

Role of Smartphones Applications in Capturing Customer Insights

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ABSTRACT

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The traditional way of business is now totally been modernized by the use of smartphone applications, even the day-to-day life of people has taken up a total new modern phase of 'smartphone era'. Smartphone has absolutely demonstrated out to be extremely useful and simple to utilize contraption for individuals. Therefore, it is highly suggested that in this increasing trend of adopting smartphone applications awareness about its limitations also should be created. In this paper, descriptive and exploratory scheme are used relate to consumer behaviour of smartphone applications users in Indian. There are different types of hypotheses analysis i.e. operating system, age group, gender, income and education. These types of hypotheses is analysis 135 peoples and data collection with the help of Primary and secondary scheme. Pilot studied of hypothesis and Careful attention has been given to create high reliability and validity in the study. Continuous improvements are always suggested to such kind of flourishing and volatile industry as user's expectations are not steady all the time.

Keywords : Smartphones, GPS, PDA

I. INTRODUCTION

Smartphones are increasingly becoming the ever-present penetration and transformation of everyday social practices and space (Backer et al. 2010). A Smartphone is a mobile phone, generally built on with a mobile operating system that has more advance computing capability and connectivity than a feature phone. The absolute first advanced mobile phones were joined the Personal Digital Assistant

(PDA) yet later cameras, music players, GPS route and heaps of different highlights were included Smartphone to upgrade them as multi use gadgets. These days, Smartphone typically have high goals large touch screens and internet browsers that can show standard website pages with versatile streamlined pages. Wi-Fi and versatile broadband in addition aid fast information access in advanced mobile phones.

A Smartphone permits clients to download and introduce outsider applications from application store. There are bunches of utilizations in regards to web perusing, email, route, online networking, listening music, understanding news, games, fund, wellbeing and wellness, taking notes, schedule, climate estimate and heaps of different things that individuals can introduce in Smartphone (Boulos et al. 2011). For the most part, Smartphone are figured with a working framework that permits introducing applications. Apple's IOS, Microsoft's Windows, Google's Android, Nokia's Symbian are a few instances of working framework utilized in Smartphone.

All the more regularly known as "applications", cell phone applications are PC programs written to work on a telephone. They are the product that empowers a cell phone to work like a small scale PC. Applications are accessible for everything from games, to GPS frameworks, to virtual tattoo parlors, basic food item records, Facebook only for cell phones, and pretty much whatever else you can consider. The expression "I believe there's an application for that," has become extremely well known in light of the fact that there genuinely is an application for about everything (Mohan et al. 2014).

An application is characterized as a product program for a PC or telephone working framework. It is likewise called versatile applications, that is, a term used to portray Internet applications that sudden spike in demand for cell phones and other cell phones (Oliver et al. 2008). With the appearance of application stores for a wide range of working frameworks for cell phones, tablets, and PCs, the application has positively detonated in prominence. Regardless of what cell phone we use, applications introduced can influence our fulfillment with the utilization of the cell phone (Peter et al. 2012). A cell phone is a customer gadget, and cell phone applications are Consumer Information Systems (CIS) that offer some benefit and utility to end-clients. Significant players in the region of cell phone applications are designers making applications just as

buyers downloading and utilizing applications. Smartphone applications are important in providing information to other people especially consumer where it can be considered as CIS. "Smartphone applications are developed by individuals, businesses, government agencies, the military, educational institutions, and any other organizations that want to use the technology to entertain, solve a problem, and fulfil a need".

