# A Study to Analyse Significant Usage of Smart Phones Among Men And Women in Mysuru City

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## Abstract

*Changes in lifestyle due to upgradation in technology is very evident all over the world. Therefore, we might safely state that technology has come to the aid of every individual during the pandemic in every aspect we can think of. An attempt is being made through this study to examine the type or class of apps that people from different age groups download and use on their mobile handsets and further to examine the benefits that such individuals are deriving from the use of such apps. The study also focuses on popular features that individuals (respondents) choose on their mobile handsets and the level of satisfaction that they have derived after using those apps. The outcome of the study is based on responses collected from 200 respondents (salaried individuals, businessmen and housewives) using stratified random sampling technieque, living in Mysuru City which is one of the fastest growing cities in the country and is also known as the cultural capital of Karnataka State, situated in south India. The study gives insight into the trend among people which might continue in future as well. When used effectively, the apps can make our lives more productive, well managed and successful. It can therefore give a perspective overview of likes and dislikes regarding apps and thereby motivate development of new apps in future*

**Keywords:** Mobile Apps (Application), Smartphone, Marketing, Mobile Handset Usage, Mobile Technology.

## Introduction & Review of Literature

The present scenario sees the influence of technology at all walks of life, in every sphere and area. It has come as a blessing for many of our activities during the lockdown period due to the pandemic and helped in making life convenient and time saving. Every field of life has been influenced by technology and has introduced several progressions in each area where it is being adopted. Infact with easy access to the internet through our mobile handsets, technology has seeped into our personal life and has become part of our individuality. This research study focuses on mobile apps and tries to identify most popular apps that were downloaded by individuals in Mysuru City, across gender and age.

The Android (application system) present in mobile handsets has facilitated the connectivity to several software applications (popularly called Apps in short). There are several apps available on the internet and new apps appearing every day, which can be downloaded to our mobile handset and used for individual conveniences. Apps relating to business, health, cooking, decision making, music, dance, shopping, learning, etc., are available at the click of a button. The list is endless. Infact, it is for us to make best use of the apps available

Several literatures available on the subject helped in identifying the research gap and identify the subject for the study. It is observed that not much study on the present topic is available. An interesting study by Lee, Junseop & Jungmin Son (2017) compares mobile app download patterns between innovators ( or early adopters of new products) and non innovators in Korea. The findings of the study reveal that there is a basic trend to download an app when it is new and then the volume of download gradually decreases. A case study on transaction data extracted from a mobile app, by authors Chen, Qianling, Min Zhang & Xiande Zhao (2017) helps identify high-value and mass customers, their preferences & behaviour by which products and services could be improved.

Moreover, this helps the manufacturer to offer personalized promotions and collect relevant marketing information. Similarly, So, Simon (2008) explores possibilities in teaching and learning through

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integrated mobile phone facilities and finds that it is an acceptable mode. It is interesting to note that this study was done more than a decade ago, and presently the whole world is adopting the mode. Another research article by Martin, Brandie Lee & Eric Abbott (2011) conducted in Kamuli District, Uganda, focuses on data collected from respondents who used; their mobile phone for accessing agricultural inputs, gathering market information, monitoring financial transactions and also for consulting experts in agricultural activities. The study reveals functional and productive use of mobile phones in terms of using speakers during group consultation with the experts, sharing/ identifying job opportunities, taking photographs of agricultural

demonstrations and marking calendar for important events etc. The study helped identify several unique benefits of mobile handsets. A similar study by Moyi, Eliud Dismas (2019) at Kenya examines effect of mobile phones on self-employment on the respondents. The findings reveal that mobile phone technologies stimulate self-employment, increase amount of information. Most importantly the study mentions that mobile phone have a wide coverage at the 'bottom of the pyramid', as, they could promote socio-economic inclusion.

Kaushal, S K & Rakesh Kumar (2016) did a related study focusing on factors affecting purchase decision of consumers purchasing smartphone, in the city of Lucknow and their study reveals the factors significantly affecting purchase decision are compatibility, dependency and social influence. On the negative side, a study by Priya,G.Sasi , a Jothi Priya and R Gayathri Devi (2019) reveal increased stress, anxiety and loss of relaxation among excessive mobile handsets users. Infact Pendse, Nilesh & Tukaram Zagade (2014) mention in their study that users of mobile phones are unaware of the consequences of excessive usage.

A study by Islam, M D Rashedul & Tridib Mazumder (2010) reveals the many positive and negative social effect of mobile applications and observe the growing popularity of mobile application. They also observe the gradual increase in using mobile handsets for internet-based tasks instead of a desktop/laptop.

