

Impact Of Smartphone Usage Among Student Community

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Abstract: The aim of the study smart phone usage among student community. Smart phones have now become cross-generational staples as people of all ages communicate with each other across the world. Smart phones are used to replace digital cameras, watches, video recorders, and many more. Having a smart phone is like having a tiny computer in a pocket. The purpose of the study impact of smart phone usage among student community. The main objectives of the study to analyze the impact of smart phone usage among student community. The methodology based on primary data. The data collected through questionnaire method. The sample size of the respondent 123 student. The data analyzed tools can be used percentage analyze and factor analysis. The findings of the study Smartphone is seen as an icon of young generation. People see mobile phones as an extension of their hand and they depend on social network ties to establish their self. Mobile communication affords greater freedom to its users regarding time and space. We are in a transition age from a broadcast media to a personal communication technology, giving more freedom for personal identity, new utilities of public space and new forms of networking and coordination in the society.

Index Terms: Software Application, Technology, Brower, Internet usage, Buying and Selling, Online Purchase, Communication Process, Satisfaction.

1. INTRODUCTION

Nowadays, smart phones have become a part of every person life. A variety of smart phones applications is available to be used in a wider range of usage situations. Smart phones are used to replace digital cameras, watches, video recorders, and many more. Having a smart phone is like having a tiny computer in a pocket. With the advancement of the Internet technologies and its applications, smart phones are not only used for making phone calls but also for internet usage such as sending and receiving emails, chatting, sharing photos and documents, reading news, browsing the Internet, and online selling and buying. Smart phones have now become cross-generational staples as people of all ages communicate with each other across the world (www.ehow.com). Wilson, Carol (2008) reports Americans would rather give up their TV, internet access or wireless email device than give up their Smartphone, according to the Pew Internet Project survey and one reason for that strong attachment is that people are doing more with their Smart phones than just making phone calls (Wilson, 2008). Its technology is developing very fast. The advancement of technology is facilitating all types of communication like text, voice, audio, still pictures, video as a confluence.

Thus this technology is fascinating and alluring too - for example - with aid of high-speed cellular network, any video, audio, or multimedia files can be shared with a blink of an eye lid. The lightening fast mode of communication has resultantly posted a tremendous boost to the business functioning all over the world. Many mobile phones coming up with video calling or instant messaging, communication and information sharing has become a tremendously fast and interesting process. Smart phones are armed with powerful lenses. The advanced image capturing abilities, boosted by several image enhancing features, mobile phones with cameras offer dimensions to communication. With the aid of video, sound and animation, mobile phones have increased the effectiveness of a communication process to an unimaginable extent (Dev).

2 REVIEW OF LITERATURE

Jiang & Yang et.al (2013) in their study entitled "Measuring consumer perceptions of online shopping convenience" have identified the key convenience dimensions of online shopping, as convenience has been one of the major motivation fundamental customer inclinations to adopt online shopping. Szde Yu (2018) in his study entitled "Does fear of victimization deter online shopping?" has addressed that the relationship between fear of identity theft/fraud and online shopping, while identifying the most important factors affecting online shopping. Paweł Brył (2018) in his study entitled "Organic food online shopping in Poland" has analyzed the selected characteristics, attitudes and opinions of organic food e-consumers (online shoppers) in Poland. Ajay & Anil (2018) in their study entitled "Leveraging utilitarian perspective of online shopping to motivate online shoppers" have examined shopping motivation has been extensively explored in traditional marketing context but less in online shopping. Kenneth & Gehrt et.al (2012) in their study entitled "Emergence of online shopping in India: shopping orientation segments" have explored that Indian online shopping via the concept of shopping orientations. Urvashi & Ravi et.al (2017) in her study entitled "Analyzing customer satisfaction: users perspective towards online shopping" have identified and analyzed that the key determinants influencing customer satisfaction towards online shopping in India. Mamoun & Mutaz (2015) in their study entitled "An integrated model of

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(This information is optional; change it according to your need.)

factors affecting consumer attitudes towards online shopping" have examined an integrated model of factors affecting attitudes toward online shopping in Jordan. [Arora & Aggarwal](#) (2018) in their study entitled "The role of perceived benefits in formation of online shopping attitude among women shoppers in India" investigated the role of supposed benefits, explicitly, price, convenience and product diversity in formation of online shopping attitude. [Vaughan & Chao](#) et.al (2016) in this study entitled "Permission email marketing and its influence on online shopping" has emerged as a retail force to be reckoned with, its' achievement is charge, at least in part, on other promotional tools. [Al-Debei & Akroush](#) et.al (2015) in their study entitled "Consumer attitudes towards online shopping: The effects of trust, perceived benefits, and perceived web quality" have discussed about the consumer attitudes toward online shopping in Jordan.

