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## **A study on customer satisfaction towards smart phone users**

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### **Abstract**

Today, communication is one of the gifts of man. It acts as a repository of wisdom, a propeller for the advancement of knowledge and the telescope to view the vision of the future. Therefore communication is linchpin of a business. The research focuses on customers' satisfaction towards smart phone users particularly college students. Descriptive research method has been used for this study. The data related to Smartphone users were collected through Questionnaire method. Convenience sampling method was used by the researcher to collect the data. The sources of data were primary as well as secondary. The size of sample is 50. The data collected were edited, coded and processed with the help of (SPSS) software. The statistical tools are used for T-Test, F-Test, and Factor analysis. There is a significant difference between the satisfaction level of Smartphone users and gender of the respondents.

**Keywords:** Communication, T-Test, F-Test

### **1.1. Introduction**

Alexander Graham Bell is the inventor of telephone. In 1878 he made the first phone call. Telephones have not only come a long way, but may one day be completely obsolete. Motorola introduced some of the first Cellphones to the public during the 1980s. These cellphones were completely unlike the cell phones of today since they were not at all compact nor by any means cost effective. Some of these Cellphones cost as much as \$4,000, and weighed over 2 pounds! The first smartphone was developed by IBM and BellSouth, which came out to the public in 1993. Although basic compared to today's standards "Simon" had a touch screen that was capable of accessing email and sending faxes.

Smartphones are major extension on normal cellphones. Cellphones can make phone calls and even some have video recording capabilities but they do not have Global System for Mobile Communications (GSM) capabilities along with a whole array of other applications. Text messaging is one of the biggest forms of communication today, especially among the younger folks.

Smartphones capability does not end at the internet access, or at document editing. Smartphones also have the ability to interpret and decipher information like that form a quick response code that may be on a product's packaging. Smartphone users can download Quick Response (QR) code scanners as well as other applications so they have the ability to read the information embedded in the Quick Response (QR) code that may take them to a website, a coupon, or even a social media site.

### **1.2. Meaning of Smartphone**

A mobile phone that performs many of the functions of a computer especially it has touch screen, interface, internet access, and an operating system capable of running downloaded apps.

### **1.3. Customer satisfaction**

Customer satisfaction is a term frequently used in marketing. It is a measure of how products and services supplied by a company meet or surpass the customer expectation. Customer satisfaction is defined as "the number of customers, or the percentage of total customers, who reported their experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals.

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## 2.1. Review of Literature

**Vipan Bansal and Bindu Bansal (2013)** <sup>[1]</sup> “Have studied the Customer satisfaction of mobile phone service users operating in Malwa Punjab” This paper is used to trace the reason for purchasing mobile phones and usages of mobile phone applications. This study revealed that SMS is the most widely used Valued Added Service. The results revealed that most of the respondents were satisfied with their current service provider show maximum willingness for shifting to Airtel.

**Dr. T. N. R. kavitha and Mr. R. Mohana Sundaram (2014)** <sup>[2]</sup> their study entitled “A Study on Customer Satisfaction towards Samsung Mobile Phone in Erode City”. This paper carried out with an objective to determine the consumer preference and satisfaction. This paper concentrated on one particular mobile phone brand called Samsung and its price, quality, colour, and satisfaction level.

**Uchin Lee, et al.** <sup>[3]</sup> have studied the negative aspects of smarphone overuse on young adults, such as sleep deprivation and attention deficits, are being increasingly recognized recently. This emerging issue motivated us to analyse the usage pattern related to smartphone overuse. The paper is also analysed the usage data of identify between group usage differences, which range from the overall usage patterns to app-specific usage pattern.

## 3.1. Limitation of the Study

Limitation of this study is only Salem District. The data collected from Arts and Science College students in Salem District.

## 3.2. Objective of the Study

- To analyze the customer satisfaction level towards smart phone usage.
- To study the factors of mobile phone problems by the college students.