The study by Balapour, Ali et.al (2020) examined the extent of privacy risk and effectiveness of privacy policy which affect the perceived security of mobile apps. The outcome of the study reveals that effectiveness of privacy policies affects privacy risk.

Heerde, Harald Van, Issac M.Dinner & ScottA.Neslin (2015) through their study propose three key drivers of app usage, namely marketing efforts, app-related consumer factors and app design. The outcome of their study reveal that app access is driven by online advertising, social media messaging, app upgrades, state dependence and purchase history. It is also found that accessing mobile app translates majorly into online purchases.

According to a study by Iowa State University (2015) there is a direct link between app use and purchase activity. The study reveals that the more engaging the app, the more customers will tend to spend.

A study by Pantano, Eleonora & Constantinos-Vasilios Priporas (2016) sheds light on the extent to which consumers are preferring mobile channels making retail setting obsolete.A study by Kothari (2016), mentions that revolution in telecommunication sector has increased users of internet. However, companies need to ensure better security which can enhance customer satisfaction while using e-shopping sites. Chitralaxmi T & Shruthi N (2016) through their study mentions that the Indian e-commerce industry is presently accounting for 1.61% of the global GDP and is set to become the fastest growing market in the Asia-Pacific region. Their study also reveals that majority of internet users prefer transacting through their smart-phones as it ensures faster payment gateways. They relate this growth to the rising standards of living in the country.

An intense review of literature by Khosla, Madhurima & Harish Kumar (2017) explores the evolution of e-commerce in India and identifies various factors that influence growth and development of e-commerce. The study identifies that there could be a rise in niche businesses, rise in mergers and acquisitions leading to firms growing inorganically. They suggest provisions to be made for mobile penetration, network proliferation, better mobile app infrastructure, content development in local language and better connectivity along with more secure payments' infrastructure.

North, David, Kevin Johnston & Jacques Ophoff (2014).The study analyses the usage pattern of mobile phone, reasons for using mobile phones and factors for purchasing mobile phones among South African University students. Findings of the study reveal that mobile phones were used for socialising, safety and privacy purposes. The study also reveals that females focused more on the brand and trend while purchasing a mobile phone. A similar study was done by Cha, Seong-Soo & Bo-Kyung Seo (2018), the authors examine the addiction of mobile phone usage among middle school students in South Korea. Their findings reveal 30.9 % addiction which they mention is a very high rate when compared to reports from other countries. They mention that recognising severity of addiction the Korean government has instituted the Framework Act on National Informatization in 2013. Further the study reveals that such addictions were not related with gender, family income or parents' education.

Nair, Savitha, Nivea Nelson N & Karthika R (2016) investigate into factors influencing consumer preference towards mobile phones. Their findings reveal that consumers look for quality, features followed by brand name and price while making a purchase. They also mention that there is no significant association between gender and frequency of changing the handsets.

**Problem statement**

The use of mobile handset has become a convenient replacement to desktop and laptops to a large extent. With easy availability of internet facility there are a lot of events happening through the mobile handset which relatively is influencing Smartphone users to spend more time using their mobile phones. It is this mannerism that has led to the creation of mobile apps. Infact, it would not be wrong to presume that every day there are new mobile apps being made available to Smartphone users, making mobile apps, a new industry.

It is also important to note that during the lockdown period that was imposed in most countries around the world, the only entertainment people relied on was through the social apps installed in their mobile handsets. ( Whatsapp, tic-tok, which was later banned by the Indian government, Youtube, Netflix, etc). The percentage of online shopping for essential items, also increased during this period as generally observed.

However, are these apps really helpful to the individuals using them. This study attempts to analyse the popular mobile apps being used by individuals, the convenience of using mobile apps and also tries to check out if there are difference in choice of mobile apps between men and women, in Mysuru City.

