Mobile phone and internet adoption & consumption patterns of college students in India

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ABSTRACT

The study made here signifies the user patterns of mobile phones and internet usage among the universities in India. For the above mentioned purpose a questionnaire was made comprising a set of related questions which was used for data collection from the selected sampling. The method of data collection and sampling was snowball sampling as the data was collected via internet website and mouth to mouth publicity. The sample consisted of 269 respondents. The conclusion obtained from the analysis state that the college students in India are highly addicted to the use of mobile phones and internet and excessively use the above technological services. Their life now highly depends on phone and internet. Airtel turned up as the favourite service provider while Google Chrome came out as the most famous browser. Many more such results have been retrieved from the following analysis.

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Introduction

The mobile phone and the internet are the most important communication tool and have become an integral part of college life. Indians are increasingly using the mobile phone and internet as a way to keep in touch with friends, family and business associates. College students represent a unique group of people. They have been the frontiers of social changes since the struggle for Independence. Due to recent advancements in science they have become more technology savvy. The way in which they have used the technology has been remarkable.

Engineering has become a popular career option among Indian youth. Engineering students form a large percent of college students. There are over one million engineering seats available throughout India. Number of engineering seats in India has doubled in last five years. This shows the growing popularity of this career option. Engineers are people who have the responsibility to create new innovations and therefore they have a special love for technology. Due to this engineering students have become target audience of almost all major business firms working in this domain. The following research is conducted in a private engineering college to access the mobile and internet usage among the college students.

In 19th century Graham Bell invented first fixed phone which proved to be a revolution in communication industry. Invention of "portable" cell phone proved to be another technological expansion. Researches have shown that 1 billion mobile phone users were accumulated in 20 years after its creation but the growth was so remarkable that it took just another 40 months to get another 1 billion and then after just 2 years total number of mobile phone users reached 3.5 billion mark. At the end of 2010, total number of cell phone subscriptions had reached five billion worldwide. This shows that there has been an exponential growth in use of mobile phone. According to the ITU (October 2010) Cell phone subscription growth is being driven by demand in developing world and this growth is maximum in India and China in particular.

Mobile phones have enabled the youth to make develop new relationships and maintain the existing ones. However every comfort introduced by technological development also brings some hostile impacts along with. Likewise, mobile phone technology has connected the masses in a magical way but its excessive usage has brought many negative implications as well. Addiction to cell phone for calling or texting is most commonly observed disadvantage of cell phones. Increased Stress Level, male infertility, negative effect on environment due to their unsafe disposal etc. are some other disadvantages of mobile phones.

The internet is a worldwide network of computers linked together over giant distances. It was created by the American Military as a technique of communication and has been in existence since the 1950s. Up until the mid to late eighties commercial organizations and educational institutions chiefly used the internet. This was due to high overheads. Due to improvement in technology this cost was reduced to great extent. As a result of this the internet is now more widely available. According to International Telecom Union (ITU) 68.8% of world population had access to internet by 2010. However percentage of Internet users in India by 2010 was estimated to be 7.5% by ITU. The internet is now available to a large population and has become a major tool for research, entertainment, communication and business.

The Internet is a valuable resource for students. It is full of information and can be used by students to get for ideas for projects and assignments. There are over fifty million websites available on World Wide Web that is loaded with useful information. It is very easy to find any information over the Internet with the help of search engines. It also serves as a useful tool to stay in touch with old friends through social networking sites. Pew Internet & American Life Project says that 87% of US teens aged 12-17 now use the internet. Thus Internet as become

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popular among youth. In India as well most educational institutes provide internet access to their students. Kumar and Kaur (2006) surveyed 792 teachers and 1,188 engineering students in India, and concluded that the Internet is an important tool for teaching, research, and learning.

As already discussed Engineering colleges are playing an important role in creating technical professionals. These engineers require accurate and latest information in their fields. Due to the high cost of engineering information resources, developing countries can't provide such resources to them with ease. However due the Internet these students can now access such information at very low cost. The Internet is an integral part of today's engineering educational system. Most engineering colleges provide free or cheap internet access to their students. Such study is important to access the extent to which students are using such facilities provided to them.