The ubiquity of smartphone application is detonating, and individuals today have colossal alternatives of applications to look over. For instance, iPhone's App Store offers 1.5 million applications (Apple, 2015), Android's Google Play offers 1.6 million applications (Google, 2015), windows ios offers 3.4 lakh applications and Blackberry world offers 1.3 lakh applications. Just in Apple's App Store, in excess of 100 billion applications have been downloaded (Apple, 2015), of which right around 25 billion were downloaded in 2012 alone (Apple, 2013). More than 800 applications are downloaded every second in Apple's App Store, at a pace of more than two billion applications for every month, indicating the ubiquity. Overall deals of new cell phones were around 175 million of every 2009, 350 million out of 2011, and will arrive at 700 million out of 2015. In 2001 were 5.9 billion cell phone clients which are relied upon to increment to 7.5 billion before the finish of 2014. It is viewed as that half of the versatile world is in Asia. Google's playstore and advanced dissemination stage produced roughly 1.65 billion U.S dollars just from web deals in 2014, while it was just 50 million U.S dollars in 2010. Apple assessed to gain 5.1 million U.S dollar in income from the App Store every day, while Google evaluated to acquire simply 1.1 million U.S dollar for each day from play store (Persaud et al. 2012).

II. OBJECTIVE OF THE RESEARCH

This research studies the Consumer behaviour of Smartphone application users of Gujarat. Therefore, research objectives identified through in-depth study

of academic literature dedicated to Smartphone application field are as follows:

- To study awareness level about Smartphone applications.
- To study factors influencing awareness level of Smartphone applications by the users.
- To study the motives behind adoption of Smartphone applications by customers.
- To identify and analyze factors influencing wide adoption of Smartphone applications by customers.
- To study the usage pattern of the Smartphone users.
- To identify which category is maximum preferred category of the Smartphone users.
- To identify satisfaction level of customers in the usage of Smartphone applications.

III. LITERATURE REVIEW

A literature review is an assemblage of content that intends to survey the basic purposes of current information as well as methodological methodologies on a specific point. A very much organized writing audit is described by a legitimate progression of thoughts; momentum and important references with predictable, fitting referencing style; appropriate utilization of wording; and an unprejudiced and exhaustive perspective on the past research on the theme.

For clear and simple comprehension, the audit of writing is introduced in the accompanying headings.

- Consumer Behavior
- Awareness of Smartphone apps
- Adoption of Smartphone apps

1.1 Consumer behavior

Backer et al., (2010) states that "Shopper conduct is the investigation of people, gatherings, or associations

and the procedures they use to choose, secure, and discard items, administrations, encounters, or thoughts to fulfill needs and the effects that these procedures have on the purchaser and society. "

Buyer conduct is portrayed by Boulos et al. (2011) as the activities, manner of thinking and saw result, in a joint effort with natural components, over the span of settling on a choice, which could bring about a buy. A portion of the components that are huge in buyer conduct are outside condition, socioeconomics and individual attributes, which are impacted by the customer's convictions, qualities and mentalities.

In the writing point of view, Dai et al. (2007) clarified that buyer conduct as the way toward seeing and assessing various parts of a buy. Besides, he clarifies that there are two expansive impacts that choose buyer decision. At First, the individual customer's needs, cognizance of brand attributes and attention to options are of essentialness in the matter of dynamic. Different variables that impact the decision of brand are the buyer's socioeconomics, way of life and individual attributes.

Jim et al. (2008), the term 'customer ' alludes not exclusively to the demonstration of procurement itself, yet in addition to examples of total purchasing which incorporate pre-buy and post-buy exercises. Pre-buy movement may comprise of the developing consciousness of a need or need, and a quest for and assessment of data about the items and brands that may fulfill it. Post-buy exercises remember the assessment of the bought thing for use and the decrease of any uneasiness which goes with the acquisition of costly and inconsistently purchased things. Each of these has suggestions for buy and repurchase and they are manageable in contrasting degrees to advertiser impact.

As indicated by Mohan et al., (2014) Consumer conduct is a wide scope of learn about the dynamic

procedures that a purchaser make at the hour of making a buy. As indicated by Kotler "Shopper conduct is the investigation of how people or gatherings purchase, utilize and discard merchandise, administrations, thoughts or experience to fulfill their necessities or needs." In the beginning periods, purchaser conduct was taken as purchaser conduct that mirrors the cooperation among customers and produces at the hour of procurement yet now advertisers perceive buyer conduct as an on-going procedure not just what occurs when shopper gives cash and increases a few products or administrations.