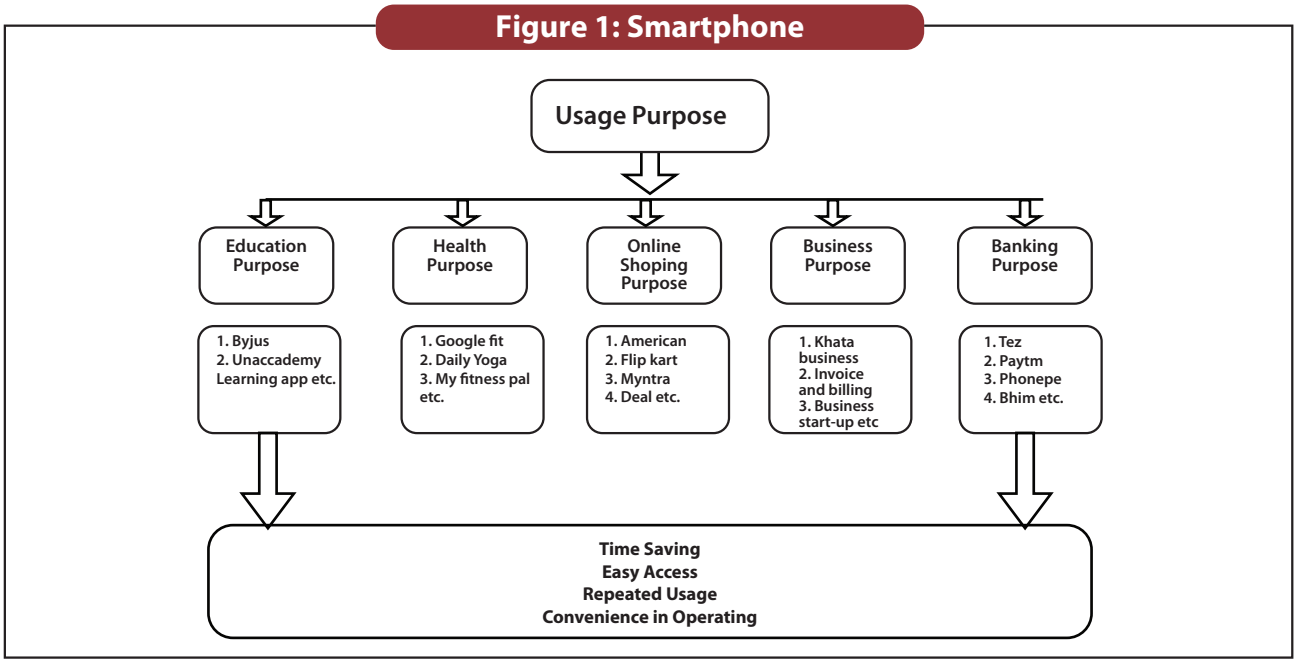
**Need for the study**

Research reports reveal that India's telecommunication network is the second largest in the world, in terms of number of telephone/ mobile handset users. Reports suggest that, as on 31st May 2019 there were 1.183 billion subscribers. India has also the world's second largest internet user-base with 460.24 million broadband internet subscribers. Mobile handsets have become a part of our necessity for day-to-day activities as it functions more than just a device for communication.

Keeping this in view, the study has been taken with the perspective of finding out multiple usage of mobile phone including gender role, in areas such as fund transfers, education, knowledge enhancement, health and wellness, professional purposes and so on. The study attempts to analyze and study the popular usage of mobile applications through the viewpoint of men and women in Mysuru city.

There are several applications (or apps in short) being made available for mobile phone users across the globe. The mobile phone has infact started replacing our wallet and also desktop and laptops. Hence, analyzing the benefits and challenges faced by users of mobile applications was found essential. The following Model, developed by the authors, shows the multiple usage of smartphone by users across gender.

**Figure 1: Smartphone**




Source: Vasanthi Reena Williams (2020) A study to analyze significant usage of smart phones among men and women in Mysuru

### Objectives of the study

After going through literature available on the related topic, it was identified that not many studies have been done on the influence of mobile apps on users. It is with this backdrop that the following objectives were framed.

1 To explore factors affecting purchase intention of smart phones by men and women.

2 To examine the significant usage of smart phone among men and women.

3 To check gender variations in the usage of specific apps between men and women.

4 To study the influence of smart phones among men and women in Mysuru city.

5 To analyze the usage of smart phone on the basis of socio-cultural background.

### Hypothesis

H1: *Preference for mobile apps differs between genders.*

H2: *Education influence choice and usage of mobile apps.*

H3: *Social influence plays a major role in choice of mobile apps.*

### Scope of The Study

Advancement in Technology has made it possible for us to replace the desktop and laptop with the mobile handset. Easy and economical internet connectivity, thanks to the available internet service providers, the number of individuals having internet/ broadband connectivity on their mobile handset is increasing by the day. The study therefore tries to analyse the preference of applications by consumers in Mysuru City. It is presumed that analyzing responses from both men and women, across age groups, would help the study in identifying choice in apps , not only based on gender but also based on age. This could assist the e-commerce business houses to address challenges better.

## Research Methodology

The study progressed through the pandemic and lockdown period. Both primary and secondary methods was adopted for achieving its objective. While the primary data was collected through google forms shared through email, social networks and telephone calls, with identified respondents, the secondary data was collected through vast number of related articles available on the internet, relevant text books and articles on the subject.

Since objective of the study was to analyze usage of apps among men and women, equal number of respondents from each gender, living in Mysuru City, were chosen for the study. Further, the study also tries to study choice of apps among gender.

