 10th, 56 respondents were teenagers who studied from 10th to 12th, 462 were students who are graduates and 165 were from Post Graduates.

Maximum numbers of respondents were graduates who are major users of smartphones.

Out of total 700 respondents 408 were students, 27 were housewives, 21 were employed in the Government Sector, 151 were employed in Private sector, 31 were professionals practicing CA/ICWA/MD/MBBS, 52 were Entrepreneurs and 10 were retired.

Majority of respondents were students followed by 255 respondents who were working professionals.

The annual family income of 267 respondents was less than ₹5 lacs, 262 respondents belonged to the group having annual family income ranging from ₹5lacs – ₹10 lacs. The number of respondents having annual family income of ₹10 lacs – ₹20 lacs was 112 and 59 respondents belonged to the group of annual family income of more than ₹20 lacs.

The respondent's demographic profile also included their place of residence classified in Metro, Non-Metro, Small Towns/Rural and International. The responses comprised of 330 respondents from Metro, 32 respondents from Non-Metro, 326 respondents were from Small Towns/Rural and 12 belonged to International locations such as UK, US, Singapore etc.

To understand the role of influencers on purchase of smartphones we asked the respondents to give us the rating in Likert Scale of 1-5 (1= Not at all, 2=Slightly Important, 3=Moderately Important, 4=Important and 5= Very Important) about the influence of Friends, Colleagues, Review of Internet, Reviews in Newspaper, Advertisements, Neighbours and Salesperson in buying mobile phones.

The Rankings Based on Weighted Average Ratings are as Follows

- Reviews on Internet – Average rating of 3.56.

- Friends - Average rating of 3.14
- Reviews in Newspapers - Average rating of 2.75
- Colleagues - Average rating of 2.73
- Advertisements - Average rating of 2.69
- Sales person - Average rating of 2.22
- Neighbours - Average rating of 2.14

From the above statistics, we observe that recommendation from review on internet and friends influenced more than all other categories.

We used crosstab to understand the impact of influencers on different occupation in purchase of smartphones (Figure 1, 2, 3, 4, 5, 6 & 7).

Analysing the highest rating categories of different occupation we find that Very important rating (5 on likert scale) on 'Internet reviews' was given by all categories of occupations except housewives who gave it Important rating (4 on likert scale).

Friends recommendation was rated as Important by students, government employees, private sector employees and self-employed whereas, housewives, professionals and retired gave moderately important category rating (3 on Likert scale).

Students, government employees, private sector employees, self-employed and retired gave Important rating (4 on Likert scale) on Colleague Recommendation whereas housewives and professionals gave Moderately Important rating (3 on Likert scale).

Reviews in Newspapers were considered Moderately Important (3 on Likert scale) by Student, Housewife, Government Employees, Private Sector Employees, and Professionals. But Self Employed and Retired both rated it as not at all Important (1 on Likert Scale) predominantly.

Housewives gave Important rating to advertisement and Moderately Important rating by students and self-employed. Slightly Important rating (2 on Likert Scale) was given by Private Sector employees and professionals. "Not at all rating" was given by Government Sector employees and Retired persons.

Not at all rating was given to Neighbours recommendation influencing in buying a mobile phone by all except professionals who gave Slightly Important.

Salesperson recommendation was not at all considered while buying a mobile phone by all categories except professionals who gave slightly important rating.

Hence, we can conclude that Internet reviews are the most important influence in buying a mobile phone.