3. STATEMENT OF PROBLEM

With the help of mobile users, smart phones have become a very popular and desirable device. In the recent years, smart phone industries welcomed a new operating system with various features. The concepts of smart phone applications came around at the same time when the first smart phones were released. Since then, many applications to run on an Android operating system have been developed by programmers around the world. The popularity of smart phone is very encouraging. The dramatic increase in smart phone use in the Middle East has also affected consumers in this region to use their smart phones to engage with online and offline advertisements. Most of the smart phone users in have performed a mobile search after seeing an ad such as a TV commercial offline. A recent study examining the state of the social media in Saudi Arabia noted a remarkable increase with the use mobile technologies such as smart phones to access various social media accounts. It was a pointed increase in the number of WhatsApp, Facebook, Google+, Twitter, Instagram users while LinkedIn still stays behind. As of September 2015, WhatsApp had a user base of up to 900 million making it the most globally popular messaging application in Saudi Arabia. The use of smart phones in academic community has been studied by more number of existing researchers.

4. OBJECTIVE OF THE STUDY

1. To analyze the impact of Smartphone application preference and usage by the Student community.

5. SCOPE OF THE STUDY

Nowadays, the Smartphone has become a necessity and forms an important part of Student life. It is well-known fact that with the advent of increasing technology domination and changing lifestyle towards now the smart phone becomes a commodity of necessity and has become one important element of the life of even to the uneducated people. Hence, there is a remarkable scope to investigate the demographic characters, influencing factors, level of satisfaction on usage and impact of smart phone usage among student community. Advertisers and marketers have been trying to discover why students buy the smart phone and what other features do they look for in a Smartphone for the fulfilment of the

requirement and also what operating system they opt for. The study makes an attempt to investigate the influencing factors, satisfaction and impact of usage. The results can be utilized by the students in their favour to win the new arrival of Smartphone strategy. This study also highlights the findings and offers suggestion to increase usage pattern.

6. METHODOLOGY

The study is based on both primary data. The study carried out of the observation and survey method. The structured questionnaire was designed in a systematic way of covering adequate and relevant aspects of the study. The data collected from the primary sources were arranged sequentially and tabulated in a systematic manner. Secondary data were collected from books, magazines, journals, newspaper, past research and various websites. A sample size of 123 respondents was selected by Raosoft calculators. Convenient sampling method has been chosen for select the sample respondents from the universe. The respondent includes the college and university students.

7. ANALYSIS AND INTREPRETATION

Demographic Profile of the Respondents in Impact of Smart Phone Usage

Table 1
Gender Wise Classification

Frequency	Percent	Valid Percent	Cumulative Percent
Male	39	31.7	31.7
Female	84	68.3	100.0
Total	123	100.0	100.0

Table 1 shows that out of 123 respondents, 31.7 percent of the respondents are Males and the remaining 68.3 percent of the respondents are Females.

Table 2
Age Group wise Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
below 20 yrs	19	15.4	15.4	15.4
21-25 yrs	62	50.4	50.4	65.9
26-30 yrs	30	24.4	24.4	90.2
above 30 yrs	12	9.8	9.8	100.0
Total	123	100.0	100.0	

Table 2 shows that 50.4 percent of the respondents belong to the age group of 21–25, 24.4 percent of the respondents to the age group of 26-30 and the remaining 15.4 and 9.8 percent of the respondents belong to below 20 and above 30 years old groups respectively.

Table 3
Educational Qualification

Frequency	Percent	Valid Percent	Cumulative Percent
School level	10	8.1	8.1
Graduate	20	16.3	24.4
Post graduate	73	59.3	83.7
Diploma	4	3.3	87.0

Philosophy	16	13.0	13.0	100.0
Total	123	100.0	100.0	

Table 3 shows that about 59.0 percent of the respondents have education upto post graduate level and 16.3 percent have education upto graduate level. 13.0 percent of the respondents are Philosophy level. 8.1 percent of the respondents are School level. 3.3 percent of the respondents Diploma level.

