INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X
Impact factor: 4.295
(Volume3, Issue1)
Available online at: www.ijariit.com

A Statistical study on Network Service Providers in Kashmir

Faizan Danish
Division of statistics and computer science Faculty of basic sciences,skuast-jammu
danishstat@gmail.com

S .E. H. Rizvi
Division of statistics and computer science Faculty of basic sciences,skuast-jammu
sehrizvi_stats@yahoo.co.in

M. Iqbal Jeelani
Division of statistics and computer science Faculty of basic sciences,skuast-jammu
Jeelani.miqbal@gmail.com

Sunali Mahajan
Division of statistics and computer science Faculty of basic sciences,skuast-jammu
Sunali12mahajan@gmail.com

Abstract-Survey methodology studies the sampling of individual from a population and data collection with a view towards making statistical inferences about the population represented by the sample and the constructs represented by the measures. In this paper, data has been collected from different colleges related to network service providers and statistical analysis has been made in MINITAB with many conclusions like the students belonging to rural are more using cell phones rather than urban students. Not only this but also, majority of the students are of the opinion that mobile has a large bad effect on children. The graphical representation has been given with respective contents included in the paper.
Keywords- Sampling Design, Sample Size, Simple Random Sampling, Random Numbers.

INTRODUCTION

An electronic telecommunication device often referred to as a cellular phone or cell phone. Mobile phones connect to a wireless communications network through radio wave or satellite transmissions. Most mobile phones provide voice communications, Short Message Service (SMS), Multimedia Message Service (MMS), and newer phones may also provide internet services such as Web browsing and e-mail. Mobile phones are long range, portable and wireless electronic device of communication. A few years back, when mobile phones were not so common, the device was expensive and communication costs pretty good to the user. But in last few years as the use of mobiles increased, their cost is decreased considerably and this factor helped a lot to make them available for common men. Mobile phones are now inexpensive, easy to use, and comfortable and equipped with almost every latest feature we desire. A mobile network operator or MNO, also known as a wireless service provider, wireless carrier, cellular company, or mobile network carrier, is a provider of wireless communications services that owns or controls all the elements necessary to sell and deliver services to an end user including radio spectrum allocation, wireless network infrastructure, back haul infrastructure, billing, customer care, provisioning computer systems and marketing and repair organizations. In addition to obtaining revenue by offering retail services under its own brand, an MNO may also sell access to network services at wholesale rates to mobile virtual network operators key defining characteristic of a mobile network operator is that a MNO must own or control access to a radio spectrum license from a regulatory or government entity. A second key defining characteristic of an MNO is that an MNO must own or control the elements of the network infrastructure necessary to provide services to subscribers over the licensed spectrum. A mobile network operator typically also has the necessary provisioning, billing and customer care computer systems and the marketing, customer care and engineering organizations needed to sell, deliver and bill for services, however, an MNO can outsource any of these systems or functions and still be considered a mobile network operator. The inventive foundation of mobile cellular technologies was laid about 100 years ago. Wireless voice service was commercialized in the 1940s by AT&T (American telephone & telegram). Japan and Europe's Nordic countries were the first nations to commercialize the 1st generation analogous cellular technologies. First mobile telephone service on non-commercial basis started in India on 48th Independence Day at country's capital Delhi. The first cellular call was made in India on July 31st, 1995 over Modi Telstra's Mobile Net GSM network of Kolkata. Later mobile telephone services are divided into multiple zones known as circles. Competition has caused prices to drop and calls across India are one of the cheapest in the world. Most of operator follows GSM mobile system operate under 900MHz bandwidth few recent players started operating under 1800MHz bandwidth. CDMA operators operate under 800MHz band, they are first to introduce EVDO based high speed wireless data services via USB dongle. In spite of this huge growth Indian telecom sector is hit by severe spectrum crunch, corruption by Indian Govt. officials and financial troubles. In 2008, India entered the 3G arena with the launch of 3G enabled Mobile and Data services by Government owned MTNL and BSNL. Later from November 2010 private operator's started to launch their services. In this paper, survey has been conducted in Kashmir regarding mobile service providers keeping some objectives under consideration.