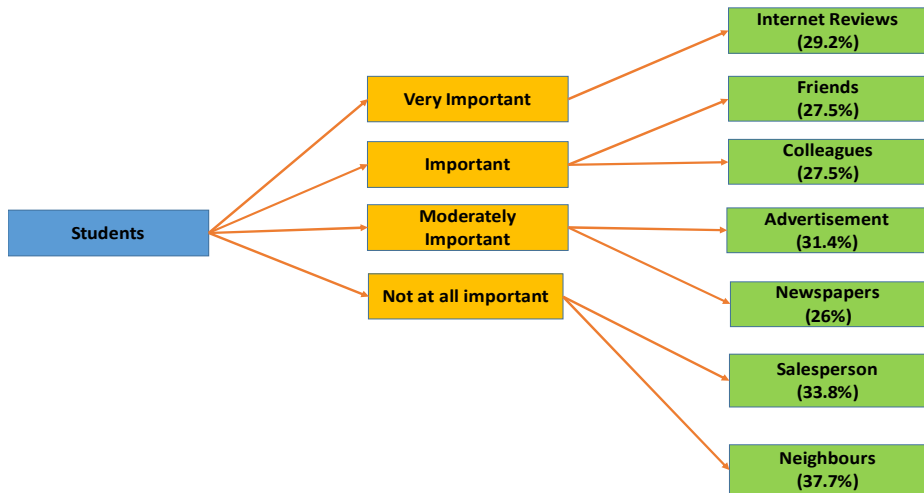


Figure 1: Influencers Impact on Students

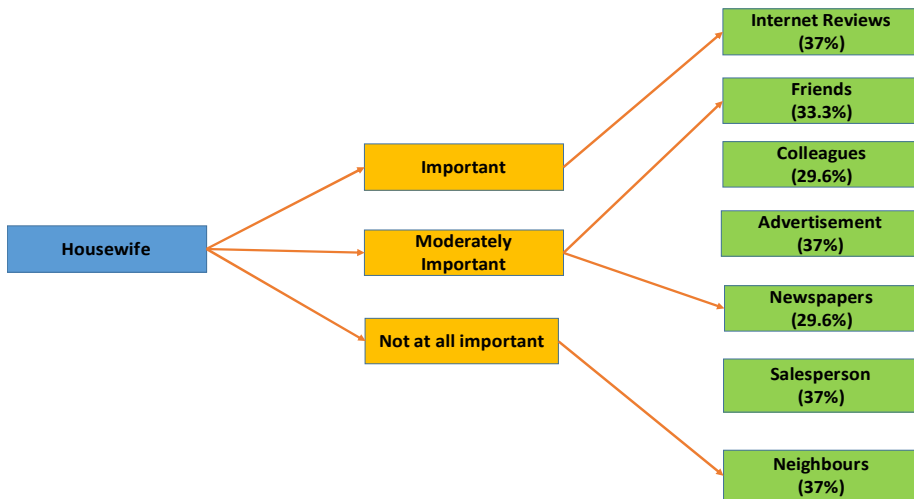


Figure 2: Influencers Impact on Housewives

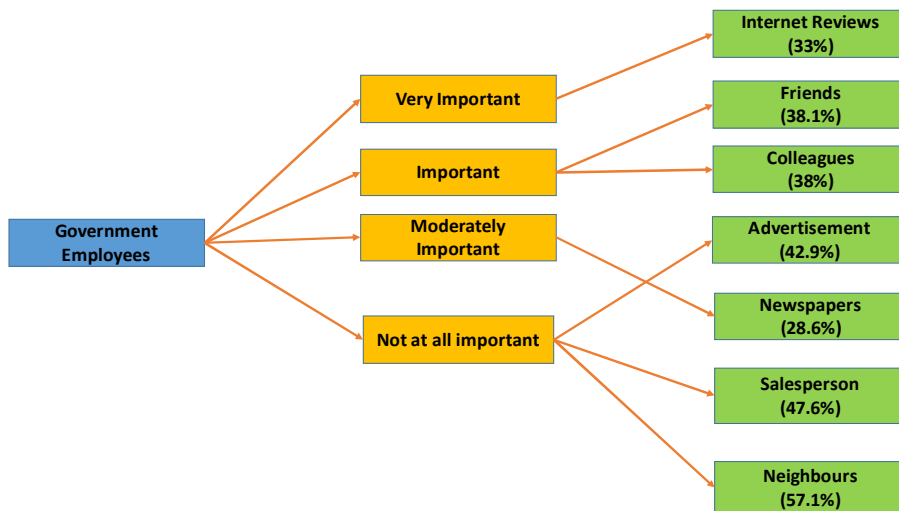


Figure 3: Influencers Impact on Government Employees

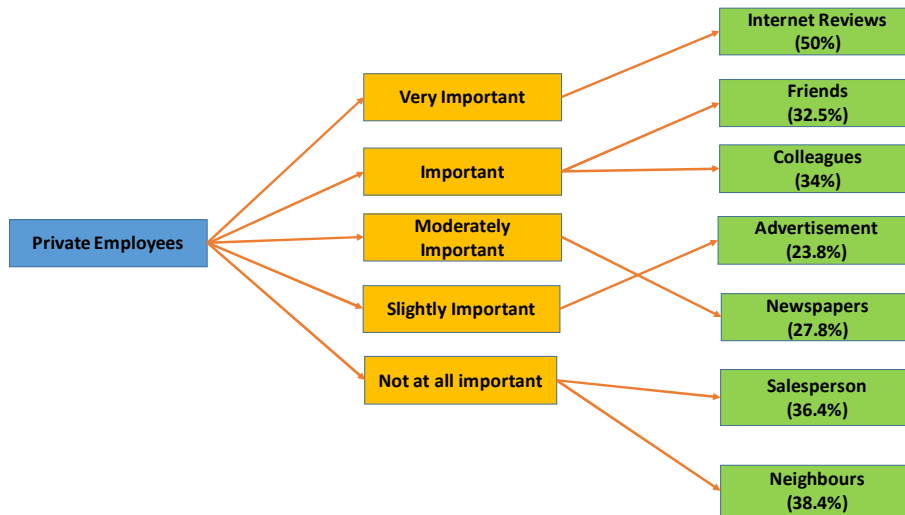


Figure 4: Influencers Impact on Private Employees

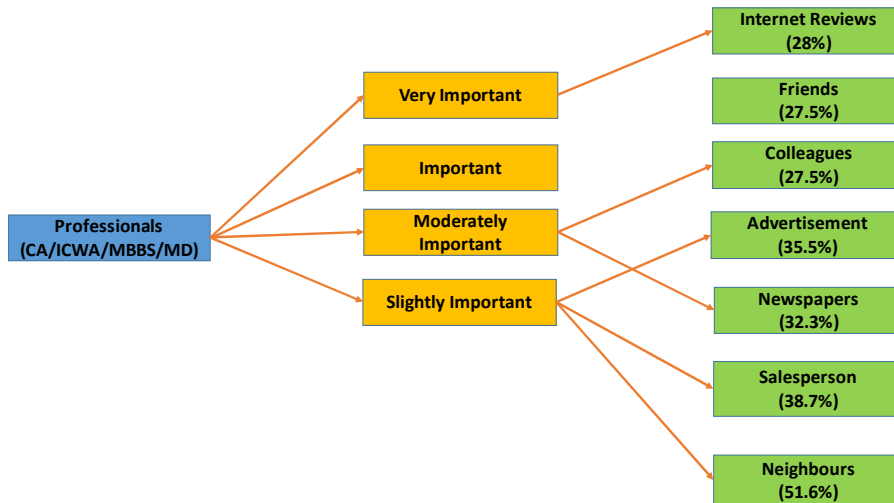


Figure 5: Influencers Impact on Professionals

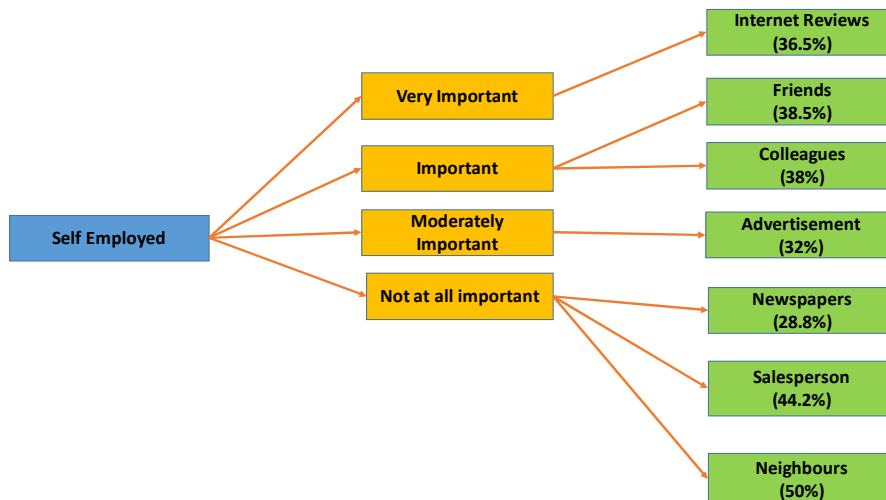


Figure 6: Influencers Impact on Self Employed

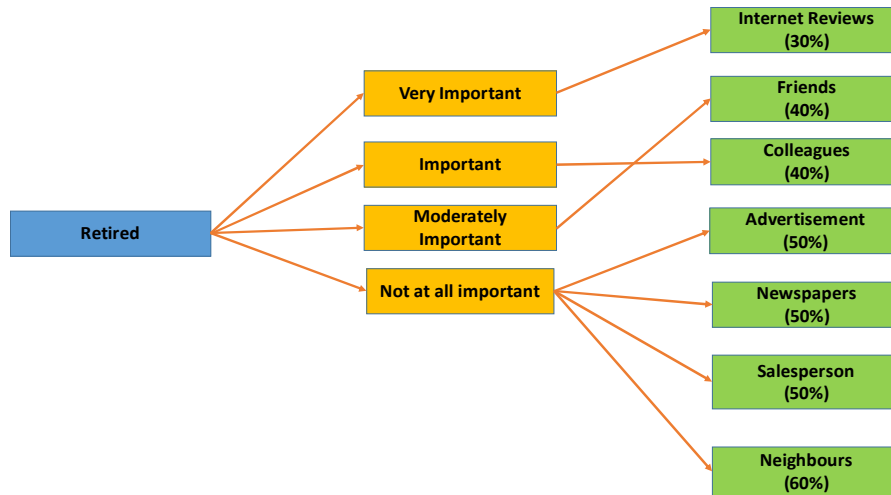


Figure 7: Influencers Impact on Retired

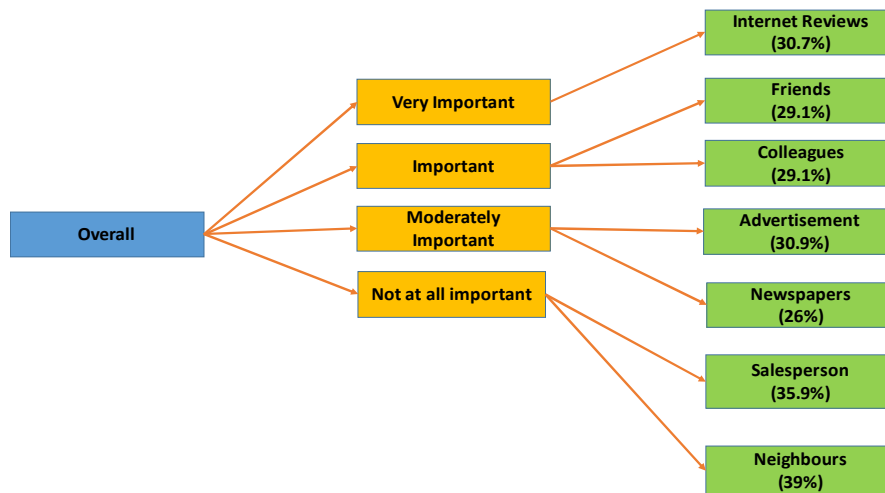


Figure 8: Influencers Overall Impact on All Categories

The researchers also studied the usage pattern of mobile phone in terms of utilities and social media.

Table 3 Shows The Usage Pattern For Various Utilities.

Table 3: Frequency Table of Utilities

	Frequency	Percent	Ranking
Online Shopping	585	83.6	1
Cab Bookings	495	70.7	2
Bill Payment	430	61.4	3
Banking	384	54.9	4
Food & Beverages	280	40	5
Airline Bookings	149	21.3	6
Grocery & Veggies	121	17.3	7
Share Market	91	13	8
Total	700	100	

It is observed that the maximum usage is for online shopping, Cab bookings and bill payments. However very few people are currently mobile phones for share market transactions and buying grocery and veggies.

A different sample may yield different results. In our sample since the number of students was high their role in purchase of grocery and veggies is minimal and hence a very low figure for its usage. The usage of share market interactions is low because of similar reasons.

In case of duality of modes of usage of utilities for eg., if the utility can be accessed on mobile apps and on internet, people may opt to use internet through laptops and faster access, as broadband speed is faster than mobile data speed. If the utility is available only in the form of mobile app, then consumer does not have a choice and should download the mobile app to make transactions.

The researchers also studied the usage of social media apps in smartphones. The respondents were asked to classify their time spent on various social media apps into any of the five categories. (1-0 to 15 min, 2 – 15 min to 30 min, 3- 30 min to 60 min, 4 – 1 hour to 3 hours and 5- more than 3 hours). The average time spent on each app was ascertained by first finding the average of all the ratings on each of the app. This was then converted into approximate time score in terms of minutes. It was observed that Whatsapp has the highest time score of 81.6 min followed by Facebook which had time score of 56 min. The complete details for all apps usage answered by the respondents are mentioned in Table 4. Viber, Twitter and LinkedIn had the lowest scores in terms of time indicating their low usage. The results may vary from sample to sample.