Although there may be many advantages to be gained from using the Internet there are also many drawbacks. Internet users especially teenagers are often addicted to it. Social Networking sites often have privacy loopholes. There are number of fraud websites which bank frauds. Presence of such websites has made online transactions unsafe. Since anyone can start a website and publish information therefore it is tough to segregate accurate and inaccurate information this is another major disadvantage of internet.

Literature Review

In review of literature it was found that there will be nearly more than 5 billion cellular subscriptions worldwide by the end of 2010 (ITU, 2010). According to TRAI (2009-10) India had nearly 584.3 million wireless subscribers and Bharti Airtel group is most popular wireless service provider.

The majority of mobile phone users started using it when they were 10-18 years old (Ishfaq and Tehmina, 2011).It has been found in a study that youth desperately want to be in contact with their friends (Ito, 2006). In a study conducted by MACRO(2004) it was found that primary usage of cell phone among teenagers and youth is to keep in touch with friends and to call up their family members. These findings are consistent with the study conducted in mid western university among college students by Mikiyasu and Shotaro (2011). In the same research it was found that most respondent aged 20 and under use cell phone as a medium to strengthen their existing friendship.

Older people are passive users of mobile phone technology as they face suspicion in getting familiar with new trends and gadgets (Kurniawan, 2008).

According to Hopeton and Leith many respondents use phones as camera and alarm clock and to play games. The tendency to use mobile for more than one purpose was more among younger people.

In Malaysia, at an average students use their phone for 6 hours daily and spend USD 18.7 monthly on their mobiles and text message is the most commonly used feature among them. (Sheereen and Rozumah, 2009). In same study it was found that more than half students preferred using SMSs than making calls. It has been found that students generally have habit of using cell phone while college lectures (Srivastava, 2005).

More than 1.6 billion people had Internet access at their homes by 2010 (ITU, 2010).According to TRAI (2009-10) there were 16.18 million internet users in India till March 2010.

Study conducted by Internet & Mobile Association of India (2011) shows that more than 75% of Internet users are young men including school and college going students. Among Internet users 89% use it to access emails, 71% use it for social networking, 64% use it for educational purpose and 55% use it for chatting. 87% of Internet using population uses it at least once a week.

Computer and Internet use by students generally begins at an early age (Matthew and Chris, 2006).In Parent-Teen Cell Phone Survey, sponsored by the Pew Internet and American Life Project it was found that 73% of American Internet teenager access social networking sites and 48% of them shop online. Same study showed that 63% of teens go online every day and among them 36% go online several times a day while 27% go online once a day.

79% of Internet using students agreed that internet had a positive impact on their academic experience. Primary use of Internet among college users was communication and just 10% of them use it primarily for entertainment (Steve et al., 2002). There is significant difference in academic performance of students who use Internet from those who don't. Students who use Internet were found to perform better in academics. (O. Osunade, 2003). Most students use combination of their own idea and Internet resources instead of directly using Internet resources (Yasar, Sabah and Tuncay, 2010).

Many researchers have also emphasized on harmful and problematic aspects of using Internet. Results from the survey conducted by Timothy (2001) have established that many users regularly participate in controversial aspects of the Internet including pornography, cheating on assignments etc.

In "A Study to Determine the Correlation of Social Media Usage and Grades" it was found that the most used social networking site among college students is facebook. Almost all Internet users of 18-19 years age group use social networking sites and have more than 200 social networking friends. Students use these networks mainly for social reasons and entertainment. About a quarter of them use social media for educational reasons, and 16 percent for professional reasons.

Average student is reported to spend around 2-117 minutes per weekday on facebook (T.A. Pempek et al., 2009).

Most of the college going students uses social networking sites to maintain existing friendship rather than to make new friends (Ellison et al., 2007).