Sampling techniques: Random (Customers with android application) and Judgmental (those who had used mobile apps) sampling.

Sampling Unit: Individuals owning android mobile handsets, using mobile apps for various purposes and residents of Mysuru City.

Sources of Data: The study has used both the primary and secondary data. Due to the lockdown because of Covid-19, field survey method for collecting primary data, could not be adopted. However, data was collected through google forms, via telephone calls and emails. Equal number of respondents, across gender, residing in Mysuru city, were identified and data was collected for the study. The respondents were identified based on their usage of mobile apps for their day-to-day activities. Framed questionnaire was used for data collection, including direct interaction with identified respondents, in some cases, where data was collected through telephone calls. Secondary data was collected from various journals, magazines and relevant reports.

Sampling design: For the purpose of the study 200 respondents were chosen using stratified random sampling technique. This included 100 Male and 100 Female respondents residing in Mysuru City. The respondents were further divided according to age, qualification and occupation

The questionnaire was prepared and administered in person to a few respondents and for convenience and reach, the questionnaires were distributed through google forms. A few data were also collected through telephone calls and interaction with identified respondents.

Sample Size: Google forms were shared through social media and through emails. 211 respondents responded to the questionnaires. Respondents were those living in Mysuru City.

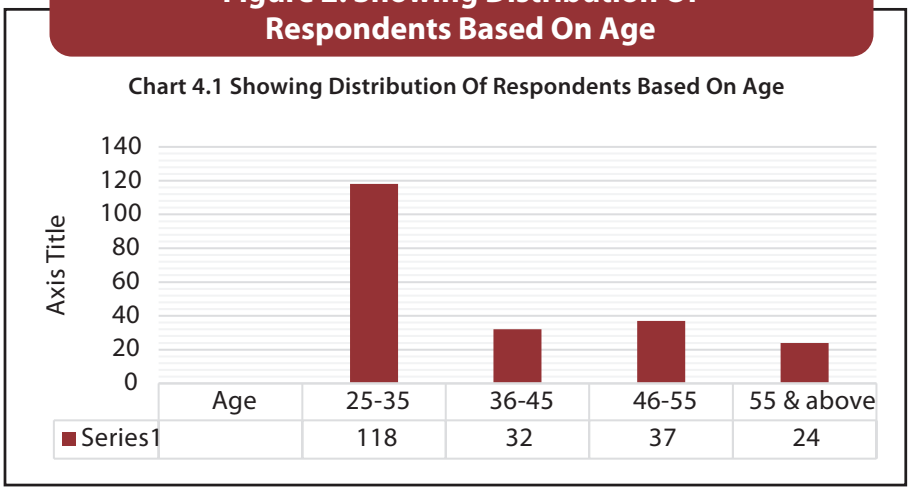
Research instrument: structured questionnaire, both physical and through Google forms.

Analysis: Simple percentage method, Charts.

## Data Analysis and Interpretetions

The study takes into cognizance choice of mobile apps among male and female mobile users in Mysuru City. A total of 211 respondents (106 male respondents & 105 female respondents), responded to the Google forms that was shared on social media as well as through email. were identified for collecting data to studying the objectives laid down. Few questionnaires were distributed physically, to the respondents and the rest were collected through Google forms that were circulated to ensure wider distribution. The following is the diagrammatic representation and interpretation of the data collected.