Table 4: Weighted Average of Usage of Mobile Phones on Social Media

Usage	Average Rating	Average Time Per Day
Facebook	2.21	56 min
Whatsapp	3.18	81.6 min
LinkedIn	1.35	23 min
Twitter	1.3	22 min
Instagram	1.76	27 min
Photographs	1.86	29 min
Clicking Selfies	1.53	26 min
Skype	1.42	25 min
Viber	1.20	21 min
Fitness Apps	1.39	24 min
Other apps	1.82	28 min
Total time spent on social media		362.6 min approx. 6 hours

Table 5 depicts the cross tab between the age groups and approximate time spent on Whatsapp. It shows that majority of the respondents below 18 years of age were using Whatsapp for less than 22 min whereas in 18 to 25-year age group the majority were using above 22 min with the maximum being in 120 min (1 to 3 hours per day) category. Age groups above 25 years are also using Whatsapp for more than 22 min.

Table 5: Crosstab of age and Approximate time Spent on Whatsapp per day

			Approximate Time Spent on Whatsapp per day					Total
			8 Min	22 Min	45 Min	120 Min	300 Min	
Age	5-10 yrs	Count	2	0	0	0	0	2
	10-15 yrs	Count	3	5	0	0	0	8
	15-18 yrs	Count	7	5	5	4	5	26
	18-25 yrs	Count	52	113	95	129	111	500
	25-35 yrs	Count	8	21	20	24	24	97
	35 yrs & above	Count	19	12	19	10	7	67
Total		Count	91	156	139	167	147	700

The usage pattern of Facebook was similar to usage of Whatsapp. In the crosstab of age groups with Facebook it was seen that the lower age groups showing a usage of less than 22 min whereas the age groups belonging to the range 18-25 yrs and 25-35 yrs have maximum usage of above 22 min (Table 6). In the age groups of 35 yrs & above the usage pattern again towards the lower side ranging from 8 min to 22 min.

Table 6: Crosstab of Age and Approximate Time Spent on Facebook

			Approximate time spent on using Facebook per day				
			8 min	22 min	45 min	120 min	Total
Age	5-10 yrs	Count	2	0	0	0	2
	10-15 yrs	Count	2	4	2	0	8
	15-18 yrs	Count	9	7	6	4	26
	18-25 yrs	Count	169	151	86	94	500
	25-35 yrs	Count	28	22	18	29	97
	35 yrs & above	Count	30	20	12	5	67
	Total	Count	240	204	124	132	700

The advantage of Whatsapp over Facebook is that we can send personalized messages and group messages.

Advantage of Facebook is that ads are flashed and if you want to promote ecommerce then you can create a page of your product and promote your business.

The crosstabs of Location and approximate time spent on usage of apps in smartphones pattern showed that there was no significant difference between the usage and locations of the respondents (Table 7 & 8).

Metro/Non/Other * Approximate_time_Spent_on_Using_Whatsapp_per_day

Table 7: Crosstab of Location and Whatsapp Use

Crosstab			Approximate Time Spent on Using Whatsapp Per Day					
			8 Min	22 Min	45 Min	120 Min	300 Min	Total
Metro/Non/Other	Metro	Count	29	64	67	86	84	330
		% within Metro/Non/Other	8.8%	19.4%	20.3%	26.1%	25.5%	100.0%
	Non-Metro	Count	3	8	8	5	8	32
		% within Metro/Non/Other	9.4%	25.0%	25.0%	15.6%	25.0%	100.0%
	Small Towns/Rural	Count	59	80	62	72	53	326
		% within Metro/Non/Other	18.1%	24.5%	19.0%	22.1%	16.3%	100.0%
	International	Count	0	4	2	4	2	12
		% within Metro/Non/Other	0.0%	33.3%	16.7%	33.3%	16.7%	100.0%
	Total	Count	91	156	139	167	147	700
		% within Metro/Non/Other	13.0%	22.3%	19.9%	23.9%	21.0%	100.0%

Metro/Non/Other * Approximate_time_Spent_on_Using_Facebook_per_day

Table 8: Crosstab of Location and Facebook use

		Crosstab					Total
		Approximate Time Spent On Using Facebook Per Day					
			8 Min	22 Min	45 Min	120 Min	
Metro/ Non/Other	Metro	Count	112	85	60	73	330
		% within Metro/Non/Other	33.9%	25.8%	18.2%	22.1%	100.0%
	Non-Metro	Count	12	11	4	5	32
		% within Metro/Non/Other	37.5%	34.4%	12.5%	15.6%	100.0%
	Small Towns/Rural	Count	114	105	56	51	326
		% within Metro/Non/Other	35.0%	32.2%	17.2%	15.6%	100.0%
	International	Count	2	3	4	3	12
		% within Metro/Non/Other	16.7%	25.0%	33.3%	25.0%	100.0%
	Total	Count	240	204	124	132	700
		% within Metro/Non/Other	34.3%	29.1%	17.7%	18.9%	100.0%

No significant difference was found between the brands of mobile phones used and the times spent on using various apps such as Facebook, Whatsapp, LinkedIn, Twitter, Instagram, Photographs, Clicking Selfies, Skype, Viber, Fitness App and various other apps (Table 9).

Table 9: Cross Tab between the times spent on Various apps and brand of mobile phones

Approximate time using:			Apple	Samsung	Sony	Micromax	Motorola
Facebook	8min	Count	107	113	34	21	53
		% with brand	35.00%	34.10%	35.80%	31.30%	34.00%
	22 min	Count	87	86	25	26	34
		% with brand	28.40%	26.00%	26.30%	38.80%	21.80%
	45 min	Count	53	62	16	10	37
		% with brand	17.30%	18.70%	16.80%	14.90%	23.70%
Whatsapp	120 min	Count	59	70	20	10	32
		% with brand	19.30%	21.10%	21.10%	14.90%	20.50%
	300 min	Count	0	0	0	0	0
		% with brand	0%	0%	0%	0%	0%
	8min	Count	40	37	15	11	14
		% with brand	13.10%	11.20%	15.80%	16.40%	9.00%
LinkedIn	22 min	Count	70	74	16	18	25
		% with brand	22.90%	22.40%	16.80%	26.90%	16.00%
	45 min	Count	50	65	23	14	36
		% with brand	16.30%	19.60%	24.20%	20.90%	23.10%
	120 min	Count	82	80	19	13	42
		% with brand	26.80%	24.20%	20.00%	19.40%	26.90%
Linkedin	300 min	Count	64	75	22	11	39
		% with brand	20.90%	22.70%	23.20%	16.40%	25.00%
	8min	Count	234	260	80	55	111
		% with brand	76.50%	78.50%	84.20%	82.10%	71.20%
	22 min	Count	43	39	7	5	25
		% with brand	14.10%	11.80%	7.40%	7.50%	16.00%
Linkedin	45 min	Count	14	17	3	3	6
		% with brand	4.60%	5.10%	3.20%	4.50%	3.80%
	120 min	Count	9	9	2	1	8
		% with brand	2.90%	2.70%	2.10%	1.50%	5.10%