Objective

The present study will reveal information on the patterns and levels of usage on mobile phones, SMS packs and internet pack amongst university students as well as their related factors. Additionally, the study will provide the usage of the internet pack, SMS packs and much more information about the way the people use it in term of entertainment etc. From this study the Government and policy makers may find the information which would be useful in their planning of procedures and programs for young technology users. . Findings of the survey will also be useful for different business firms and with its help they can make plans and provide services that are beneficial for college students. The study may shed light on the importance of appropriate use of technology and providing guidance particularly to the technology savvy youth towards reaping the advantage of the technology for their positive development.

Research methodology

This study identifies trends of internet and mobile usage among college students. Study was conducted among engineering students of Vellore Institute of Technology, Vellore, India. Total sample size was 269.

We used the internet medium for our survey by publishing the site under the name of http://vittrends.blogspot.com . By computerizing the process of data collection we were able to get rid of the data entry work and any errors that may occur due to it. We asked students with whom we had acquaintance and gained contact of more students through them. Thus snowball sampling method was used for survey. By using this methodology we were able to quickly get desired number of participants for the survey.

Major part of questionnaire is designed by us. Questionnaire consisted of twenty questions. Thirteen of them were related to mobile phone usage whereas remaining seven questions were focused to analyze the general Internet usage among college students. Collected data was analyzed using MS. Excel 2007.
Analysis

A detailed survey enquiring the mobile service providers used by the students revealed that 40% of the students use Airtel followed by 62 students who use Vodafone (19%), 58 students (18%) use Docomo. The other commonly used service providers are Reliance, Idea, BSNL used by 25, 24 and 12 people respectively. Out of the remaining students 3% use Aircel and 1% use Uninor. 36 students (13.4%) owned more than one SIM card. Tendency to use more than one SIM card is more in male students. Out of 36 students who use more than one SIM card just 4 were females.


Fig. - 1
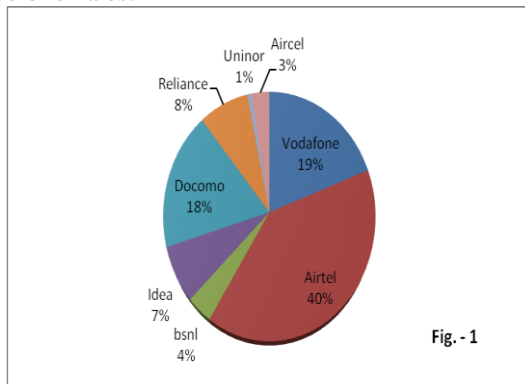
Out of the sample population of 269 students, 221 students (82.2%) use SMS. Girls were found keener in using SMS packs. 46 girls out of 50 girls (92%) while just 145 out of 219 boys (66.2%) reported that they use SMS packs.165 students (75%) have SMS packs costs ranging from INR 20-40, 10% of the students had charges exceeding INR 60,20 students have SMS packs charging INR 40-60,the remaining 6% students have SMS packs costing less than INR 20.


fig.-2
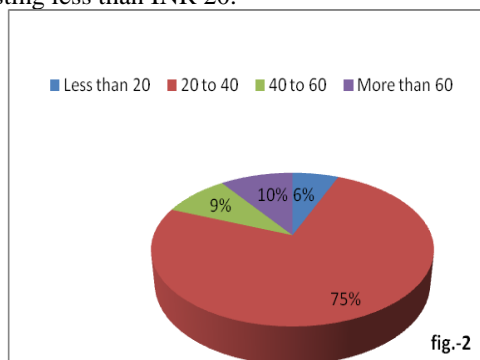
Only about 10% if the students sent more than 200 SMS messages per day, a total of 26 students comprising of 20 boys and 6 girls.30% of the students sent 50-100 messages, with 65 boys and 16 girls, but surprisingly, the percentage of girl population belonging to this segment is greater than the boys,

whereas, as much as 42% of students sent less than 50 messages. About 18% of the total students sent 100-200 SMS messages per day. Fig.- 3 shows these result graphically. Fig.- 4 shows the result of the question among girls while fig.-6 shows the same among boys who participated in the survey.


