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Consumer Behaviour of Smartphone Users

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ABSTRACT

Smart phone is need of today. A Smartphone not only fulfill the task of calling and receiving calls but also serve various need of users like internet and social connectivity, multimedia, selfie, health traits measurement, video calling etc. A large number of variables affect the buying decision of Smartphone buyers. Present study is conducted to indentify underlying factors which play lead role in selection and buying of smart phone in highly competitive market. Researchers also explore the demographic characteristics of respondent. Study is conducted in the Rohtak district of Haryana. Study basically based on primary data which has collected from respondent by direct contacted. Non-random "convenient sampling" method is used for selection of desired and competent respondents. Primary data and opinion of respondents is collected with a structured questionnaire with five point likert scale. For analysis of data and factor extract Exploratory Factor Analysis is used with SPSS statistical package.

Researchers indentify six factors constituted of 21 variables which influence the buy decision of smart phone. Study reveals that factor Physical Attributes & Guarantee most considered by people while purchasing a smart phone. Special offers and recommendations of family and salesman also play role in buy decision of smart phone. 3rd most influencer factor is domestic brand and size of smart.

1. Introduction

Smart phone is need of today. A Smartphone not only fulfill the task of calling and receiving calls but also serve various need of users like internet and social connectivity, multimedia, selfie, health traits measurement, video calling etc. A large number of variables affect the buying decision of Smartphone buyers. It is need to note for manufactures of smart phone consider preference of buyer while design the smart phone. A number of large factors influence and decide the buying behavior of smart phone buyers. It is also need to consider to manufacturers that what type of feature, design and model, size, memory capacity, price range, after sales services. In this study various type of variables are included for study which represent different part of smart phone.

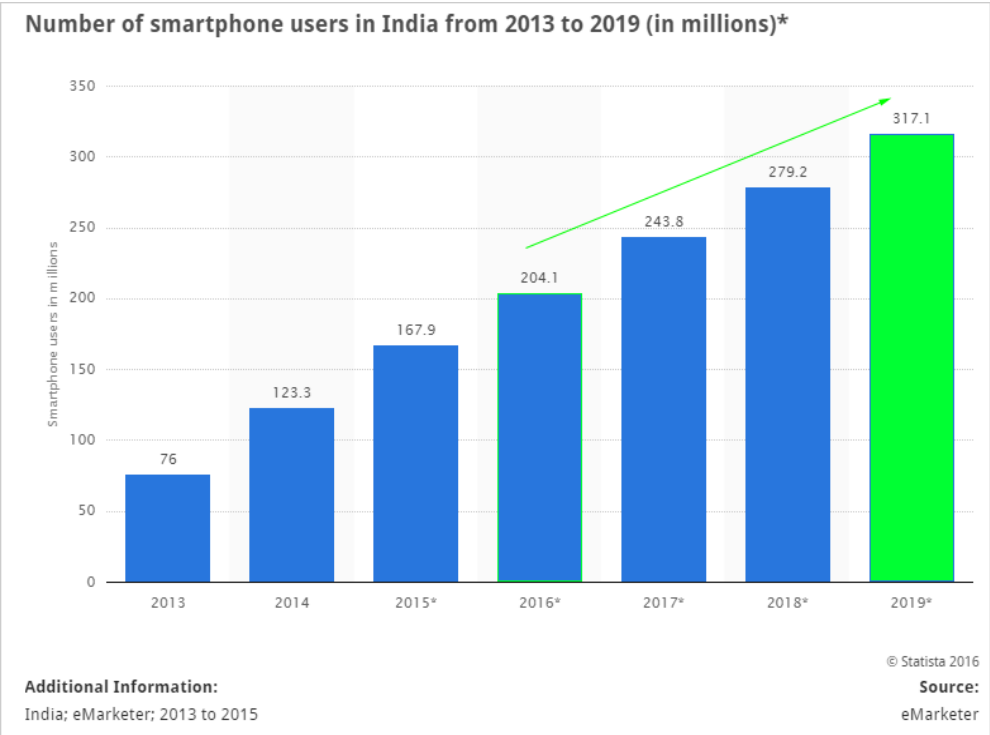

Figure 1: Number of smart phone users in India

Graph 1 shows the expected growth in smart phone users in India. It is reveals form the eMarketer's study that smart phone users in 2019 will be 317.1 millions.