Table 9 Condti							
	300 min	Count	6	6	3	3	6
		% with brand	2.00%	1.80%	3.20%	4.50%	3.80%
Twitter	8min	Count	247	267	81	57	121
		% with brand	80.70%	80.70%	85.30%	85.10%	77.60%
	22 min	Count	36	41	9	6	20
		% with brand	11.80%	12.40%	9.50%	9.00%	12.80%
	45 min	Count	9	8	1	1	5
		% with brand	2.90%	2.40%	1.10%	1.50%	3.20%
	120 min	Count	7	8	1	2	4
		% with brand	2.30%	2.40%	1.10%	3.00%	2.60%
	300 min	Count	7	7	3	1	6
		% with brand	2.30%	2.10%	3.20%	1.50%	3.80%
Instagram	8min	Count	153	189	56	46	86
		% with brand	50.00%	57.10%	58.90%	68.70%	55.10%
	22 min	Count	78	77	19	15	36
		% with brand	25.50%	23.30%	20.00%	22.40%	23.10%
	45 min	Count	37	28	12	1	14
		% with brand	12.10%	8.50%	12.60%	1.50%	9.00%
	120 min	Count	25	26	5	2	10
		% with brand	8.20%	7.90%	5.30%	3.00%	6.40%
	300 min	Count	13	11	3	3	10
		% with brand	4.20%	3.30%	3.20%	4.50%	6.40%
Photographs	8min	Count	156	163	44	36	84
		% with brand	51.00%	49.20%	46.30%	53.70%	53.80%
	22 min	Count	71	85	31	15	40
		% with brand	23.20%	25.70%	32.60%	22.40%	25.60%
	45 min	Count	47	42	10	5	17
		% with brand	15.40%	12.70%	10.50%	7.50%	10.90%
	120 min	Count	19	25	5	5	9
		% with brand	6.20%	7.60%	5.30%	7.50%	5.80%
	300 min	Count	13	16	5	6	6
		% with brand	4.20%	4.80%	5.30%	9.00%	3.80%
Clicking Selfies	8min	Count	203	217	70	45	112
		% with brand	66.30%	65.60%	73.70%	67.20%	71.80%
	22 min	Count	56	61	12	9	22
		% with brand	18.30%	18.40%	12.60%	13.40%	14.10%
	45 min	Count	26	35	8	6	9
		% with brand	8.50%	10.60%	8.40%	9.00%	5.80%
	120 min	Count	9	6	1	2	5
		% with brand	2.90%	1.80%	1.10%	3.00%	3.20%
	300 min	Count	12	12	4	5	8
		% with brand	3.90%	3.60%	4.20%	7.50%	5.10%
Skype	8min	Count	238	248	74	48	122
		% with brand	77.80%	74.90%	77.90%	71.60%	78.20%
	22 min	Count	35	37	10	9	18
		% with brand	11.40%	11.20%	10.50%	13.40%	11.50%
	45 min	Count	16	24	6	5	2
		% with brand	5.20%	7.30%	6.30%	7.50%	1.30%
	120 min	Count	11	14	2	5	7
		% with brand	3.60%	4.20%	2.10%	7.50%	4.50%
	300 min	Count	6	8	3	0	7
		% with brand	2.00%	2.40%	3.20%	0.00%	4.50%
Viber	8min	Count	274	289	87	59	136
		% with brand	89.50%	87.30%	91.60%	88.10%	87.20%

Table 9 Condti							
	22 min	Count	21	23	6	5	12
		% with brand	6.90%	6.90%	6.30%	7.50%	7.70%
	45 min	Count	7	8	2	2	2
		% with brand	2.30%	2.40%	2.10%	3.00%	1.30%
	120 min	Count	3	5	0	0	3
		% with brand	1.00%	1.50%	0.00%	0.00%	1.90%
	300 min	Count	1	6	0	1	3
		% with brand	0.30%	1.80%	0.00%	1.50%	1.90%
Fitness app	8min	Count	230	261	80	47	120
		% with brand	75.20%	78.90%	84.20%	70.10%	76.90%
	22 min	Count	42	40	10	15	22
		% with brand	13.70%	12.10%	10.50%	22.40%	14.10%
	45 min	Count	19	18	2	2	5
		% with brand	6.20%	5.40%	2.10%	3.00%	3.20%
	120 min	Count	7	7	0	2	3
		% with brand	2.30%	2.10%	0.00%	3.00%	1.90%
	300 min	Count	8	5	3	1	6
		% with brand	2.60%	1.50%	3.20%	1.50%	3.80%
Other Apps	8min	Count	179	195	57	35	81
		% with brand	58.50%	58.90%	60.00%	52.20%	51.90%
	22 min	Count	59	60	15	17	39
		% with brand	19.30%	18.10%	15.80%	25.40%	25.00%
	45 min	Count	38	42	12	8	16
		% with brand	12.40%	12.70%	12.60%	11.90%	10.30%
	120 min	Count	13	20	6	2	8
		% with brand	4.20%	6.00%	6.30%	3.00%	5.10%
	300 min	Count	17	14	5	5	12
		% with brand	5.60%	4.20%	5.30%	7.50%	7.70%

Comparison of satisfaction of various brands and all the respondents were asked to state their level of satisfaction with the brand being used, on a 5 point likert scale having categories (1-Not at all satisfied, 2-Somewhat satisfied, 3-Moderately satisfied, 4-Very satisfied, 5- Extremely satisfied). The responses received are tabulated below in the form of crosstab (Table 10).