fig. - 3

fig.- 4

fig.-5
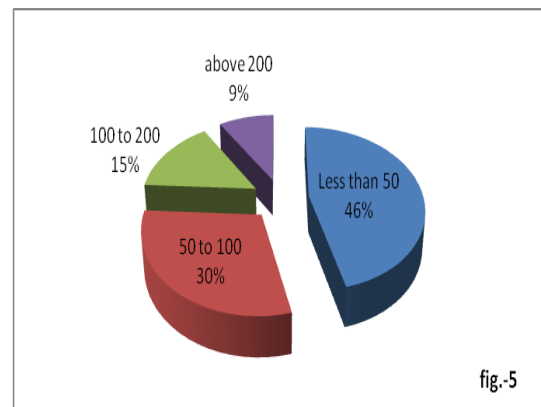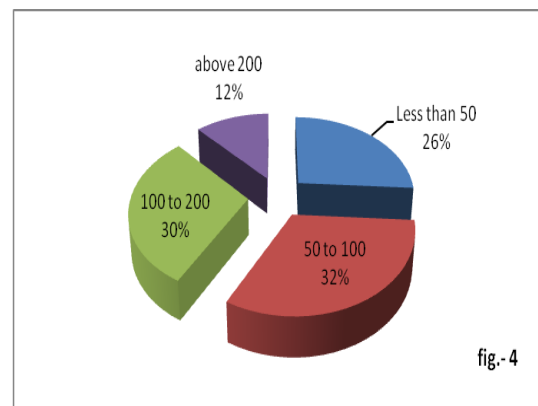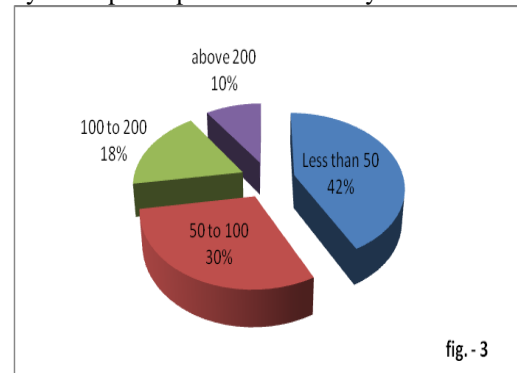
107 students(40%) receive less than 50 SMS messages From the above data we have devised that 32% of the people receive 50-100 messages, only 18% of the students send 100-200 messages, the remaining 10% population comprising of 27 students receive more than 200 messages per day. Fig. -6 show these results graphically.


fig.-6
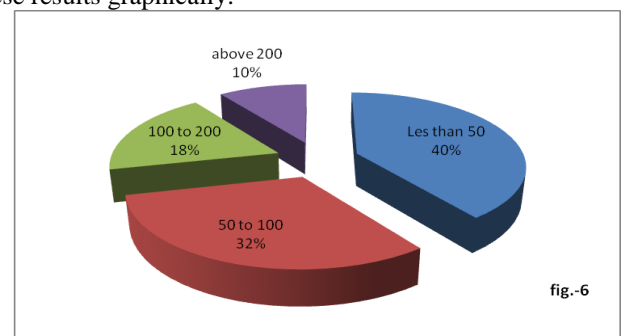
Borda count method was used to analyse the purpose for which students use SMS. It was found that chatting was the most common reason for sending SMS. Next main reason for sending SMS was to seek some information. 3rd main reason for sending SMS was found to be forwarding while least preferred reason among students to send SMS was business.