Table 4
Income Level of the Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Rs.45001-Rs.65000	41	33.3	33.3	48.0
Rs.65001-Rs.85000	44	35.8	35.8	83.7
Above Rs.85001	20	16.3	16.3	100.0
Total	123	100.0	100.0	

Table 4 indicates, the majority of the 44 respondents (35.8 percent) earn a monthly income Rs.65001-Rs.85000 followed by 41 respondents (33.3 percent) who earn a monthly income between Rs.45001-Rs.65000. The number of respondents who earn a monthly income above Rs.85001 is 20 (16.3 percent). The respondents who earn a monthly income Rs upto Rs.40000 are 18 (14.6 percent).

Table 5
Marital Status

	Frequency	Percent	Valid Percent	Cumulative Percent
Unmarried	99	80.5	80.5	80.5
Married	24	19.5	19.5	19.5
Total	123	100.0	100.0	100.0

Table 5 discloses that and 99 (80.5 percent) of the respondents are unmarried and 24 (19.5 percent) of the respondents are married.

Table 6
Family Size of the Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Upto 3	77	62.6	62.6	62.6
4-6	36	29.3	29.3	91.9
Above 6	10	8.1	8.1	100.0
Total	123	100.0	100.0	

The Table 6 elucidates that 77 (62.6 percent) of the respondents are having upto 3 members in their family. 36 (29.3 percent) of the respondents are having 4-6 members in their family. The remaining 10 (8.1 percent) of the respondents have large family with above 6 members.

Table 7
Frequency of Smart phone Usage

	Frequency	Percent	Valid Percent	Cumulative Percent
Below 5 hours a day	67	54.5	54.5	54.5
6-10 hours a day	36	29.3	29.3	83.7

11-15 hours a day	15	12.2	12.2	95.9
Above 15 hours a day	5	4.1	4.1	100.0
Total	123	100.0	100.0	

From the above table the researcher could say that majority 67 (54.5 percent) of respondents below 5 hours a day of smart phone using hours, 36(29.3 percent) of the respondents 6-10 hours a day, 15 (12.2 percent) of the respondents 11-15 hours a day and the remaining 5 (4.1 percent) of the respondents above 15 hours a day in smart phone using hours.

Table 8
Purchase of Smart Phone

	Frequency	Percent	Valid Percent	Cumulative Percent
Half yearly once	7	5.7	5.7	5.7
Occasionally	28	22.8	22.8	28.5
Yearly once	19	15.4	15.4	43.9
Whenever needed	69	56.1	56.1	100.0
Total	123	100.0	100.0	

Table.8 shows that 64 (56.1 percent) of the respondents are purchasing whenever needed in purchasing of smart phone using, 28 (22.8 percent) of the respondents are occasionally purchasing smart phone, 19 (15.4 percent) of the respondents are yearly once purchasing smart phone, 7 (5.7 percent) of the respondents are Half yearly once purchasing smart phone.

Table .9
Type of Smart Phone

	Frequency	Percent	Valid Percent	Cumulative Percent
Android	110	89.4	89.4	89.4
Linux	10	8.1	8.1	97.6
iPhone	3	2.4	2.4	100.0
Total	123	100.0	100.0	

Table 9 shows that 110 (89.4 percent) of the respondents are using Android type of smart phone, 10 (8.1 percent) of the respondents are linux type of smart phone using among students, 3 (2.4 percent) of the respondents are iPhone type of smart phone using among students.

EXPLORATORY FACTOR ANALYSIS – IMPACT OF SMARTPHONE USAGE AMONG STUDENT COMMUNITY

Factor analysis is one of the most often used multivariate techniques of research studies. It is a method related when there is a systematic interdependence among the set of observed or manifest variables and it would be interesting to find out something more fundamental or latent which creates this communality. It seeks to resolve a large set of measured variables in terms of relatively low categories known as factors. Factor analysis and reliability tests are applied to ascertain the important factors and to test the reliability of the data. If the factors analysis should be proper, the variables must be correlated. If the correlation between all the variables is very low and negligible, then the factor analysis may not be appropriate. In the present study, Inter Correlation Matrix

shown in Table 10 reveals that the correlation between most of the variables are in good fit and hence the factor analysis is very appropriate for analyzing impact of Smartphone usage of Student community. The result of the fitness test regarding factor analysis based on Inter Correlation Matrix has been presented in table 10.