Table 10: Crosstab of Satisfaction of Usage with the Brand of Smartphone

			Apple	Samsung	Micromax	Motorola	Sony	Lenovo	Blackberry
Satisfaction usage	Not at all Satisfied	Count	9	15	3	6	0	2	0
		%	2.94	4.53	4.47	3.84	0	3.9	0
	Somewhat Satisfied	Count	31	30	8	9	11	5	1
		%	10.13	9.06	11.94	5.76	11.57	9.8	50
	Moderately Satisfied	Count	69	102	26	43	30	12	1
		%	22.54	30.81	38.8	27.56	39.57	23.52	50
	Very Satisfied	Count	136	136	27	64	39	28	0
		%	44.44	41.08	40.29	41.02	41.05	54.9	0
	Extremely Satisfied	Count	61	48	3	34	15	4	0
		%	19.93	14.5	4.47	21.79	15.78	7.84	0
	Total	Count	306	331	67	156	95	51	2

Multiplication was carried out between the percentage of responses in each category for every brand and their respective weights (1-Not at all satisfied, 2-Somewhat satisfied, 3- Moderately satisfied, 4-Very satisfied, 5- Extremely satisfied). The total of the weighted ratings was finally divided by hundred to give average rating of each brand. The top

most rank in terms of this rating is Sony with average of 3.85 followed by Motorola with average of 3.71 and Apple with average of 3.68 (Table 11).

Table 11: Weighted Ratings in Each Category of Brands and Responses

		Apple	Samsung	Micromax	Motorola	Sony	Lenovo	Blackberry
Satisfaction usage	Not at all satisfied	2.94	4.53	4.47	3.84	0	3.9	0
	Somewhat satisfied	20.26	18.12	23.88	11.52	23.14	19.6	100
	Moderately satisfied	67.62	92.43	116.4	82.68	118.71	70.56	150
	Very satisfied	177.76	164.32	161.16	164.08	164.2	219.6	0
	Extremely satisfied	99.65	72.5	22.35	108.95	78.9	39.2	0
	Average Total	3.6823	3.519	3.2826	3.7107	3.8495	3.5286	2.5

Researchers have also tried to understand the relative importance of different attributes while buying a Smartphone.

The respondents were asked to give the ratings on a 5 point Likert Scale (1-Not at all, 2-Somewhat, 3-Moderately, 4-Important, 5- Very Important). The weighted average ratings for each of the attribute were calculated for the whole population giving the results shown in Table 12.

It was observed that the top most influencer is the Memory Capacity of the smartphone followed by Battery life. None of the smartphone advertisements today give importance to these two influencing factors.

Other important attributes are Touchscreen, Reliability, Camera/Video Quality, Brand value / Quality and Colour Display. Amongst the post purchase requirement Warranty and Repair are important.

The least important are FM Radio and Dual Sim. The origin of product i.e. domestic or imported is not very relevant.

Table 12: Means of Influencing Attributes of Smartphones

Influencing Attributes	Weighted Average
Memory Capacity	4.25
Battery life	4.20
Touchscreen	4.15
Reliability	4.12
Camera/Video Quality	4.10
Brand Value/Quality	4.04
Colour Display	4.01
Warranty	3.96
Repair	3.95
New Feature	3.94
Time taken to charge	3.94
Model/Style	3.90
Design of the phone	3.90
Guarantee	3.88
Appearance	3.88
Complexity of operating system	3.80
Multimedia Option	3.80
Web Browser	3.79
Attractive Colour	3.63
Size	3.55
Language Keypad	3.47

Weight	3.34
Bluetooth	3.29
Dual Sim	3.27
Domestic Product	2.95
FM Radio	2.82

To understand how the influencers are clubbed together, factor analysis was carried out of all the ratings given by the respondents to different attributes. This was done by Principal Component Analysis, followed by Varimax Rotation. Value of 0.6 was considered as a cut-off and three factors emerged.

The first factor named as Imperative Attributes consisted of Camera, Multimedia, Touchscreen, Memory Capacity, Colour Display, Attractive Colour of Phone, Design of Phone, Model/Style, Web Browsers, Brand Value/Quality, Reliability, New Features and Appearance.

The second factor named as Auxiliary Attributes consisted of Complexity of Operating Systems, Battery Life, Language Keypad, and Time taken to Charge, Warranty, Guarantee and Repair.

The third factor named as Trivial Attributes comprises of FM Radio, Dual Sim and Domestic Product.

This reflects the consumer's priorities and the minimal requirements expected out of a smartphone. (Table 13)

Table 13: Factor Analysis of Influencing Attributes of Smartphones

	Component		
	1	2	3
Camera/Video Quality	0.719	0.407	0.159
Bluetooth	0.471	0.198	0.502
Multimedia Option	0.721	0.306	0.316
Touchscreen	0.801	0.376	0.187
Memory Capacity	0.769	0.423	0.207
Colour Display	0.786	0.365	0.231
Attractive Color	0.772	0.212	0.315
Model/Style	0.821	0.296	0.224
New Feature	0.77	0.339	0.287
Design of the phone	0.813	0.31	0.215
Appearance	0.82	0.304	0.217
Web Browser	0.658	0.31	0.361
Brand Value/Quality	0.736	0.403	0.246
FM Radio	0.273	0.117	0.792
Dual Sim	0.267	0.197	0.774
Domestic Product	0.253	0.17	0.821
Reliability	0.614	0.466	0.312
Guarantee	0.258	0.851	0.183
Warranty	0.268	0.872	0.16
Repair	0.294	0.857	0.146
Time taken to charge	0.311	0.829	0.173
Language Keypad	0.241	0.663	0.343
Battery life	0.408	0.819	0.086
Complexity of operating system	0.322	0.718	0.193
Size	0.384	0.588	0.019
Weight	0.355	0.55	0.117