SURVEY METHODOLOGY

Survey methodology studies the sampling of individual from a population and data collection techniques e.g. questionnaire design with a view towards making statistical inferences about the population represented by the sample and the constructs represented by the measures i.e., survey questions used. Polls about public opinion, public health surveys, market research surveys, government survey and censuses are all examples of quantitative research that use contemporary survey methodology to answers questions about a population. The field work encompasses the survey methodology like questionnaires; interviewers and non response follow up techniques. Surveys provide important information for all kinds of public information and research fields. A single survey is made of at least a sample, method of data collection e.g. a questionnaire and individual questions or items that become data that can be analyzed statistically. A single survey may focus on different types of topics such as preferences, opinions, behavior or factual information, depending on its purpose. Since survey research is almost always based on a sample of the population, the success of research is dependent on the representativeness of the sample with respect to a target population of interest to the researcher. The target population can range from general population of a given country to specific groups of people within that country to a membership list of a professional organization. The most important methodological challenges of a survey methodologist include making decisions on how to identify and select potential sample members, contact sample individual and collect data from those who are hard to reach, evaluate and test questions, select the mode for posing questions and collecting response, train and supervise interviewers, check data files for accuracy and internal consistency, adjust survey estimates to correct for identified Different opinions were put forth by students regarding the theme of the project. The various topics that were given a thought were: child labor, cigarette smoking, Doctor-patient ratio in OPD, mobile networking services, professional/Non professional what's on demand and Human Rights Violation in Kashmir valley. Since our project was restricted among the said topics , mobile networking services came up as the most relevant subject to deal with. In this paper the main emphasis has been given on some objectifies viz.

To estimate the usage of mobile networking services by the students of Kashmir regarding the mobile networking services, to estimate the difference between rural and urban users, to know the usage of the different types of electronic gadgets for using mobile networks by the students of Kashmir regarding the mobile networking services and also to estimate the time they spent on conversation.

Determination of sample size

Total number of samples to be included in the survey was determined by using pilot survey estimate and fixing the desired level of confidence level and permissible deviation by which our estimate may differ from the actual proportion. Since one of the objectives of the survey was to estimate the proportion (p) of students which are network user in the Kashmir. We required that our estimate (p) should lie within 0.03 of the true value and that we used 95% of confidence level. A pilot survey was conducted to provide a rough estimate of p. The value of P was calculated to be 0.94 i.e. 95% of the contacted students told that they were satisfied with the services provided by network system. This rough estimate provided by the pilot survey was used to find the required sample size (n) for our survey. This was done in the following way

$$n \cong \frac{z_{\alpha/2}^2 \, \hat{p}(1-\hat{p})}{e^2}$$

where

$$z_{\alpha/2}^2 = 1.96$$

$$\hat{p}(rough\ estimate\ of\ \ p) = 0.94$$

$$e\ \ (permissible\ \ error) = 0.03$$

Substitute these values in above formula we get

$$n \cong \frac{(1.96)^2 \ 0.94(0.06)}{(0.03)^2} = 240.74$$

We used 301 as sample size for our survey because we increased sample size from 240 to 301 as we know increase in sample size is directly proportional to increase in accuracy. These samples were randomly selected using symmetric sampling.

Main Survey

In the given survey, first of all six colleges were selected randomly from the whole list of colleges from which students were selected at random using R-software from the population frame. The selected samples were then distributed among the group leaders six in all who in turn allotted these samples to other students. Next we framed the questionnaire which covered pros and of mobile networking services. A well designed and tested questionnaire containing as many as 14 questions was provided to the students. On an average, each student had to fill about five questionnaires by locating the selected student in the respective colleges. While enumerating the questionnaires, we received mixed response from the respondents. Few respondents co-operated with us and provided all the relevant information. However only a few of them were somewhat reluctant but somehow, we were able to get the required information. We had to explain the whole procedure and even after illustrating the whole method of sampling they were not able to comprehend it. The whole procedure was time consuming due to unavailability of few respondents at a particular time as the regular classes were going on in the colleges. We had to take a sub-sample for such cases. We managed to complete within the stipulated time.

After collecting the information, the entire field in questionnaires was put to further checking, editing, and data consistency. The responses of the respondents were then coded and tabulated. The data contained in the questionnaire was then transferred on the Excel worksheet for further statistical treatment. Statistical software MINITAB was then used to analyze the data and the required tables were prepared for further analysis and report writing.