## 3.3. Methodology

Descriptive research method has been used for this present study. The data entire related to Smartphone users. Convenience sampling method was used by the researcher to collect the data. The sources of data were primary as well as secondary. The primary data were collected through questionnaire. Secondary data are those have been collected from company profile, product profile of the company, newspapers, magazines and general discussion with company personnel. The size of sample is 50. The data collected were edited, coded and processed with help of (SPSS) software. The statistical tools are used T-Test, F-Test, Factor analysis.

## 4.1. Demographic Profile of the Respondents

Table 1

| Variables                    | Characteristics   | No. of respondents | Percentage |
|------------------------------|-------------------|--------------------|------------|
| Age                          | 17-20 years       | 5                  | 10.0       |
|                              | 21-25 years       | 27                 | 54.0       |
|                              | 26-30 years       | 12                 | 24.0       |
|                              | Above 30 years    | 6                  | 12.0       |
|                              | Total             | 50                 | 100.0      |
| Gender                       | Male              | 40                 | 80.0       |
|                              | Female            | 10                 | 20.0       |
|                              | Total             | 50                 | 100.0      |
| Occupation of the Parent     | Private sector    | 24                 | 48.0       |
|                              | Government sector | 6                  | 12.0       |
|                              | Business man      | 6                  | 12.0       |
|                              | Farmers           | 4                  | 8.0        |
|                              | Others            | 10                 | 20.0       |
|                              | Total             | 50                 | 100.0      |
| Monthly Income of the Parent | Below 10,000      | 8                  | 16.0       |
|                              | 10,001-15,000     | 5                  | 10.0       |
|                              | 15,001-20,000     | 7                  | 14.0       |
|                              | 20,001-25,000     | 12                 | 24.0       |
|                              | Above 25,000      | 18                 | 36.0       |
|                              | Total             | 50                 | 100.0      |
| Educational Qualification    | Graduate          | 13                 | 26.0       |
|                              | Postgraduate      | 27                 | 54.0       |
|                              | M. Phil.,         | 4                  | 8.0        |
|                              | PhD.,             | 6                  | 12.0       |
|                              | Total             | 50                 | 100.0      |
| Area                         | Rural             | 24                 | 48.0       |
|                              | Urban             | 26                 | 52.0       |
|                              | Total             | 50                 | 100.0      |

Sources: Primary Data

**Inferences**

It is ascertained from the above table 54% of respondents felt in the category of below 20-25 years, It is also ascertained that 24% of the respondents belong to the age group of 26 – 30, 12% of the respondents belong to the age group of Above 30 years a minimum of 10% of respondents are in the age group of above 17-20.

It is ascertained from the above table that maximum of 80.0% of the respondents are Male and minimum of 20.0% of the respondents are female. It indicates that the male respondents are more than the female respondents.

It is ascertained from the above table distribution that 48.0% of the respondents are working in private sector. It is also observed that 20.0% of the respondents are others, 12.0% of the respondents are working in both government sector and Business man 12.0% of the respondents are in farmers category.

The above table shows that 36.0% of the respondents' parents' monthly income in above 25,000. And the 24.0% of the respondents' parents' monthly income in above 20,000-25,000. The 16.0% of the respondents' parents' monthly income in below 10,000, and the 14.0% of the respondents' parents' monthly income in 15,001-20,000, finally the 10.0% of the respondents' parents' monthly income in 10,001-15,000.

The above table shows that 54.0% of the respondents are studying post graduation, 26.0% of the respondents are studying graduation, 8.0% of the respondents are studying M. Phil, and 12.0% of the respondents are studying PhD., It clearly shows that majority of the respondents are studying post graduation degree.

The above table shows that the 48.0% of the respondents are living in rural area and the 52.0% of the respondents are living in urban area. It clearly shows that majority of the respondents are living in urban area (52.0%)

**4.2 Classification of the Respondents Based on Gender and Satisfaction Level of Smartphone Users Independent Sample T-test**

**Table 2**

| Gender | N  | Mean  | S.D   | T-Value | P-Value |
|--------|----|-------|-------|---------|---------|
| Male   | 40 | 57.80 | 7.593 | 0.293   | 0.043   |
| Female | 10 | 58.60 | 8.289 |         |         |
| Total  | 50 |       |       |         |         |

Sources: Primary data

**Hypothesis**

**H0:** There is no significant difference between the satisfaction level of Smartphone users and gender of the respondents

**Inference**

Since P value is more than 0.05 (0.043), the null hypothesis is accepted and the alternative hypothesis is rejected at 5% level of significance. Hence, it could be concluded that there is no significant difference between the satisfaction level of Smartphone users and gender of the respondents.