**Figure 2: Showing Distribution Of Respondents Based On Age**

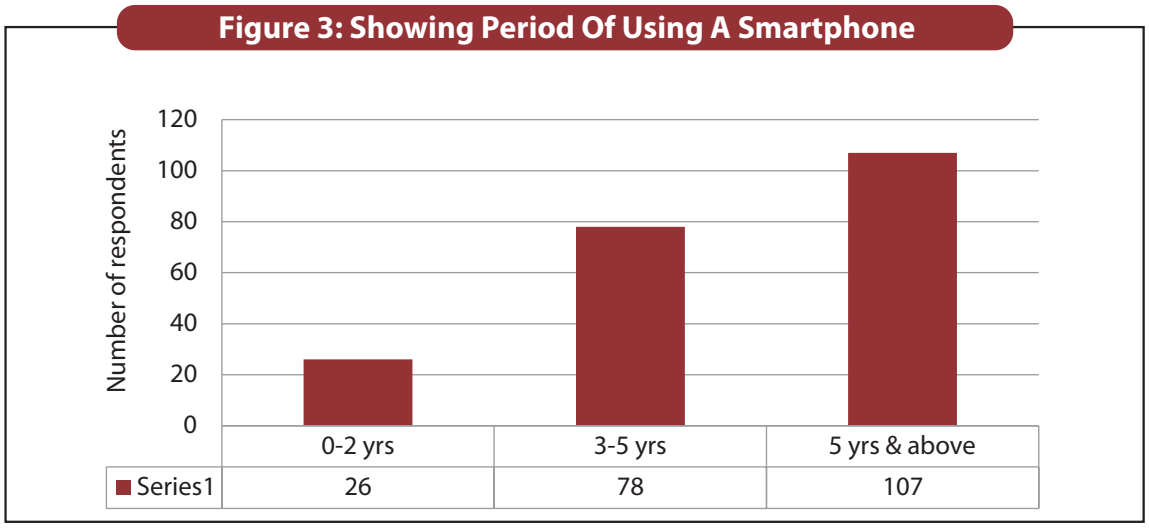



**Source: Survey Data**

**Interpretation:** To ensure an equitable inclusion of respondents to the study, equitable number of male and female respondents were included in the study. The total number of respondents who responded to the questionnaire, was 211, of which, the number of male respondents was 106 and number of female respondents was 105 , all residents from Mysuru city. Figure-1 shows the division of respondents based on age group.

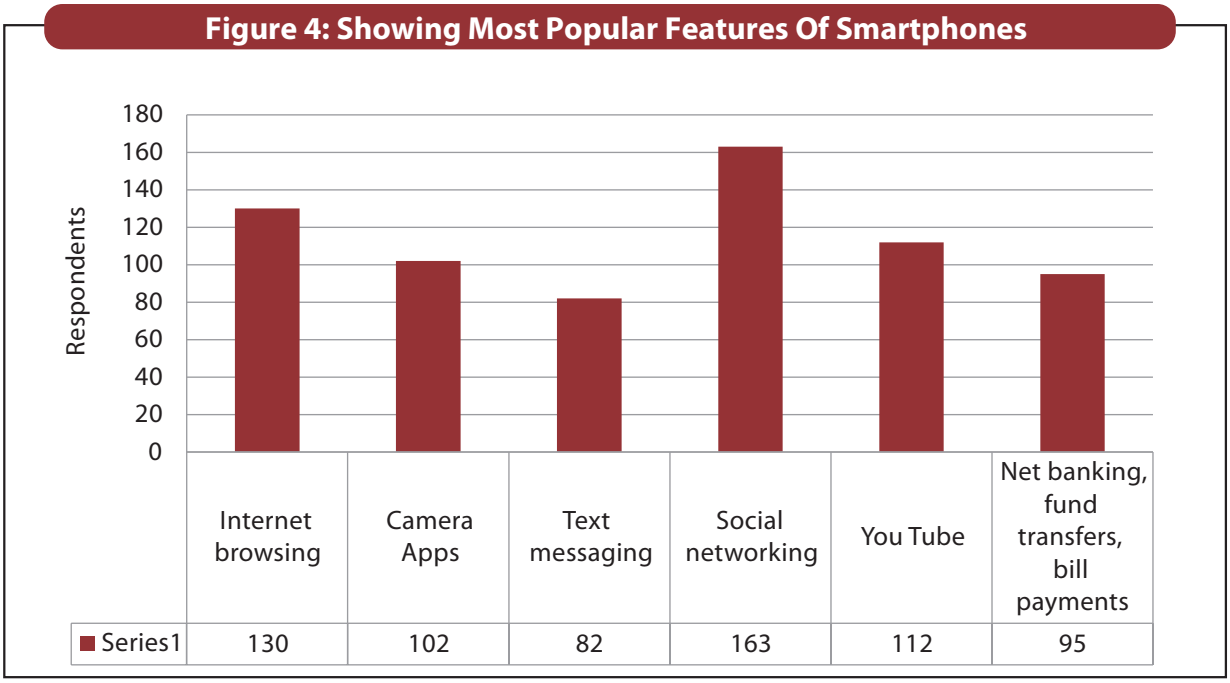
In order to further ensure equitable demographic profiles, respondents from different age groups, educational backgrounds and occupation were included in the study. Further the respondents were from different educational backgrounds (Graduates (39%), Postgraduates (35.5%) and diploma holders and others (25.5%). The occupation includes 54% salaried respondents, 27% businessmen and 19% home-makers.