Oliver et al. (2008), characterize customer conduct as "those demonstrations of people straightforwardly engaged with acquiring, utilizing, and discarding financial merchandise and enterprises, including the choice procedures that go before and decide these demonstrations". Straightforward perception gives restricted knowledge into the intricate idea of purchaser decision and scientists have progressively looked for the more complex ideas and strategies for examination gave by conduct sciences so as to comprehend, anticipate, and conceivably control buyer conduct all the more successfully.

1.2 Awareness of Smartphone applications

A web channel Gartner Group, by peter et al. (2012) discharged news dependent on the source insights by Gartner Group. The information are by Global Smartphone piece of the overall industry, third quarter from 2010 to 2012. Here, they state that there are five driving classification of working framework (OS) of Smartphone i.e., Android, iphone ios, blackberry, windows telephone, Symbian and other. The measurements here shows that in 3Q10, 3Q11, 3Q12, OS Android was 25%, 53%, 72%, OS iphone (ios) was 17%, 15%, 14%, OS blackberry was 15%, 11%, 5%, OS windows was 3%, 2%, 3%, OSsymbian was 4%, 2%, 3%, respectively.so driving working framework can be said Android and ios.

As per the overview done by worldwide protection implementation organize (GPEN) by Perner et al. (2010) they uncovered the data in September about the application engineers that application designers get to individual data without sufficiently clarifying how individuals' data is being utilized, the said review was done on the security data gave by versatile applications organization.

The report by American Dialect Society in Persaud et al. (2012) uncovered that Their Society has casted a ballot "application" as the expression of the year for 2010. An application is characterized as a product program for a PC or mobile phone working framework. It is additionally called portable applications/cell phone applications, that is, a term used to depict Internet applications that sudden spike in demand for cell phones and other cell phones.

As indicated by Raento et al. (2009) Privacy and security of applications are significant issues for cell phone clients. Security is one of the significant components deciding cell phone choice. Creators clarify that a lot of individual information is put away on cell phones, and that this information can be undermined by losing a telephone or by being contaminated by pernicious programming. They additionally clarify that applications can bargain customer security.

As per Consumer Sarwar et al. (2013)], in excess of 8 million individuals on the planet utilize Foursquare, an informal community application that lets clients remark about cafés and stores with impetuses of limits and unconditional presents. In any case, the administration can let companions and outsiders on interpersonal interaction locales know areas of the clients through the GPS following highlights of cell phones.

Sumathi et al. (2003) uncovers the reality about an acclaimed organization named Google. Google has

done In-application buy extortion to the clients they call it "family-misrepresentation" or a "cordial - extortion", the issue says that numerous youngsters has bought virtual things utilized in games and different applications costing from 99 pennies to 200 \$, where guardians didn't know about the charging, and in this issue organization has acknowledged the case and consented to discount U.S 19 million \$ to guardians charged for unapproved buys by their kids while utilizing portable applications.

1.3 Adoption of Smartphone applications

Shina et al. (2011) expressed in the article titled Web-empowered telephones are blasting, that, "By 2014, the cell phone application market will add up to more than \$40 billion." obviously a great deal of these applications are games, yet many are additionally being utilized to discover new clients and develop associations with existing clients.

As per Taylor et al. (1995) portable selection is ludicrously quick. Cell phones have spread quicker than any shopper innovation in mankind's history, arriving at showcase development quicker than radio, TV, the business Internet and numerous different gadgets and advances. As per Nielsen, 61% of US versatile endorsers presently own a cell phone. This pattern isn't selective to the US.

A report by Taylor et al. (2011) uncovers that the Mobile execution promoting will get standard; a great part of the work on portable publicizing has been centered around rich media designs and application creation. Advertisers have been concentrating on making portable battles dependent on rich media designs that catch purchaser eye.

Wang et al. (2011) finished up to certain contemplations on scholastics side, he expresses that in earlier days individuals use to heft around a PC, camera and GPS gadget wherever they went, however now-a – days it is simple for educator and

director to alter everything into a solitary gadget, that is Smartphone.