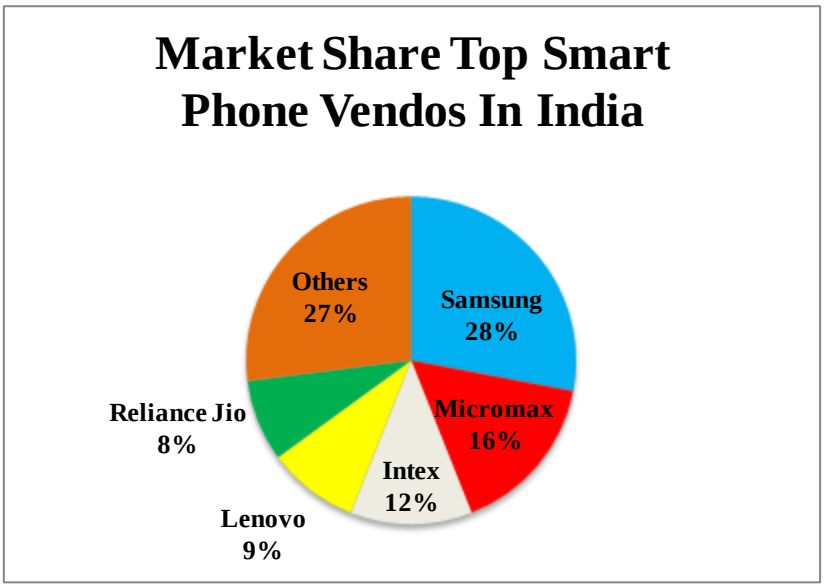

Figure 2: Market Share Top Smart Phone Vendos In India
Source: CMR India, May 2016

Figure 2 show the market share of top smart phone vendos in India for Q1, 2016. Figure show that 28% of total market share by Samsung Smart phone followed by 16% Micromax. Figure also show that Intex and Lenovo is share 12% and 9% market respectively. Figure show that Samsung is leader in smart phone market followed by Micromax.

2. Related Studies

Sheetal Singla (2010) tried to find out the mobile phone usage pattern among Indian consumers. The study was conducted in Ludhiana district & the Sangrur District of Punjab. Research study objective is to understand the difference in the importance given by gender groups to consider leading factors while purchasing mobile handsets. Researcher also tried to explain customer's satisfaction level that is influenced by various technical & non technical factors. Research study confirms that price and features of mobile phone are most influential factor affecting the buyer's decision making process. Research study further confirmed that 57% of total male has given importance to quality of mobiles phone.

Another descriptive study conducted by Kavitha and Yogeswari (2012) to know the customer attitude towards smart phone in Erode, district of Tamil Nadu. In this study, researcher also tried explore the customer satisfaction of the smart phone. Researchers choose the convenience sampling for collection of primary data. Study was conducted on 50 people in Erode city. Researchers used descriptive and Chi-Square test for analysis of data. Chi-Square test used to know the relationship between genders of respondents and motivate factors. Study confirms no relationship between genders of respondents and motivates factors. Research study reveals that consumer buy a variety of smart phone which lead towards satisfaction his needs and wants and consumers always select a branded smart phone or operating system over preferred to others. Study reveals facts Samsung smart phones preferred most.

Further, descriptive nature a research study conducted by Malviya and Saluja (2013) to indentified factors which influence buying decision of smart phone users in Indore. Objective behind this research study is to find out the leading factors those have a dominating effect on the consumers' behavior while taking a buying decision of smart phone. Researcher took a sample of 250 respondents for study. Researcher used chi-square, Factor analysis and reliability analysis with the help of SPSS statistical package for analysis and interpretation of data. The study reveals the fact that people in Indore are purchasing smart phone irrespective of cost. Research also reveals fact that features like technology and durability, brand, social image are also performing leading role in buying decisions of smart phone users in city.

Lay-Yee, Kok-Siew and Yin-Fah (2013) conducted a study to know and investigate the buying decision of Malaysian Generation Y. Researchers also want to investigate buying decision association with brand concern, price, dependency concern, convenience concern and product & social concern. They collected primary data from 125 respondents through self-administered questionnaire. Their study confirm that there have a positive association between smart phone purchasing decision and brand concern, price, dependency concern, convenience concern and product & social concern in Generation Y city.