**Figure 3: Showing Period Of Using A Smartphone**




**Source: Survey Data**

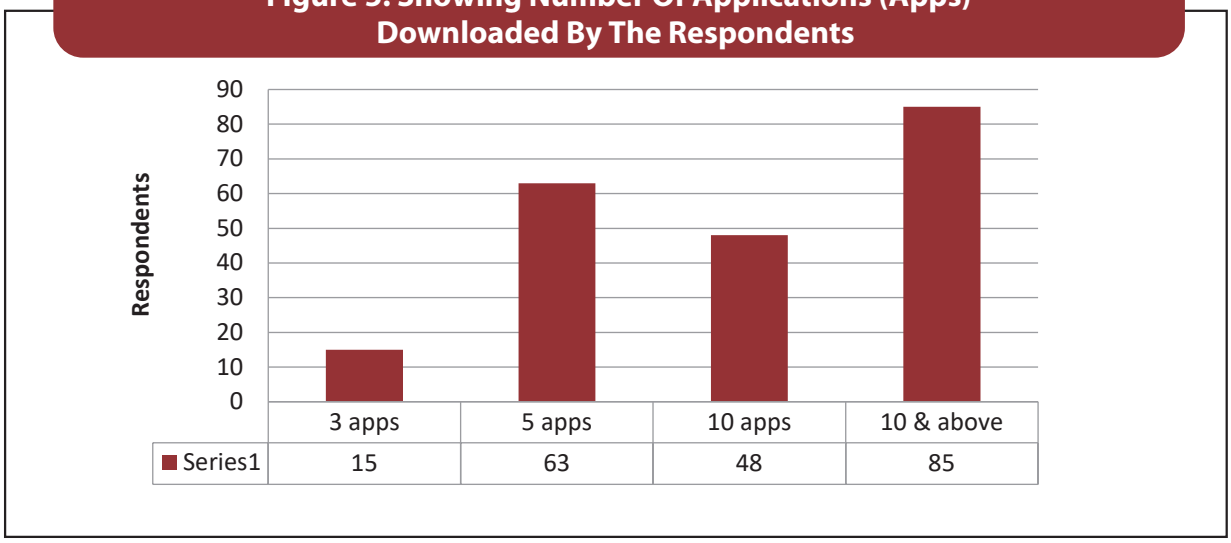
**Figure 4: Showing Most Popular Features Of Smartphones**




**Source: Survey Data**

Interpretation: The data collected through the study shows that the most popular application used by the respondents was social networking apps, like Whatsapp, Instagram, Facebook etc. (163 responses, . 80.39%). Followed by browsing the internet for news and current affairs. They also used it for seeking answers to questions they had (130 responses, 61.61%)

**Figure 5: Showing Number Of Applications (Apps) Downloaded By The Respondents**




**Interpretation:** Data from the study reveals that majority of the respondents have downloaded more than 10 mobile apps (85 responses 40.28%) . Only 15 responses (7.1%) had downloaded less than 3 apps on their mobile handset.

The data also reveals that 150 respondents (71.09% ) mentioned that they use smartphone for both work as well as personal use. Majority of the respondents (51.18%), from the study mentioned that they utilized their mobile handset for tracking health, calorie count etc

**Table 1: Showing Apps Downloaded By Respondents**

| Type Of App | Response | % |
|---|---|---|
| Shopping Apps (Amazon, Flipkart, Bigbasket, Naturebasket etc) | 151 | 71.56 |
| News Apps (Daily Hunt, News Hunt, etc) | 75 | 35.54 |
| Camera Apps ( You Cam, B612, etc) | 89 | 42.18 |
| Health Apps (Google fit, MyFitnessPal, Daily Yoga, etc.) | 36 | 17.06 |
| Entertainment Apps (Netflix, YouTube, Dubs mash, etc.) | 138 | 65.4 |
| Social Media Apps( Facebook, Whatsapp, Instagram,YouTube etc) | 164 | 77.72 |
| Education Apps (Byjus, Unacademy learning app, etc) | 39 | 15.63 |
| Business Apps ( Khata Business, Invoice and billing, Business start - up, etc) | 21 | 9.95 |
| Google Apps (Google Play,Google Maps,Google translator,Google Navigator,etc) | 122 | 57.81 |
| Banking Apps (Tez , Paytm, Phonepe, Bhim, etc) | 127 | 60.19 |
| Transportation Apps (Redbus, Ola, Uber, Jugnoo, etc) | 80 | 37.91 |
| Music Apps (Gaana, Wynk Music, JioSaavan, etc) | 92 | 43.6 |
| Investment Apps ( Moneycontrol, CAMS, Karvy, etc) | 14 | 6.63 |

Source: Survey Data

**Interpretation:** The chart shows that Social Media Apps were downloaded most (164 responses -77.72%). Investment Apps were the least downloaded (14 responses-6.63%).