Report by Sumathi et al. (2003), the report is on The Mobile Consumer: A worldwide preview, they have meet very nearly 8 to 9 nations over the world, on the off chance that we talk about Indian respondents profile in detail, they have talked with up close and personal 8 Indian urban communities (Mumbai, Delhi, Kolkata, Bangalore, Hyderabad, Ahmedabad, Pune and Lucknow).

An article by Verkasalo et al. (2010) titled senior discard old tech, approach PDAs, uncovers a few perspectives on the respondents and states that, This applications are end up being so helpful to the senior residents, when they use it, it's a quicker method of making up for lost time, and even they feel, Once you fire spending the telephone, you become acclimated to it. Before that they feel hesitant and really falter by saying the text styles and keys are small. An investigation shows the quantity of more seasoned advanced mobile phones clients has basically multiplied in 2016 than in 2017.

All literature review is found that no proper relating to consumer behavior of smartphone applications. Mostly paper inductive and deductive schemes are used but inductive scheme is systematic process based on observation and deductive scheme is known premise. Exploratory and descriptive scheme are used to in this paper.

IV. RESEARCH METHODOLOGY

Exploratory and Descriptive strategies:- The study decide on exploratory examination technique because of minimal experimental examination and earlier information on presence of the connection between cell phone application and customer conduct. Exploratory strategy included overview of writing on cell phone application and shopper conduct. Spellbinding examination contemplates are worried

about portraying the attributes of a specific individual, or of a group. It is helpful to acquire data concerning the status of the wonders to depict, "What exists" regarding factors or on the other hand conditions in a circumstance. This examination manages depicting the qualities of purchasers who use cell phone application and their Awareness of cell phone application, Appropriation of cell phone application, Usage example of cell phone application, Preference of cell phone application and fulfillment been gotten from Smartphone application. Subsequently, engaging examination strategy is generally proper for the given investigation.

Data Collection Scheme:-

There are two kinds of techniques for information assortment – Primary and Secondary. Essential information assortment technique includes gathering direct data through perception, interviews or on the other hand polls. While, Secondary information assortment strategy incorporates both – crude information and distributed sources, for example, diaries, database, transcripts, books, and so forth.

Primary Data: This examination includes the two information assortment techniques. Essential information assortment assisted with getting new data legitimately from the cell phone application clients, to contemplate their attention to cell phone application, appropriation of cell phone application, utilization example of cell phone application, inclination of cell phone application and fulfillment from utilization of cell phone application. Primary information for this exploration was gathered through self-planned organized survey in both the structure genuine and virtual.

Secondary Data: Through cell phone application business is in its rising stage and a very ongoing event, the investigation has additionally been upheld by optional information which includes academic exploration contemplates, books, articles, diaries, transcripts, white papers, Government what's more, other authority sites and different other information

from dependable sources. Each auxiliary source is referred to any place it is utilized just as in the book index area.

Pilot Study:-

A pilot study was embraced to approve the adequacy of examination instrument, for example self-structured Questionnaire, and to approve the inquiries to inspire right data to respond to the essential exploration questions. The principle goal of leading a pilot study was to get criticism. An example of 18 respondents, reached through overview strategy, was considered as pilot study for this investigation. The reactions got through pilot study were used for making important upgrades in the poll. Survey was additionally deliberately inspected and looked into by research Guide, teachers and examination specialists. Thus, the pilot study guaranteed the unwavering quality and legitimacy of the examination instrument just as the exploration techniques and procedures.

V. HYPOTHESES

Research objectives identified requires to be tested through following hypotheses in order to achieve results:

H₁: Inclination for Smart phone operating system is dependent of segment factors.

H₂: Inclination for Smart phone age group is dependent of segment factors.

H₃: Inclination for Smart phone income group is dependent of segment factors.

H₄: Inclination for Smart phone gender is dependent of segment factors.

H₅: Inclination for Smart phone education is dependent of segment factors.