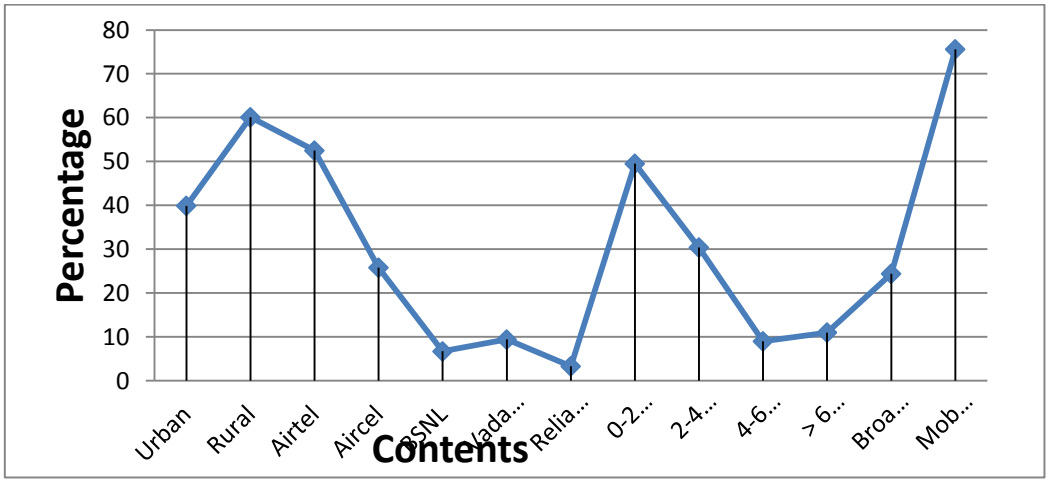
RESULTS

Statistical information was collected through questionnaire on using of network service providers in different colleges of Kashmir concerning students, their attitudes towards using network service for various purposes. The percentage of the male students was 51.5 % while 48.5% of females 0f the total population. From the survey 39.9% of the students were from urban areas while as 60.1% were from rural areas of the total population. It was also observed that 99% of the total students are using mobile phones in which 52.2 % are using Airtel, 26% uses Aircel service,6.6% are BSNL users,9.3 % are Vodafone users,3.3% are Reliance Users while 2.3% takes benefits from other services. 87% of the total population are using mobile for both calling and internet while as 11% use cell phones only for voice calls and 2% of total population use their mobiles for internet only. While analyzing the time students used to spend with phones the percentage were 49.5% students are spending 0-2Hrs. 30.4% students are spending 2-4 hours ,9.0% students are spending 4-6 hours per day and rest of the students that is 11.0% students are spending greater than 6 Hours . 96.3% of the students believe that Mobile phone is really the part and parcel of day today life while as 3.4% believe that mobile phone is the root cause of many problems that we are facing nowadays. The response regarding the same question when asked for children 64.4% students agreed that it is not unsociable for the children while as rest population disagreed with the same question. While the question related to time spend on conversation with phone, 72.6% of the students are spending 0-2Hrs,,2-4Hrs.are spending by 18.7% students on conversation per day,4-6Hrs. were also spending by 4.7% students on conversation per day and there were also 4.0% students who are spending more than 6 Hours on conversation during a day .

CONCLUSION

From the above figures it can be concluded that 99% of the students of are cell phone users and also rural background students are more cell phone users than urban background students. According to the survey conducted, From above results we can say that Airtel network service is dominant to the other network services also most of the students are using cell phones and are using internet services provided by different cellular companies about 92% are using cell phones having internet facility rest are not using cell which has internet facility. About half of the populations are spending (0-2) hours on internet. The majority of students prefer internet service in the Mobile/Smartphone and it can be concluded that the internet facility provided by network providers on Mobile/Smart Phones is more preferable than the broadband services. Students are of the opinion that mobile phone is much more important for their day today life. Also from the survey we can concluded that mobile phones made children unsociable. On an average the time send by the students on conversation is less than two hours per day. Students are more satisfied with Airtel rather than other service providers; also the quality of checking out the problems by cellular companies is satisfactory.

Table I: Graphical Representation Of The Obtained Results Mention Above



REFERENCES

1. M. Goon, M.K. Gupta and B. Das Gupta, *An outline of Statistical Theory*, World Press Private Limited Kolkata, Volume I, 2010.
2. Araujo, Mila, *10 Tips for Non-Profit Social Media Success Business 2 Community 10 Tips for Nonprofit Social Media Success Comments*. N.p., 30 Sept. 2012. Web. 19 Nov. 2012
3. Cahuc, Pierre and François Fontaine.On the Efficiency of Job Search with Social Networks, *Journal of Public Economic Theory*, paper 11.3, 2009, p. 411-39
4. Daroga Singh and F.S. Chaudary, *Theory and Analysis of Sample Survey Designs*, New Age International Publishers 2009.
5. Joosten, Tanya. *Social Media for Educators: Strategies and Best Practices*, San Francisco: Jossey-Bass, 2012

6. Kenneth Partridge., *Social networking*, New York: H.W. Wilson, V. 83, no. 1, 2011.
7. R. Rangaswamy, *A textbook of Agricultural Statistics*, New Age International Publishers, Second Edition 2013.
8. S.C. Gupta. *Fundamentals of Statistics*, Himalaya Publishing House Pvt. Ltd. New Delhi, 2010
9. S.C. Gupta and V.K, Kapoor, *Fundamentals of Mathematical Statistics*, Sultan Chand and Sons, New Delhi, 2009.
10. S.C. Gupta And V.K, Kapoor, *Fundamentals of Applied Statistics*, Sultan Chand and Sons, New Delhi, 2007.