Table 14: Factor Loadings of variables

Imperative		Auxiliary		Trivial	
Factor	Factor Loading	Factor	Factor Loading	Factor	Factor Loading
Camera	.719	Complexity of Operating Systems	.718	FM Radio	.792
Multimedia	.721	Battery Life	.819	Dual Sim	.774
Touchscreen	.801	Language Keypad	.663	Domestic Product	.821
Memory Capacity	.769	Time taken to Charge	.829		
Colour Display	.786	Warranty	.872		
Attractive Colour of Phone	.772	Guarantee.	.851		
Design of Phone	.813	Repair	.857		
Model/Style	.821				
Web Browsers	.658				
Brand Value/Quality	.736				
Reliability	.614				
New Features	.770				
Appearance.	.820				

The frequency of intention of buying the same brand is higher than that of not buying the same brand in almost all the cases having the ratio of 2:1. It seems that people don't want to switch brands as they can navigate easily in one brand. This frequency is highest in Motorola from amongst the most commonly used brands (Table 15).

Table 15: Crosstab of Repeat Purchase with Mobile Brands

Brand	Will you buy the same brand		Total
	No	Yes	
Apple	113	193	306
Samsung	106	225	331
Sony	33	62	95
Micromax	29	38	67
Motorola	46	110	156

Users of different brands were asked to rate their satisfaction of current brand on a 5-point Likert Scale starting from Not at all Satisfied to Extremely Satisfied. Most of the respondents felt very satisfied or extremely satisfied with their current brands. This same affinity to the brand has been conveyed in the previous question also where we found that brand loyalty is very high. However, in case of Samsung we have found a good proportion of customers at the lower end of satisfaction rating which should be a cause of concern for Samsung (Table 16).

Table 16: Crosstab of Different Brands and Customer Satisfaction

Brand	Satisfied With Quality of the Present Mobile Phone				
	Not at all Satisfied	Somewhat Satisfied	Moderately Satisfied	Very Satisfied	Extremely satisfied
Apple	9	31	69	136	61
Samsung	15	30	102	136	48
Sony	0	11	30	39	15
Micromax	3	8	26	27	3
Motorola	6	9	43	64	34

Customers perception whether branded mobiles improves social status was indicated on a scale of 3 alternatives (No, Maybe and Yes). It is interesting to note that many of the users of top end mobiles i.e. Apple, Samsung, Sony, Motorola don't believe that branded mobiles improve their social status. It implies that mobile has become a utility product rather than display of social status across various segments of population. Most of the respondents are not sure of the impact of branded mobiles on their social status. Quite a few of them have answered in affirmative across all the brands. We can conclude that branded mobile can be considered as a symbol of social status although some of the owners may not endorse this view (Table 17).

Table 17: Crosstab of Different Brands and Perception of Social Status Improvement

Brand	Do You Think Branded Mobile Improves Social Status			Total
	No	Maybe	Yes	
Apple	50	128	128	306
Samsung	58	168	105	331
Sony	14	50	31	95
Micromax	7	38	22	67
Motorola	36	71	49	156

The respondents were asked to indicate their plans in future for repurchase of new mobile in a form of 5 segment scales ranging from within 1month to after 2 years. Most of the respondents fell into distant time categories of 6months-1 year, After 1 year and After 2 years across all the brands. This indicates that a mobile is considered as a durable with a long life and people tend to use it for at least 6 months - 1 year. The replacement demand of mobiles can be gauged from this data. Addition of new features can help in improving the replacement demand. However, we have not taken into consideration the period for which a person already owns the brand. We could also gauge the average replacement period for all the mobiles by taking into considerations the overall frequencies in each time category. It has been found that average life of mobile is around 18 months (Table 18). This will be useful in future predictions of mobile sales.

Table 18: Crosstab of Different brands and Replacement Plan

Brand	Replacement Plan					Total
	1 month	1-6months	6months – 1 year	After 1 year	After 2 Years	
Apple	22	52	62	85	85	306
Samsung	11	55	62	98	105	331
Sony	4	22	13	19	37	95
Micromax	3	12	12	23	17	67
Motorola	7	27	28	53	41	156

CONCLUSIONS

The mobile phone industry is growing at a rapid pace with the demand coming from both new users and from existing users who switch to newer and better models. The industry itself is geared to give additional features and brand names are signifying the status of their owners. The purpose of this study is to get the inputs from various perspectives in terms of influencers, users, usage, satisfaction and replacement.

The market is also growing with advent of new applications in the areas of banking services, product aggregators, healthcare apps etc. It becomes difficult to identify specific customer requirements as a mobile has become a multifunctional instrument for entertainment business and social networking.

The first objective of the research was to understand the role of influencers on purchase of smartphones.

The influencers were Friends, Colleagues, Review of Internet, Reviews in Newspaper, Advertisements, Neighbours and Salesperson in buying mobile phones. It was observed that, the highest average recommendation came from review on internet (rating of 3.56), followed by friends (rating of 3.14). The neighbour's recommendation had the least influence on the purchase decision (rating of 2.14).

The second objective of the research was to study the usage pattern of mobile phone. The usage pattern was studied in terms of utilities and social media separately. While studying the usage pattern of utilities the ranking was given based on the number of consumers who responded to a specific usage. It was observed that the maximum usage is for online shopping (Rank 1), Cab bookings (Rank 2) and bill payments (Rank 3). However very few people are currently mobile phones for share market transactions (Rank 8) and buying grocery and veggies (Rank 7).

Researchers also studied the time spent by various respondents on various social media apps. Average time spent on mobile apps worked out to be as high as 6 hours per day. It was also noted that the maximum time was spent using Whatsapp (81.6 min) followed by Facebook (56 min). The least time was spent on Viber, Twitter and LinkedIn.

In case of duality of modes of usage of utilities /social media for e.g. If the utility / social media can be accessed on laptop / computer / mobile apps consumer may opt to use internet through laptops / computer and faster access, as broadband speed is faster than mobile data speed. If the utility/social media apps are available only in the form of mobile app, then consumer does not have a choice and should download the mobile app for networking/ making transactions.