**4.3. Classification of the Respondents Based on Education Qualification and Satisfaction Level of Smartphone Users One-Way (ANOVA)**

**Table 3**

| Educational qualification | N  | Mean  | S.D    | F-Value | P-Value |
|---------------------------|----|-------|--------|---------|---------|
| Graduate                  | 13 | 60.54 | 3.886  | 1.924   | 0.139   |
| Postgraduate              | 27 | 57.67 | 8.512  |         |         |
| M. Phil.,                 | 4  | 51.00 | 10.066 |         |         |
| PhD.,                     | 6  | 60.67 | 6.346  |         |         |
| Total                     | 50 |       |        |         |         |

Sources: Primary data

**Hypothesis**

**H0:** There is no significant difference between the satisfaction level of Smartphone users and educational qualification of the respondents

**Inference**

Since p value is more than 0.05 (0.139), the null hypothesis is accepted and the alternative hypothesis is rejected at 5% level of significance. Hence, it is concluded that there is no significant difference between the satisfaction level of Smartphone users and educational qualification of the respondents.

**4.4. Factor Analysis**

To test the appropriateness of factor analysis technique the correlation between the variables is checked and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy statistic is also used for the same. The correlation matrix is a lower triangle matrix showing the simple correlation, r, between all possible pairs of variables included in the analysis. Being an identity matrix of population correlation matrix, all the diagonal terms are 1, and all off-diagonal terms are 0. The test statistics for sphericity is based on a Chi-square transformation of the observed correlation coefficients to the magnitude of partial correlation between pairs of variables cannot be explained by other variables and the factor analysis may not be appropriate. Generally, a value greater than 0.5 is desirable for the test statistic.

**Indicating KMO and Bartlett's Test for factor of Smartphone**

**Table 4**

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | 0.587              |         |
|--|--------------------|---------|
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 283.337 |
|  | Df                 | 105     |
|  | Sig.               | .000    |

Source: Computed Data

From the table it could be noted that Kaiser-Meyer-Olkin measure of sampling adequacy is 0.587 and Bartlett's test of Sphericity approximate Chi-Square value in 283.3 which are statistically significant at 5% level.