VI. DATA ANALYSIS

Table 1 shows Operating framework subtleties. It very well may be seen that Android working framework had most noteworthy (61.48%) clients among the respondents, trailed by 21.48%

respondents utilizing iPhone ios. The clients for Blackberry and Windows OS were just (10.37%) and (4.44%) separately. There were just (2.22%) clients of Symbian working framework.

Table 1: Operating System

Operating System	Frequency	Percentage
Android	83	61.48%
iPhone	29	21.48%
Windows	14	10.37%
Blackberry	06	4.44%
Symbian	03	2.22%
total	135	100%

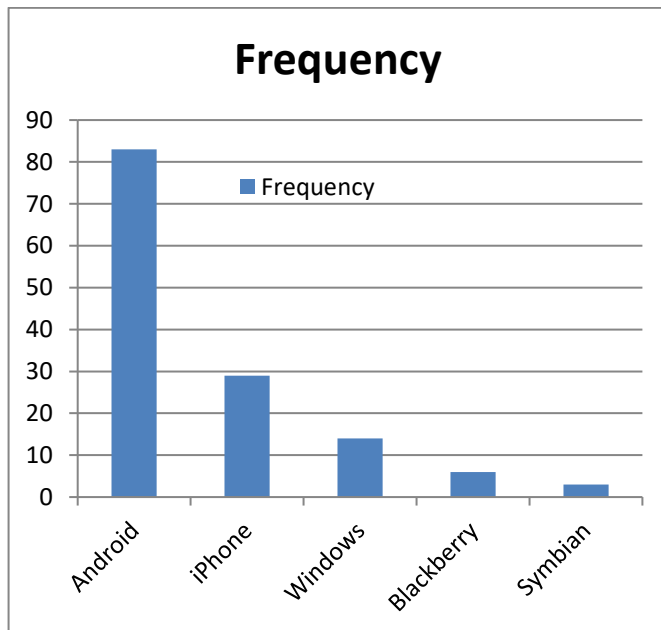


Fig. 1: Graph for Frequency vs Operating System

Table II shows age group. The people’s age groups divide six group which majority 47.40% were belonging to group 15-25 yrs and minimum 1.4% to group 65-75 yrs.

Table II: Age Group

Age Group	Frequency	Percentage
15-25	64	47.40%
25-35	33	24.44%

35-45	21	15.55%
45-55	11	8.14%
55-65	04	2.9%
65-75	02	1.4%
total	135	100%

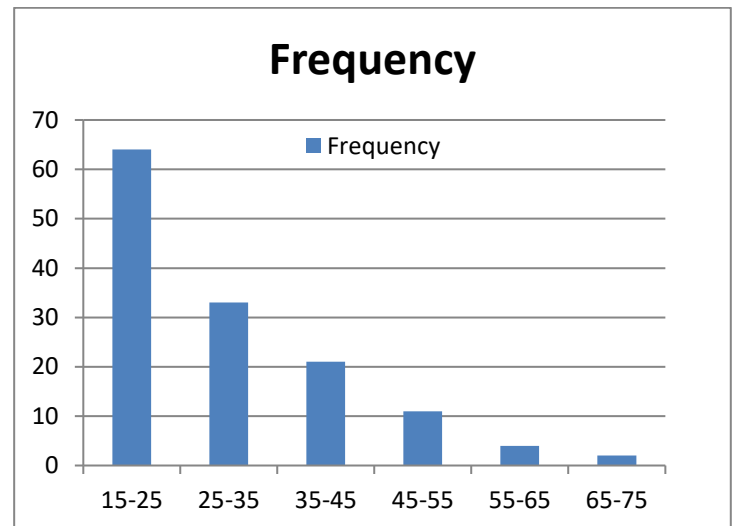


Fig. 2: Graph for Frequency vs Age Group

VII. CONCLUSION

135 people’s data are analysis for operating system, education, income, gender and age group hypotheses. It is clear that 61.48% Android operating system, 47.40% 15-25 age group, 65.18% male, 45.92% below 25000 and 43.70% for graduation respondents. The future aspects of paid smartphone applications download and hypotheses analysis.

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