Further, Wollenberg and Thuong (2014) conducted a descriptive research study in Vietnam to know the consumer behavior in market. Researchers conducted study in largest city of Vietnam named Chi Minh. Motive behind the study is to know key leading variables that influences brand perception and buying decision process of smart phone in the Smartphone market. They want to evaluate whether brand perception effect the Smartphone buying choice. Researchers identified four

variables that impact brand perception i.e. advertisement, perceived quality, price and word of mouth. Researchers collected primary data through well structured questionnaire from 170 respondents. They used Pearson Correlation analysis for testing of hypothesis. They conclude that following factor advertisement, perceived quality, price, brand, word of mouth has effect the buying decision of smart phone.

Uddin, Lopa and Oheduzzaman (2014) conducted a study in Khulna City of Bangladesh to discover latent variable (factors) which play lead role in buying decision of Smartphone users. They included 34 variables in study and classified these variable into seven factors i.e. first factor physical attributes, second factor pricing, third factor charging and other operating facilities, fourth factor size and weight, fifth factor friends' and colleagues' recommendations, sixth factor advertising. This research is study based on total 160 respondent opinions. They applied Factor analysis for factor extraction and descriptive statistical tools for data analysis. They opined that most important factor is physical attributes which contribute 30.992% variance in buying decision.

Rani and Sharma (2014) conducted a descriptive study on consumer behavior towards usage of smart phone. Leading motives behind this research paper is to analyze the consumer preference for brand of smart phone in Rohtak city and another to determine whether gender playing significant role to determine preference for feature of smart phone with special reference to Samsung, Apple and Nokia, Blackberry. Researcher used convenience sampling to collection of data and independent sample t-test used for analysis. Study showed that researcher involved maximum female Smartphone users in research study and mostly female are student. Study also reveals that Smartphone user's decision is influenced by features which them enable to access many utility i.e. apps and internet.

3. Objective of study

1. To indentified underlying factors which play lead role in selection and buying decision of smart phone buyer
2. To assess the buying pattern of smart phone buyer
3. To know the demographic characteristics of respondents
4. To know the which brand used by respondents

4. Research Methodology

4.1. Research Design

Descriptive research design has been adapted to indentified latent variables of smart phone which play lead role in buying decision process. Descriptive research helps to gather data concerning with present status of phenomena with variables of smart phone.

4.2. Area of study

This study is conducted to find out important factors which play paramount role in purchasing decision of smart phone buyer. Study is conducted in the Rohtak district of Haryana.

4.3. Data collection method

To achieve aforementioned objectives, primary and secondary, both type of data has been used:

4.3.1. Primary data

Study basically based on primary data which has collected from respondent by direct contacted. Primary data and opinion of respondents is collected with a structured questionnaire with five point likert scale.

4.3.2. Secondary

Secondary data is the data which is already collected by someone for their study purpose. Required secondary data is collected from various books, magazines, journals.

4.4. Sampling Method

For study purpose, non-random "convenient sampling" method is used for selection of desired and competent respondents.

4.5. Sample Size

For make possible for factor analysis is necessary cases (respondents) should be minimum five time of variables used in study, a total of 170 questionnaires are distributed out of them 127 is found relevant for study.

4.6. Statistical Tools Used

For analysis of data, Exploratory Factor Analysis is used with SPSS statistical package.

5. Data analysis and interpretation

5.1 DEMOGRAPHIC CHARACTERISTIC OF RESPONDENTS

Table 1: Sex of sample respondents

	Respondents	Percent
Male	74	58.3
Female	53	41.7
Total	127	100.0

Table 1 show that 74 men out of 127 respondent and rest 53 are women. Above table also shows that 58.3% respondents are men while 41.7% are women.

Table 2: Age group of sample respondents

	Respondents	Percent
Below 18 year	4	3.1
19-25 year	42	33.1
26-30 year	59	46.5
37-42 year	21	16.5
Above 42 year	1	0.8
Total	127	100.0

Table 2 shows that sample respondents are very young age. Approximately 96% of respondents are age group of 19-42

years. Only 0.8% respondents are above the age of above 42 year.