Through the survey and the data collected, it can be seen that 19% of the students are highly satisfied with their SMS plan, 68% of the students find their SMS plan to be mediocre and are only satisfied, whereas 13% of the students are unhappy with their SMS packs. These results have been explained graphically in figure7.


fig 7
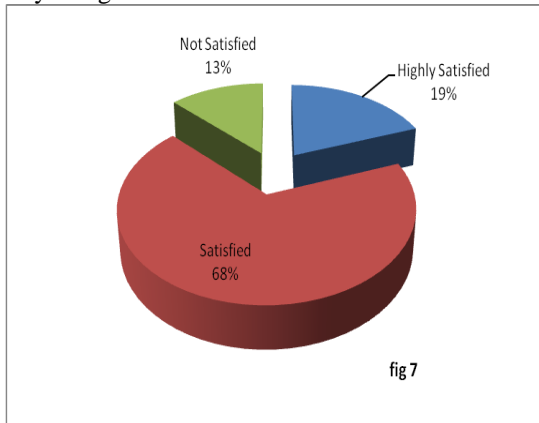
From the data gathered it was found that per second pulse rates are most preferred among students. 59% of the students use per second plans, followed by 37% students who are charged at per minute pulse rate, and finally 4% of the students have their call pulse rate as per 3 minutes. These results have been explained graphically in fig 8.


fig 8
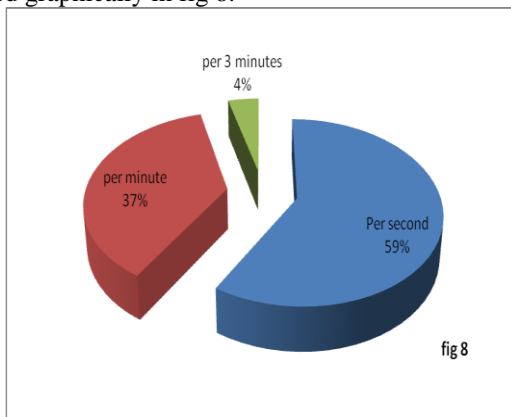
After the survey, from the data we inferred that 46% of the students had their last call duration from 1-5 minutes, followed by the 19% students whose last calls were less than a minute, whereas only 17% of the students had calls lasting more than 10 minutes.18% students of the sample had their last call ranging from 5-10 minutes, which constitutes only 18% of the total students. These results have been explained graphically in fig 9.

When asked to tell the reason for their last call, 87% of the students reported that it was for personal purposes that included calls to family and friends; whereas only 9% have made their last call for academic purpose for it.1% of the sample had made their last call for business activity and the remaining 3 % had made their last call for some other purposes. These results are shown graphically in fig. 10

fig 9

fig. 10
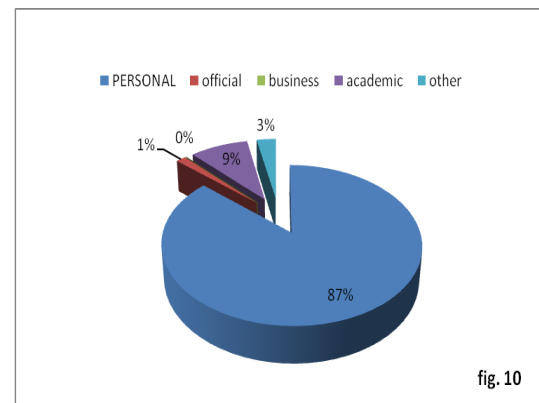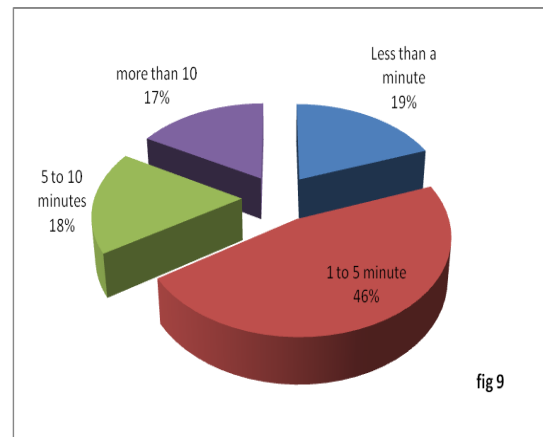
When we questioned about monthly call expenditure of students, the data showed that 45% of the students had bills ranging between INR 100 and 300, whereas only 29 students i.e. 11% of students had mobile phone bills above INR 500.Also, 24% of the students were spend between INR 300 and 500 and only 20% of the sample had its below INR 100. These results have been explained graphically in fig 11.