## Indication Total Variance Explained for Factors of Smartphone

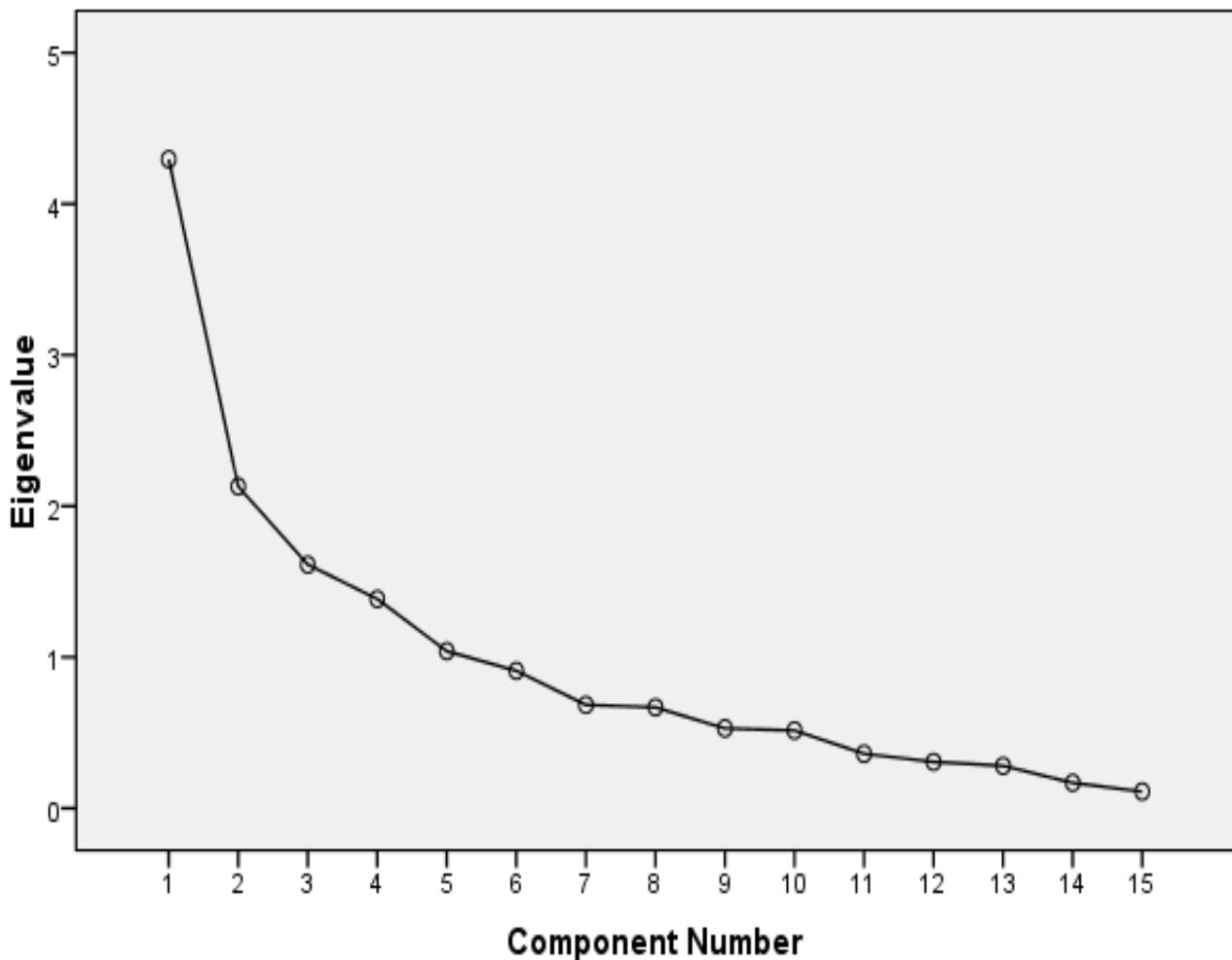
Table 5

| Factors of Smartphone Users               | Initial Eigenvalues |               |              | Rotation sums of squared Loading |               |              |
|---|---------------------|---------------|--------------|----------------------------------|---------------|--------------|
|   | Total               | % of Variance | Cumulative % | Total                            | % of Variance | Cumulative % |
| 1. Operating system                       | 4.295               | 28.635        | 28.635       | 3.007                            | 20.048        | 20.048       |
| 2. Web Browsing                           | 2.130               | 14.200        | 42.836       | 2.078                            | 13.852        | 33.900       |
| 3. Apps                                   | 1.613               | 10.754        | 53.589       | 1.977                            | 13.182        | 47.082       |
| 4. Camera quality                         | 1.385               | 9.235         | 62.824       | 1.851                            | 12.341        | 59.423       |
| 5. Style                                  | 1.040               | 6.931         | 69.755       | 1.550                            | 10.332        | 69.755       |
| 6. Brand                                  | .910                | 6.066         | 75.822       |                                  |               |              |
| 7. Technical specifications               | .684                | 4.562         | 80.384       |                                  |               |              |
| 8. Availability of Applications           | .669                | 4.457         | 84.840       |                                  |               |              |
| 9. Additional facility (Mail, voice Mail) | .529                | 3.529         | 88.369       |                                  |               |              |
| 10. Easy to handle                        | .515                | 3.435         | 91.804       |                                  |               |              |
| 11. Direct Menu                           | .361                | 2.408         | 94.212       |                                  |               |              |
| 12. Wide Screen                           | .307                | 2.049         | 96.261       |                                  |               |              |
| 13. Blue Tooth                            | .281                | 1.875         | 98.136       |                                  |               |              |
| 14. GPRS                                  | .168                | 1.123         | 99.259       |                                  |               |              |
| 15. WI – FI                               | .111                | .741          | 100.000      |                                  |               |              |