**Table 2: Showing Most Popular Apps**

| Most Popular Apps | Response | % |
|---|---|---|
| Shopping Apps | 98 | 46.44 |
| News Apps | 40 | 18.95 |
| Music Apps | 99 | 46.91 |
| Travel Apps | 53 | 25.11 |
| Banking Apps | 103 | 48.81 |
| Games Apps | 58 | 27.48 |
| Investment Apps | 13 | 6.16 |
| Education Apps | 23 | 10.90 |
| Social Media Apps | 131 | 62.08 |
| Entertainment Apps | 101 | 47.86 |
| Health Apps | 19 | 9.00 |
| Camera Apps | 66 | 31.27 |
| Google Apps | 78 | 36.96 |

Source: Survey Data

**Interpretation:** The most popular apps that are downloaded are Social Media Apps followed by entertainment apps. Apps relating to Investment, Education and Health were the least preferred by the respondents.

**Table 3: Showing Benefits Of Using Mobile Apps For Financial Transactions**

| | Responses | % |
|---|---|---|
| Save time/convenient | 139 | 65.87 |
| Save transport cost | 57 | 27.01 |
| More secure transaction | 58 | 27.48 |
| Faster transactions | 120 | 56.87 |
| Ability to save and earn interest | 42 | 19.90 |
| More private | 28 | 13.27 |
| Fewer risks (than carrying cash in hand, etc.) | 69 | 32.70 |

Source: Survey Data

**Interpretation:** Interpretation: Majority of the respondents (139 responses -65.87%) used the banking and financial apps as it saves time and is convenient. They also find it very convenient to use.

**Table 4: Showing Respondent Level Of Satisfaction**

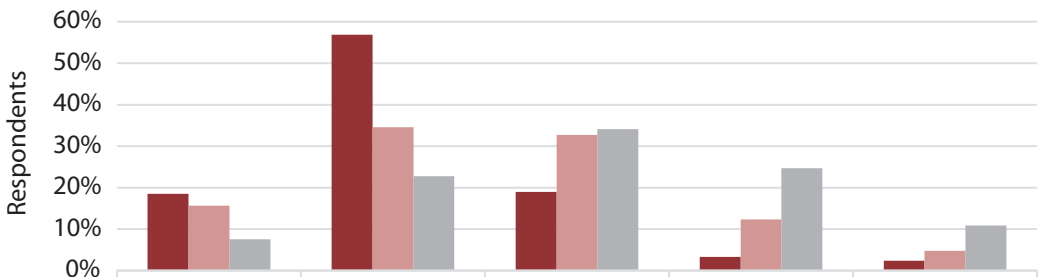
| | Strongly agree | Agree | Neither agree not disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| Smart phone applications meeting expectations | 39 | 120 | 40 | 7 | 5 |
| Smart phones affecting socio - cultural background | 33 | 73 | 69 | 26 | 10 |
| Usage of smart phone encourages gender exclusivity | 16 | 48 | 72 | 52 | 23 |

**Interpretation:** It may be interpreted here that majority of the respondents are of the opinion that smart phone applications meet their expectations. Similarly, they also feel smart phones affect socio-cultural background as the users of apps tend to change their lifestyle, social approach and overall outlook towards their life, career and many start having a different perception towards life and about their environment.

However, the respondents are opinionated regarding the influence of smart phone in encouraging gender exclusivity.

The study reveals that majority of the respondents find it useful to own a smartphone with reference to meeting user expectations. (120 responses). The respondents also felt that to a certain extent, smartphone affect socio-cultural background. The respondents also felt that usage of smartphone encourages gender exclusivity.

**Figure 6: Showing Respondent Level Of Satisfaction In Using Apps**




| | Strongly agree | Agree | Neither agree not disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| Series1 | 18% | 57% | 19% | 3% | 2% |
| Series2 | 16% | 35% | 33% | 12% | 5% |
| Series3 | 8% | 23% | 34% | 25% | 11% |

Source: Survey Data

## Test of Hypothesis

*H1: Preference for mobile apps differs between genders.*

*H2: Education influence choice and usage of mobile apps.*

*H3: Social influence plays a major role in choice of mobile apps.*

**Interpretation:** Value of Mean scores 1.87, reveals that QUALITICATION scored better on average, while GENDER shows a SD value of .501, which is a consistent score when compared to other variables, namely, AGE GROUP, QUALIFICATION AND OCCUPATION.