fig 11
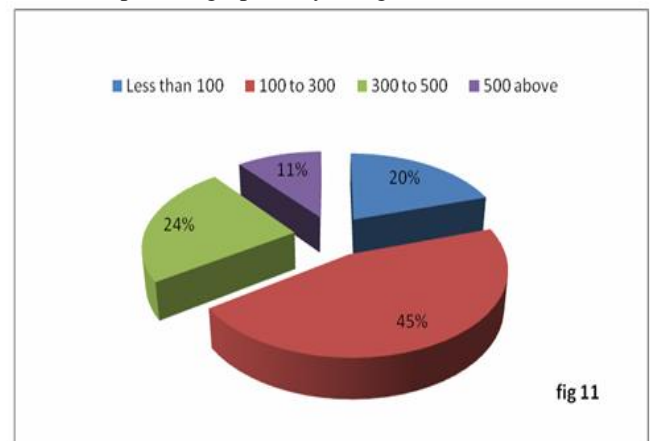
More than half (52.79%) of college students have used internet to send free SMS. 78% of the students (111 students) used primarily way2sms to send SMS text messages over the internet, followed by 23 people using 160by2 constituting 16% of the students, and lastly by a whooping low 2% who use Indiyarocks primarily. 4% students use some other website as a mean of sending SMS text messages through internet. These results have been explained graphically in fig 12.

fig. 12
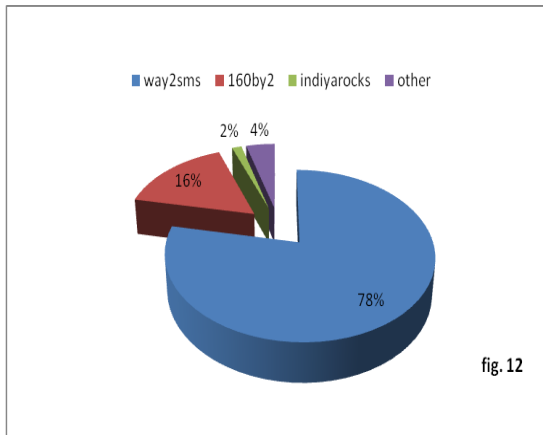
Borda count method was used to analyse the purpose for which students use Internet. It was found that social networking was the most common reason for Internet use. Next main reason for using internet was entertainment. 3rd main reason for internet use was found to be communication. Academic was 4th main reason for internet use. Communication was 5th main reason while least preferred reason among students to use Internet was found to be banking and transactions.

Social networking was found to be one of the most popular activities among students. Every student had an account in one or the other social networking website. When asked "social networking sites on which you have an account" it was found that Facebook is most popular choice for social network. Another remarkable fact was growing popularity of Google Plus. It was found that most people (53.5%) now own an account at this newly created social network. Fig. 13 graphically shows number of students that are present in each social network out of total sample size of 269.
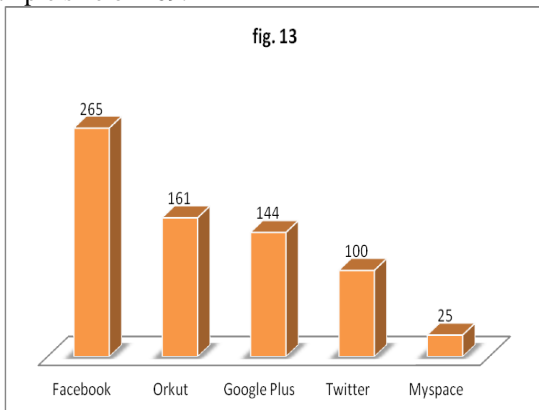

fig. 13

Fig. 1 displays the data related to primary mailing service providers among college students. From the data collected it is evident that Gmail is the most widely spread service provider with a count of 198 out of the sample population of 269 students use Gmail as primary mail service provider .Gmail with its 74% users is followed by yahoo with its 55 users. Only 4 % of the students prefer Hotmail, followed by the decreasing 2% of rediffmail. However one of the students uses some other service provider which is not mentioned above. These results have been graphically shown in fig 14.