Table .10
CORRELATION MATRIX

	Imp act 1	Imp act 2	Imp act 3	Imp act 4	Imp act 5	Imp act 6	Imp act 7	Imp act 8	Imp act 9	Imp act 10
Im1	1									
Im2	-.255	1								
Im3	-.029	.072	1							
Im4	.743	-.143	.029	1						
Im5	.188	.008	.064	.156	1					
Im6	.141	.035	.019	.200	.282	1				
Im7	.122	-.134	-.007	.172	.213	.315	1			
Im8	-.031	-.185	.006	-.121	-.221	-.168	-.016	1		
Im9	.823	-.122	-.005	.670	.293	.222	.156	-.193	1	
Im10	.600	-.089	.044	.881	.166	.266	.182	-.197	.578	1

KMO and Bartlett's Test

The KMO (Kaiser-Meyer-Olkin) measure of sampling adequacy has been computed to determine the suitability of using factor analysis. The values between 0.5 and 1.0 indicate that factor analysis is suitable or appropriate. The KMO test is presented in table 11.

Table 11
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.711
Bartlett's Test of Sphericity	Approx. Chi-Square	496.317
	df	45
	Sig.	.000

Table 11 indicates that the calculated value of KMO is 0.711 which shows that sample is adequate to conduct Exploratory Factor Analysis. Bartlett's Test of Sphericity also shows significant number of correlations among the statements. Thus, all the parameters discussed above support the application of factor analysis on the data. The scale has also been tested for reliability and the value of Cronbach's Alpha is 0.684. The Reliability test is given in the table 12.

Table 12
RELIABILITY STATISTICS

		N	%	Cronbach's Alpha	N of Items
Cases	Valid	123	100.0	.684	10
	Excluded ^a	0	.0		

	Total	123	100.0		
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Communalities have been examined to determine the suitability of data for analysis. Hair et al. (2010) suggested that variables with loadings greater than 0.45 are practically significant and support acceptable levels of explanation. Hence, criteria of 0.45 have been considered for selecting the variables. Communalities of 10 statements have been shown in table 13.

Table 13
COMMUNALITIES

	Initial	Extraction
Impact1	1.000	.825
Impact2	1.000	.610
Impact3	1.000	.962
Impact4	1.000	.861
Impact5	1.000	.465
Impact6	1.000	.569
Impact7	1.000	.663
Impact8	1.000	.641
Impact9	1.000	.754
Impact10	1.000	.749

Table 13 explained the communalities of all the 10 variables and measures that the amount of variance a variable shares with all the other variables. It is a proportion of each variable's variance as explained by the principal component. A large communality means a large amount of the variance a variable has extracted by the factor solution. It shows that variables with a comparatively higher value are well-represented in the common factor space while the low value variables are not. Thus, the table indicates that the extracted communalities are high and acceptable for all the variables.

EXTRACTION METHOD: PRINCIPAL COMPONENT ANALYSIS

Exploratory Factor Analysis has been undertaken on the responses of 123 students regarding 10 statements, using SPSS 23.0 version, to examine the underlying dimensionality of the statements and to obtain the necessary factors. Principal Component Analysis (PCA) with orthogonal rotations and varimax procedure has been applied to 10 items for extracting the factors. Factors with Eigen values greater than unity have been selected. The results of factor analysis have been shown in table 4.31. It can be seen that Exploratory Factor Analysis revealed the underlying dimensions for impact of Smartphone usage among student. These three factors explain 34.613% of total variance. On the basis of rotated component matrix the statements are categorized under respective factors as shown in table 14. Eigen values for Factor1, Factor2 and Factor3 are: 3.461, 1.446 and 1.187 respectively.

Table 14
TOTAL VARIANCE EXPLAINED

Initial Eigen values			Extraction Sums of Squared Loadings		
Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
3.461	34.613	34.613	3.461	34.613	34.613
1.446	14.463	49.076	1.446	14.463	49.076
1.187	11.870	60.947	1.187	11.870	60.947

1.00 5	10.051	70.997	1.00 5	10.051	70.997
.827	8.268	79.265			
.702	7.022	86.287			
.631	6.309	92.596			
.499	4.987	97.583			
.153	1.529	99.112			
.089	.888	100.000			

Table 15
ROTATED COMPONENT MATRIX^A

	Component			
	1	2	3	4
Impact4	.922	.096	-.018	.042
Impact1	.892	.058	-.154	-.055
Impact9	.848	.177	.050	-.047
Impact10	.845	.158	.078	.060
Impact7	.052	.754	-.300	-.030
Impact6	.133	.730	.138	.003
Impact5	.161	.619	.229	.063
Impact8	-.163	-.212	-.741	.143
Impact2	-.195	-.080	.735	.161
Impact3	.016	.036	.021	.980

Table 16
Rotated Component Matrix (Size <0.6)