**Table 5: Descriptive Statistics**

| | Mean | Std. Deviation | N |
|---|---|---|---|
| Gender | 1.50 | .501 | 211 |
| Age Group | 1.84 | 1.082 | 211 |
| Qualification | 1.87 | .794 | 211 |
| Occupation | 1.65 | .781 | 211 |

Source: Survey Data

**Table 6: Correlations**

| | | Gender | Age Group | Qualification | Occupation |
|---|---|---|---|---|---|
| Gender | Pearson Correlation | 1 | .785** | .813** | .837** |
| | Sig. (2-tailed) | | .000 | .000 | .000 |
| | N | 211 | 211 | 211 | 211 |
| Age Group | Pearson Correlation | | | .863** | .938** |
| | Sig. (2-tailed) | | | .000 | .000 |
| | N | | | 211 | 211 |
| Qualification | Pearson Correlation | | | | .862** |
| | Sig. (2-tailed) | | | | .000 |
| | N | | | | 211 |
| Occupation | Pearson Correlation | | | | 1 |
| | Sig. (2-tailed) | | | | |
| | N | | | | 211 |

**. Correlation is significant at the 0.01 level (2-tailed). Df= n-2= 209

Source: Survey Data

**Interpretation:** The data was statistically analysed using Pearson correlation coefficient to test relationship between the variables. The test score reveals that there is a strong positive correlation between GENDER, AGE GROUP, QUALIFICATION & OCCUPATION. However, it can be observed that there is comparatively high correlation between AGE GROUP & OCCUPATION ($r(209)=0.938$ , $p<.01$ level of significance ) and a comparatively moderately positive correlation between GENDER & AGE GROUP ($r(209)=0.785$, $p < .01$ level of significance). This indicates a significant relationship between the four variables. Which means to say that Gender, Age group, Qualification and Occupation are interrelated.

Statistical results for correlation test for Hypothesis ***H1: Preference for mobile apps differs between genders. & H2: Education influence choice and usage of mobile apps.***

The study reveals that there is slight influence between variables in terms of Gender, Age Group, Qualification & Occupation with reference to usage of mobile applications by the respondents in Mysuru City.

Therefore keeping in view the statistical analysis and the justifications arrived at, we may conclude that the **Hypothesis H1 and H2** cannot be accepted.

**Table 7: Test Statistics**

| | Age Group | Qualification | Occupation | Using Smart Phone |
|---|---|---|---|---|
| Chi -Square | 109.2 5 | 6.0 4 | 42.72 | 47.89 |
| df | 3 | 2 | 2 | 2 |
| Asymp. Sig. | .000 | .049 | .000 | .000 |

***H3: Social influence plays a major role in choice of mobile apps.***

The chi-square test of independence was conducted to test whether the variables are independent of each other.

**Table 8: Test Statistics**

| | Using Smart | Fav Features | No Of Apps | Cause For | **Health Track** | Apps Downloaded | Fav Downloaded |
|---|---|---|---|---|---|---|---|
| Chi - Square | 47.89 | 36.75 | 49.15 | 149.75 | **.118** | 627.81 | 247.73 |
| df | 2 | 5 | 3 | 2 | **1** | 12 | 12 |
| Asymp. Sig. | .000 | .000 | .000 | .000 | **.731** | .000 | .000 |

**Interpretation:** The Chi-square test of independence was calculated comparing the responses received for ; using smart phones, favorite features, number of applications downloaded, cause for using specific apps, tracking health ,number of apps downloaded and favorite apps that were downloaded. Significant relationship was found for result of using smart phone ( 2 (2)=47.896,p<.00). Using smart phone among gender do not appear to be independent events. Similarly with other variables like favorite features, number of applications downloaded, cause for using apps, all seem to be dependent actions. However, no significant relationship was found ( 2 (1)=.731,p>.00), for Health tracking applications.

## Conclusion

The study which was conducted just after the aftermath of the pandemic, has helped in identifying choice in selection of apps by individuals (across gender). The study further reveals that the smartphone is an indispensible gadget which makes life easy for the user. Every day is bringing new features to the smartphone which is also making people habituated to the gadget, further leading to dependence and obsession to it.

Another contribution of the study gave results which included both men and women, residents of Mysuru city. The reason for the selection was to identify the benefits and challenges faced by users of smartphones, the kind of apps that were downloaded most frequently and its advantage to the user. Since the lockdown was declared due to the pandemic, responses were collected through Google forms which also helped in covering a wider area and gathering responses from a larger range of respondents living in Mysuru city.

Lee, Junseop & Jungmin Son (2017), mention through their study that further, additional studies must be conducted to measure performance based on multiple performance variables, such as app usage frequency and usage time.

This study can be taken forward by researchers by identifying the difference in download patterns between paid and free apps, which can be examined to give a more distinct outcome . Further studies could confirm these finding being relevant, given the penetrating influence of AI (Artificial Intelligence) in majority of our activities.

Furthermore, this study could help suggest creation and design of new apps that could be more beneficial , convenient for users.

As we move ahead in technology it is but natural that we should be making use of available facilities that make life easier. We need to work and also live smarter. The smartphone is ensuring that we work and live smarter and easier as well. However we need to fill the lacuna addressing internet connectivity.

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