Table 3: Occupation of sample respondents

		Respondents	Percent
Valid	Student	40	31.5
	Service	66	52.0
	Business	9	7.1
	Housewife	8	6.3
	Others	3	2.4
	Total	126	99.2
Missing	System	1	0.8
Total		127	100.0

Table 3 shows that 52% respondents are engaged in service. 31.5% of respondents are student while 7.1% of respondents are engaged in their own business. Table also shows that 6.3% of respondents are housewife. One respondent miss to mark the occupation.

Table 4: Income level of sample respondents

		Respondents	Percent
Valid	Below 10000	36	28.3
	10001-20000	33	26.0
	20001-30000	23	18.1
	30001-40000	6	4.7
	Above 40000	24	18.9
	Total	122	96.1
Missing	System	5	3.9
Total		127	100.0

Table 4 show that 28.3% of respondent income is below Rs. 10000. 26% of respondent income is “between” 10001-20000 rupee. A large number of respondent (18.9%) incomes above 40000 rupee while 5 respondents do not disclose their income level.

Table 5: Education level of sample respondents

		Respondents	Percent
Valid	Less than Graduate	21	16.5
	Graduate	49	38.6
	Post Graduate and Above	55	43.3
	Total	125	98.4
Missing	System	2	1.6
Total		127	100.0

Table 5 shows that 16.5% of respondents are below the graduation. 38.6% of respondents are Graduate and 43.3% of respondents are Post Graduate and above. Maturity of sample respondents are Post graduate or above PG level while two respondents do not disclose their education qualification.

Table 6: Smart Phone used by respondents

	Respondents	Percent
Samsung	41	32.3
Micromax	23	18.1
Intex	7	5.5
Lava	10	7.9
Lenovo	4	3.1
Apple	13	10.2
Any other	29	22.8
Total	127	100.0

Table 6 shows smart phone brand used by sample respondents. A large percentage 32.3% of sample respondents are using Samsung brand and 18.1% of respondents are Micromax users. 5.5%, 7.9%, 3.1% of respondents are using Intex, Lava and Lenovo respectively. 10.2% of sample respondents are using Apple smart phone. Table also inferred that most of respondent using Samsung, Micromax and Apple smart phone.

Table 7: Distribution of smart phone operating system

		Respondents	Percent
Valid	Android OS	97	76.4
	Bada	2	1.6
	BlackBerry OS	2	1.6
	iPhone OS	11	8.7
	Windows OS	4	3.1
	Any Other	10	7.9
	Total	126	99.2
Missing	System	1	.8
Total		127	100.0

Table 7 shows the smart phone operating system. Maturity of sample respondents are using android operating system smart phone. While 8.7% of respondents are using iPhone OS smart phone.

Table 8: Purpose behind using Smart Phone

		Respondent	Percent
Valid	E-mail/Calling	46	36.2
	Video calling	17	13.4
	Social Media	30	23.6
	Symbol of Status	11	8.7
	Any other	22	17.3
	Total	126	99.2
Missing	System	1	.8
Total		127	100.0

Table 8 show the reason behind buy smart phone. A large number of respondents buy smart phone for email and calling purpose. Table also shows that 23.6% of respondent buy smart phone for connect to the society on social media platform.

5.2 EXPLORATORY FACTOR ANALYSIS

Table 9: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.763
Bartlett's Test of Sphericity	Approx. Chi-Square	740.252
	df	210
	Sig.	.000

Table 9 show the sampling adequacy and significant correlation among latent variables. KMO statistics is .763 which is lies in the acceptable limit of .50 to 1.0. KMO statistics confirm the sampling adequacy for further study of variable.

Bartlett's tests of Sphericity also confirm the significance correlation among latent variables.

Table 10: Total Variance Explained by Components

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.230	24.903	24.903s	5.230	24.903	24.903	3.623	17.253	17.253
2	2.245	10.692	35.595	2.245	10.692	35.595	2.201	10.479	27.733
3	1.748	8.324	43.919	1.748	8.324	43.919	1.883	8.968	36.701
4	1.221	5.816	49.735	1.221	5.816	49.735	1.873	8.919	45.620
5	1.142	5.440	55.175	1.142	5.440	55.175	1.630	7.764	53.383
6	1.108	5.278	60.453	1.108	5.278	60.453	1.485	7.070	60.453
7	.988	4.707	65.160						
8	.858	4.084	69.243						
9	.815	3.881	73.125						
10	.708	3.374	76.498						
11	.663	3.157	79.655						
12	.614	2.923	82.577						
13	.578	2.753	85.331						
14	.554	2.638	87.969						
15	.499	2.377	90.346						
16	.441	2.100	92.446						
17	.398	1.895	94.341						
18	.359	1.711	96.053						
19	.337	1.606	97.658						
20	.274	1.305	98.964						
21	.218	1.036	100.000						
Extraction Method: Principal Component Analysis.									