48% of the students spend more than 2 hours per day at the internet, followed by 90 students(33%) who spend 1-2 hours per day, whereas only 19% students spend less than 1 hour per day at the internet. These results have been graphically shown in fig 15.

fig. 14
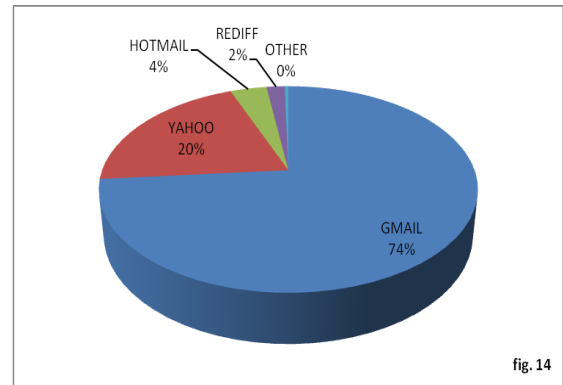
The most used browser is Google Chrome used by 181 students (67%). The next preferred browser is Mozilla Firefox, 20% of the people use Firefox primarily. Internet Explorer occupies the third position with 29 students (11%) using it, 3 students (1%) were found to use safari. The remaining 1% used Opera (2 students).These results have been graphically explained in fig 16.

fig. 16
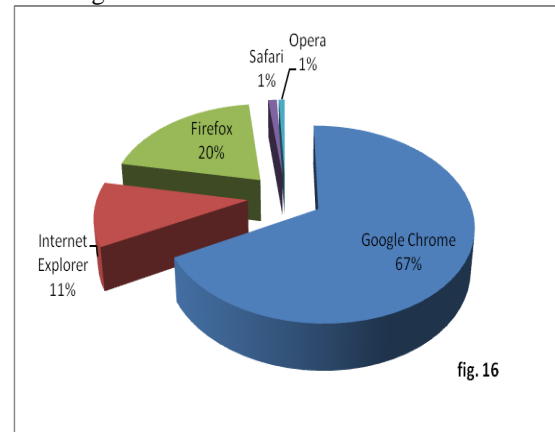
Conclusions

Suggest that Bharti Airtel is the most popular telecom operator among college students. Majority of students use SMS packs and tendency to use SMS pack is more in girls. SMS packs of cost 20-40 are most common among students. Most of them are Findings satisfied with their SMS plans. Nearly three forth students send and receive less than hundred SMS per day. Chatting is most common reason for sending SMS. Per second pulse rates are most preferred among students. Most common reason for call was found to be personal and calls were usually directed to friends and family. Majority of them spend INR 100-300 on their mobile bills. More than half of college students have used internet to send free SMS and way2sms is most popular site for sending SMS through Internet. Social networking was found to be the primary reason for Internet use. Gmail emerged as most commonly used email provider. Nearly half of the total students surveyed said that they spend more than 2 hours daily on Internet. Google chrome emerged as most popular web browser among college students.

Limitations and suggestions

• Survey was conducted within a sample size of less than 300 people which in case is a small sample size for a survey of high level analysis.

• The survey only extended through one university which is a big drawback as results may differ from university to university.

• The survey was conducted in a university which provides free internet to its students which may affect the results of the questionnaires related to internet usage.

• Survey was conducted before TRAI's restriction of 200 SMS per day.

• Just 50 of the total 269 participants were female therefore gender ratio was not proper.

• Snowball sampling used for this analysis in some cases, could produce inaccurate results.

• Survey should be conducted with a larger sample size in a wider range of area.

• Different sampling and data collection methods could be used for more accurate results.

• It is suggested that similar analysis should be done with a larger sample size.

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