	Component				Eigen value	Total Variance
	1	2	3	4		
Im4	.922				3.461	34.613
Im1	.892					
Im9	.848					
Im10	.845					
Im7		.754			1.446	14.463
Im6		.730				
Im5		.619				
Im8			-.741		1.187	11.870
Im2			.735			
Im3				.980	1.005	10.051

8. CONCLUSION

India is the largest and most talented country with the advanced mobile communication technology and recent adopters. Smartphone is seen as an icon of young generation. People see mobile phones as an extension of their hand and they depend on social network ties to establish their self. Mobile communication affords greater freedom to its users regarding time and space. We are in a transition age from a broadcast media to a personal communication technology, giving more freedom for personal identity, new utilities of public space and new forms of networking and coordination in the society. Important conclusions related to user behaviour and perception towards Smartphone and internet has been made. Earlier research studies confirm that different user groups adopt mobile services differently based on different needs and uses. Demographic factors were mainly associated with young adult's Smartphone behaviour. Young people, especially students were reported to have higher levels of involvement with their Smartphone. Smartphone is a powerful social medium, which helps in maintaining interpersonal relationship and binding family ties. Safety, security and convenience were the main roles played by Smartphone. New media, especially mobile internet help people to build their own mass communication system through SMS, SNS, blogs and new communication software. Messaging has become the means for experiencing a sense

of private contact and co presence with loved ones, whenever there is an inability to share any private physical space. A prepaid connection with 3G and 4G network is the preferred choice for many of the mobile users, since Pre-paid system allow lower purchasing-power individuals and families to reach a Smartphone. The globalization concepts encourage the perfect competition structure for the use of Smartphone among its customers and service providers at the policy level.

9. REFERENCE

- [1] Ling (Alice) Jiang, Zhilin Yang, Minjoon Jun, (2013) "Measuring consumer perceptions of online shopping convenience", *Journal of Service Management*, Vol. 24 Issue: 2, pp.191-214, <https://doi.org/10.1108/09564231311323962>.
- [2] Kenneth C. Gehrt, Mahesh N. Rajan, G. Shainesh, David Czerwinski, Matthew O'Brien, (2012) "Emergence of online shopping in India: shopping orientation segments", *International Journal of Retail & Distribution Management*, Vol. 40 Issue: 10, pp.742-758, <https://doi.org/10.1108/09590551211263164>.
- [3] Urvashi Tandon, Ravi Kiran, Ash Sah, (2017) "Analyzing customer satisfaction: users perspective towards online shopping", *Nankai Business Review International*, Vol. 8 Issue: 3, pp.266-288, <https://doi.org/10.1108/NBRI-04-2016-0012>.
- [4] Mamoun N. Akroush, Mutaz M. Al-Debei, (2015) "An integrated model of factors affecting consumer attitudes towards online shopping", *Business Process Management Journal*, Vol. 21 Issue: 6, pp.1353-1376, <https://doi.org/10.1108/BPMJ-02-2015-0022>.
- [5] Nupur Arora, Aanchal Aggarwal, (2018) "The role of perceived benefits in formation of online shopping attitude among women shoppers in India", *South Asian Journal of Business Studies*, Vol. 7 Issue: 1, pp.91-110, <https://doi.org/10.1108/SAJBS-04-2017-0048>.
- [6] Vaughan Reimers, Chih-Wei Chao, Sarah Gorman, (2016) "Permission email marketing and its influence on online shopping", *Asia Pacific Journal of Marketing and Logistics*, Vol. 28 Issue: 2, pp.308-322, <https://doi.org/10.1108/APJML-03-2015-0037>.
- [7] Mutaz M. Al-Debei, Mamoun N. Akroush, Mohamed Ibrahim Ashouri, (2015) "Consumer attitudes towards online shopping: The effects of trust, perceived benefits, and perceived web quality", *Internet Research*, Vol. 25 Issue: 5, pp.707-733, <https://doi.org/10.1108/IntR-05-2014-014>.
- [8] Ilias O. Pappas, Adamantia G. Pateli, Michail N. Giannakos, Vassilios Chrissikopoulos, (2014) "Moderating effects of online shopping experience on customer satisfaction and repurchase intentions", *International Journal of Retail & Distribution Management*, Vol. 42 Issue: 3, pp.187-204, <https://doi.org/10.1108/IJRDM-03-2012-0034>.
- [9] Ather Akhlag, Ejaz Ahmed, (2015) "Digital commerce in emerging economies: Factors associated with online shopping intentions in Pakistan", *International Journal of Emerging Markets*, Vol. 10 Issue: 4, pp.634-647, <https://doi.org/10.1108/IJoEM-01-2014-0051>.