Table 10 show the total variance explained by Principle Component Analysis methodology. Principle Component Analysis extracted 6 components above 1 Eigenvalues. Six components explained total 60.453% variance. From 1 to 6 components variance is in descending order. First component explained 17.253% variance after rotation. Second component explained 10.479% variance after rotation same as third component explained 8.919% variance while fourth and fifth component explained 8.919% and 7.764% variance respectively. And in the last, sixth component explained 7.070% variance. Above table also show that 6 factor has been extracted from the analysis of variables. Only first six factors are important for study.

Table 11: Component Matrix after rotation

Rotated Component Matrix[a]							
		Component					
		1	2	3	4	5	6
Front and Rear Camera		.613					
Touch Screen		.744					
Memory Capacity		.751					
Model/Style		.676					
Brand Value and Quality		.647					
Powerful battery (mha)		.594					
Guarantee\Warrantee		.568					
Special Offers			.755				
Follows Family members opinion			.633				
Salesmen's recommendation			.670				
Domestic Brand				.699			
Size in Length				.573			
Advertisement Influence				.668			
Price					.772		
Dual SIMS					.618		
Light Weight					.525		
Bluetooth Connectivity						.530	
Follows Colleagues recommendation						.534	
Easy to use						.697	
Attractive Colors							.771

Follows Friends' recommendation							.577

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 13 iterations.

Table 11 shows the rotated component matrix. For rotation, researchers used the Varimax with Kaiser Normalization methodology. Rotation has been converged in 13 iterations. Alpha (factor loading) of variables front and rear camera, touch screen, memory capacity, model, brand value, powerful battery backup, guarantee lie in the first factor. Seven variables represent the first factor. Alpha (factor loading) of variables special offers, family members opinion, salesmen's recommendation lie in the second factor. Alphas (factor loading) of variables domestic brand, size in length, advertisement lie in the third factor. Alpha (factor loading) of variables price, dual SIM, light weight represent the fourth factor. Alpha (factor loading) of variables Bluetooth connectivity, colleague's recommendation, easy to use are representing fifth factor. Alphas (factor loading) of variable attractive colors and friends recommendation are representing the sixth component.

Table 12: Indentified Factors after factor loading

Factor No.	Name of Factor	Total Variance Explained (%)	Variables	Factor loading
F1	**Physical Attributes & Guarantee**	**17.253**	Front and Rear Camera	**.613**
			Touch Screen	**.744**
			Memory Capacity	**.751**
			Model/Style	**.676**
			Brand Value and Quality	**.647**
			Powerful battery (mha)	**.594**
			Guarantee\Warrantee	**.568**
F2	**Special Offers and Recommendation of Family & Salesman**	**10.479**	Special Offers	**.755**
			Follows Family members opinion	**.633**
			Salesmen's recommendation	**.670**
F3	**Domestic Brand & Size**	**8.968**	Domestic Brand	**.699**
			Size in Length	**.573**
			Advertisement Influence	**.668**
F4	**Price & Light Weight**	**8.919**	Price	**.772**
			Dual SIMS	**.618**
			Light Weight	**.525**
F5	**Bluetooth Connectivity & Easy to use**	**7.764**	Bluetooth Connectivity	**.530**
			Follows Colleagues recommendation	**.534**
			Easy to use	**.697**
F6	**Attractive Colors & Friends Recommendation**	**7.070**	Attractive Colors	**.771**
			Follows Friends' recommendation	**.577**