In the table five factors have been extracted on the basis of prior knowledge to describe the relationships among variable in a best way. Further, the scree plot associated with this analysis is given in exhibit 1, from the scree plot, a distinct break occurs at four factors. Finally, from the cumulative

percentage of variance accounted for, it can be seen that five accounts for 69.755 percent of the variance, contributed by first component is 59.423 followed by second, third (47.082), fourth (33.900 percent) Fifth (20.048 percent) of total variance.

## Scree Plot



## Indicating Rotated Component Matrix for Factors of Smartphone

Table 6

| Factors of Smartphone Users                                  | Component    |                  |          |          |                    |
|--|--------------|------------------|----------|----------|--------------------|
|  | Connectivity | Browsing Options | Features | Facility | Additional Options |
| <b>Connectivity</b>  |              |                  |          |          |                    |
| WI – FI  | .800         |                  |          |          |                    |
| GPRS   | .727         |                  |          |          |                    |
| Blue Tooth   | .722         |                  |          |          |                    |
| Easy to handle   | .704         |                  |          |          |                    |
| Apps   | .613         |                  |          |          |                    |
| <b>Browsing options</b>                                      |              |                  |          |          |                    |
| Web Browsing   |              | .839             |          |          |                    |
| Technical specifications (RAM, Storage space, processer etc) |              | .628             |          |          |                    |
| Wide Screen  |              | .481             |          |          |                    |
| <b>Feature</b>   |              |                  |          |          |                    |
| Camera quality   |              |                  | .759     |          |                    |
| Direct Menu  |              |                  | .699     |          |                    |
| Style  |              |                  | .678     |          |                    |
| <b>Facility</b>  |              |                  |          |          |                    |
| Operating system   |              |                  |          | .844     |                    |
| Brand  |              |                  |          | .801     |                    |
| <b>Addition options</b>                                      |              |                  |          |          |                    |
| Availability of Applications                                 |              |                  |          |          | .898               |
| Additional facility (Mail, voice Mail)                       |              |                  |          |          | .586               |

**Source:** Computed data

Extraction Method: Principal Component Analysis

From the above table it can be noted that 5 variables create from the first factor which can suitable name as “Connectivity”. The second factor can be named as “Browsing options” consisting of two variables. The third factor is formed with three variables which can be named as “Features”. The fourth factor can be named as “Facility” consisting of two variables. The last factor can be named as “Additional options” which consisting of two variables. This reveals that factor analysis result in five predominant factors.

### 5.1. Findings

#### 5.1. (A) Inferential Statistics

- It is ascertained from the above table 54% of respondents feel in the category of below 20-25 years, 10% of respondents are in the age group of above 17-20. It indicate that majority of the respondents are under the age group of 20-25 years.
- It is ascertained from the above table that maximum of 80.0% of the respondents are Male and minimum of 20.0% of the respondents are female. It indicates that the male respondents are more than the female respondents.
- It is ascertained from the above table distribution that 48.0% of the respondents are working in private sector, 12.0% of the respondents are in farmers category. It shows that majority of the respondents fathers are working in private sector.

#### 5.1 (b) Descriptive statistics

- There is no significant difference between the satisfaction level of Smartphone users and educational qualification of the respondents.
- There is no significant difference between the satisfaction level of Smartphone users and gender of the respondents.

### 5.2. Conclusion

Most of the college students are using mobile phones to access the web, download apps, especially as Smartphone ownership grows. And because they would expect to get

information quickly via mobile. The technology of mobile phone has developed so much which brings the world to our fingers. This study has given an overall analysis of the customer satisfaction towards using of Smart phones.

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