The third objective of the research aimed to understand the relative importance of different attributes while buying a smartphone. Memory Capacity of the Smartphone is the most important attribute. Second important attribute is the Battery life.

None of the smartphone advertisements today give importance to these two influencing factors.

Other important attributes are Touchscreen, Reliability, Camera/Video Quality, Brand value / Quality and Colour Display. Amongst the post purchase requirement Warranty and Repair are important.

The least important are FM Radio and Dual Sim. The origin of product i.e. domestic or imported is not very relevant.

The fourth objective of the study was to understand the factors affecting the buying decision of the consumer in the purchase of smartphones. The consumers look for attributes which were factor analysed to give us Imperative (Camera, Multimedia, Touchscreen, Memory Capacity, Colour Display, Attractive Colour of Phone, Design of Phone, Model/Style, Web Browsers, Brand Value/Quality, Reliability, New Features and Appearance), Auxiliary (Complexity of Operating Systems, Battery Life, Language Keypad, Time taken to Charge, Warranty, Guarantee and Repair) and Trivial (FM Radio, Dual Sim and Domestic Product) factors.

The last objective of the study was to find the average life of a branded mobile. It has been found that average life of mobile is around 18 months. This will be useful in future predictions of mobile sales.

LIMITATIONS

The researchers have not considered the qualitative aspects of different apps while looking at only their average duration of usage. The research was conducted using online survey tools and results may vary if the research is conducted

using direct interview method.

REFERENCES

1. Basha, S. Suraj, Lakshmana, B.C. and Fayaz, K. (2011), Empirical Study on Buying Behaviour of Mobile Phone in India, *Asia Pacific Journal of Research In Business Management*, Volume 2, Issue 6 (June, 2011) ISSN 2229-4104
2. CMII (2005) Statistics from the website of Chinese Ministry of Information Industry, (accessed on 20th August 2015).
3. <http://www.mii.gov.cn/mii/hyzw/tongjipercent5Ctongjifenxi1-12.htm>.
4. Debasish, Sathya Swaroop and Mallick, Nabaghan (2015), Consumer Buying Behavior Towards Mobile Phone Handsets – A Study in Odisha (2015), *International Journal of Science, Technology & Management* www.ijstm.com Volume No 04, Special Issue No. 01, pp. 585 - 593, March 2015 ISSN (online): 2394-1537.
5. <http://www.idc.com/prodserv/smartphone-market-share.jsp> (Accessed 28th August 2016)
6. International Data Corporation's (IDC) Worldwide Quarterly Mobile Phone Tracker, 2015
7. Karjaluo, Heikki, Karvonen, Jari, Kesti, Manne, Koivumäki, Timo, Manninen, Marjukka, Pakola, Jukka, Ristola, Annu and Salo, Jari (2005) Factors Affecting Consumer Choice of Mobile Phones, Two Studies from Finland. *Journal of Euromarketing*, Vol. 14(3), pp. 59-82.
8. Kaur, Harwinder (2015), Consumer purchase behaviour towards Mobile phones, *International Journal of Applied Research*, Vol. 1, No.4, pp. 335-338
9. Kumar, Sandeep and Chaubey, D.S. (2015), Customers Preferences of Product Attribute of Mobile Phone Handsets: A Descriptive Study, *International Journal of Emerging Research in Management and Technology*, Vol. 4, No. 7, July 2015, pp. 246-250, ISSN: 2278-9359.
10. Lachoe, Hazel, Wakeford, Nina and Pearson, Ian (2003), A social history of the mobile telephone with a view of its future, *BT Technology Journal*, Vol. 21 No. 3, pp. 203-211.
11. Martensen, Anne (2007), Tweens' Satisfaction and Brand Loyalty In The Mobile Phone Market, *Young Consumers*, Vol. 8, No. 2, pp. 109-116.
12. Mohankumar, A. and Dineshkumar, U. (2015), A Study on Customer Purchase Behavior towards Mobile Phone with Special Reference to Erode City, *OSR Journal of Business and Management(IOSR-JBM)*, Vol. No.4, (National Conference on "Innovative Business Practices in Technological Era"), pp.04-08. e-ISSN:2278-487X, p-ISSN:2319-7668, www.iostjournals.org.
13. Sata, Mesay (2013), Factors Affecting Consumer Buying Behavior of Mobile Phone Devices, *Mediterranean Journal of Social Sciences*, Vol. 4, No. 12, October 2013, Doi:10.5901/mjss.2013.v4n12p103, ISSN 2039-2117 (online), ISSN 2039-9340 (print).
14. Sata, Mesay (2013), Factors Affecting Consumer Buying Behavior of Mobile Phone Devices

15. Singh, J. and Goyal, B. B. (2009), Mobile Handset Buying Behavior of Different Age and Gender Groups, International Journal of Business Management, Vol. 4, No. 5, pp. 179-187.
16. Uddin, Md Reaz, Lopa, Nusrat Zahan and Oheduzzaman, Md. (2014), Factors Affecting Customers' Buying Decisions Of Mobile Phone: A Study on Khulna City, International Journal of Managing Value and Supply Chains (IJMVSC) Vol.5, No. 2, June 2014 DOI: 10.5121/ijmvsc.2014.5203 21.]

BIOGRAPHICAL NOTE

****Jasmine Taneja Jha** is a Senior Research Manager at Institute for Technology and Management (ITM), Navi Mumbai, India and a pursuing her research in the area of employee loyalty and personality traits and has 15 years of work experience in corporate and academics. Her areas of interest are Organisational Behaviour, Human Resource Management and Marketing Management.

Joginder Kumar Nanda is Professor with Institute for Technology and Management (ITM), Navi Mumbai, India. His areas of interest are research methodology, quantitative techniques, statistics, human resource management and operations research. He is a member of Indian Institution of Industrial Engineering (IIIE). He has 22 years' industry experience in top management positions. He has 25 years' work experience in academics. He has worked on several consultancy projects and has authored several research papers in national journals. He has also supervised research work of eight research scholars.