Table 12 show the identified factor which play important role in buy decision of smart phone buyers. Above table revealed six factors which are explained total 60.453% variance. Smart phone buyer give the most preference to physical attributes and guarantee while making smart buying decision. Physical attributes and guarantee component contain seven variables (front and rear camera, touch screen, memory capacity, model, brand value, powerful battery, guarantee). First factor shows 17.26% variance. Second factor special offers and recommendation of family & salesman show 10.479% variance. Smart phone buyer gives second most preference to the special offers and recommendation of family & salesman factor. Second factor include special offers and recommendation of family & salesman. Second factor which play second most important role in the buying decision of smart phone buyers. Domestic brand & size is third largest important factor which preferred by the respondents. Third factor also revealed that respondent also give important the local & domestic brand. Third factor explained 8.968% variance. Price & Light weight of smart phone is considered by people while they buying a smart phone. Price & Light weight factor include price, dual SIM and light weight. Fourth factor explained total 8.919% variance. People also preferred Bluetooth connectivity & easy to use features in their smart phone. Fifth factor explained total 7.764% variance. Table also revealed that attractive colors and friend's recommendation also influence the buying decision of smart phone buyer.

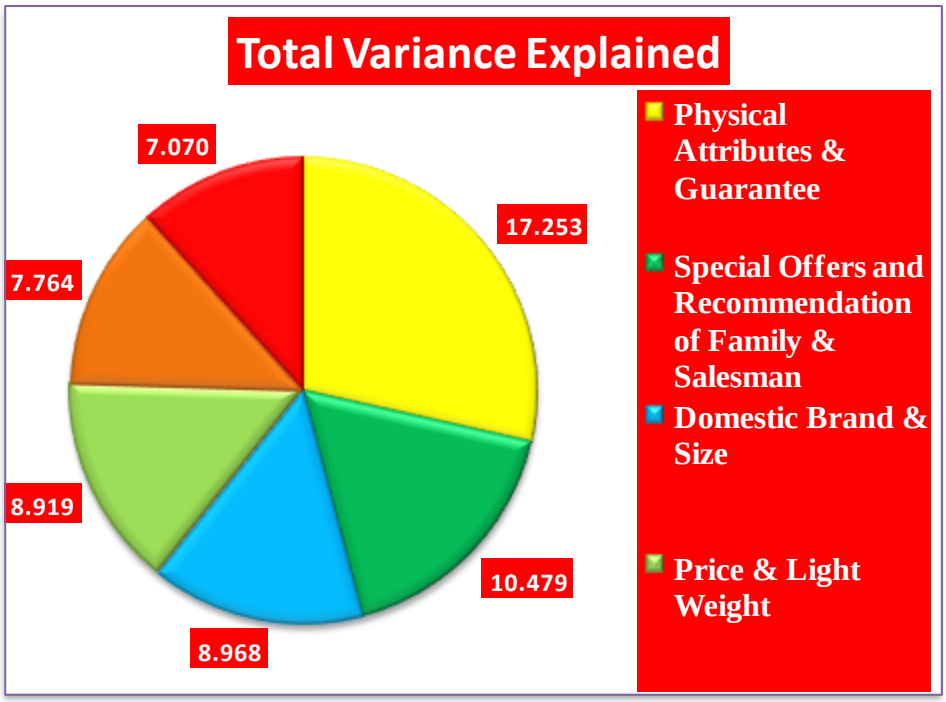

Figure 3: Total Variance Explained by factors

Figure 3 show the total variance explained by different factors. Factor Physical attribute & guarantee is most preferred by people while they buy smart phone. Second most preferred factor is special offers and recommendation of family & salesman. Third most preferred factor is domestic brand & size. Fourth most weighted factor is Price and light weight of smart phone which play important role in buying decision. Fifth most component factor by people is Bluetooth connectivity & easy to use. Attractive colors & friend's recommendation also play role in buying decision of smart phone.

6. Conclusion

Study conducted to indentify the various factors which have active role in buy decision of smart phone. Research study shows that buy decision of smart phone not influence by only one or two variable but a number of large variable play active role in buy decision. Through the data analysis 6 factors have extracted which explained the variance in buy decision of smart phone. Study reveals that factor Physical Attributes & Guarantee most considered by people while purchasing a smart phone. Special offers and recommendations of family and salesman also play role in buy decision of smart phone. 3rd most influencer factor is domestic brand and size of smart. Price & light of smart phone also considered buy people. Study shows that many buyers also prefer attractive colors of smart phone. The research has revealed that many factors are deemed as selection criteria of smart phone. It is not necessarily all the variables influence a person in the same way and same extent.

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