

# Improving Protection and Security Awareness Amongst Home User

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**Abstract.** The growth of the Internet brings threats to the end user, which affects the home users more severely. The result from the different surveys shows that these vulnerabilities affect home user very badly. As strong security, controls have been implemented in businesses to minimize losses, hackers and fraudsters have moved their attention towards end users, which are normally easier prey. The increase in the need of security amongst end users is an important task of the today. A small security survey has been conducted to get an overview of the user's perception about Internet security and their knowledge. Some suggestions are also given which would help to create awareness about Internet security in home users.

**Keywords:** Internet Security, Security Awareness.

## 1. Introduction

IT security is the most demanding field of information technology which needs most attention at all times. As seen from statistics of previous years, that industry has faced huge amount in losses because of inadequate security. (Esther, 2007) The use of Internet is the necessity of every one these days. People use Internet to access their banks to maintain their accounts or for shopping or paying bills. As a facility, Internet is helping the people to save their precious time but on other hand it also allows the fraudsters and hackers to get into their system. It also opens a door for the white-collar crimes, but this fraud can be tackled very easily by using security practices. However, the necessity is that home users must be aware with these security practices. Like the use of proper passwords, proper antivirus etc. The use of good security practices helps the user to make the Internet world a safe and better place for them.

## 2. Lack of IT security awareness

	Get Safe Online	McAfee-AOL	AOL-NCSA	Australian Home Users Security	ISBS 2008	Peter Bryant
Anti-Virus	83%	87%	83%	94%	-	93%
Firewall	78%	73%	37%	86%	97%	87%
Anti-Spyware	-	70%	47%	80%	98%	77%
Anti-spam	-	61%	62%	72%	-	60%
Anti-phishing	-	27%	-	42%	-	-

Table 1: Use of defendant software

The above statistics are taken from different surveys and shows the trend of using defendant surveys. However, they are still threats and still affecting the end users cause's losses but if seen from the figure of CSI show that attacks of viruses have significantly decreased they were 68% in 2006 but in 2007 they are not more than 52%. This means that the need for security is still increasing. As businesses, utilizing different security measures to decrease, their losses the fraudsters and hackers are moving their attention towards home users that are the easiest prey for them.

## 3. Analysis and Discussion

The survey starts with the question of gender specification. The purpose of this question is to find out how many male and female are really involved in using Internet and what is their point of view regarding security.

The total number of respondents is 153 that include both male and female. The percentage of the female respondents is a bit low i.e. 32% of the all respondents The age factor is also an important part because there are 50% of the users who declared that they are over 25. The percentage of students who lies in between 18- 25 is about 48%, while only 2% of them have declared that they are under 18. The interesting issue is that those who declared that they are under 18 are females. 65% of females are in between age group of 18 to 25. In addition to that, those who declared themselves above 25 are about 31%.

The results from the previously held survey show that awareness about the existence of virus have increased. The results of McAfee- NCSA show that 54% of users are aware of the existence of virus and the figures from AOL-NCSA

survey is very close i.e. 55%. The results of ISAS-KAM show that 78% of users are aware with viruses. It shows that awareness about the viruses has increased but we have to keep in mind that survey was conducted amongst the high tech people since most of the participants belong to post graduate studies.

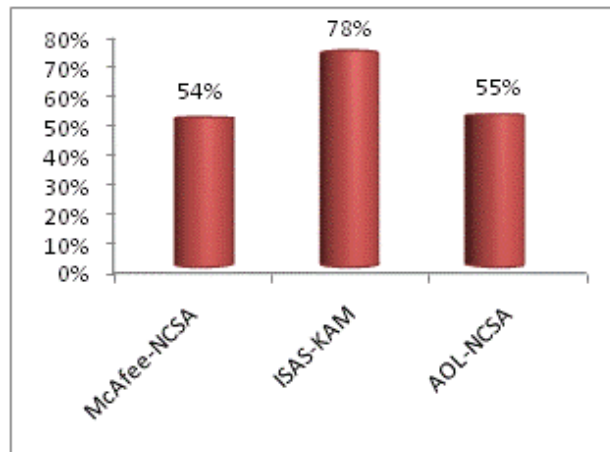


Figure 1: Awareness of users about viruses

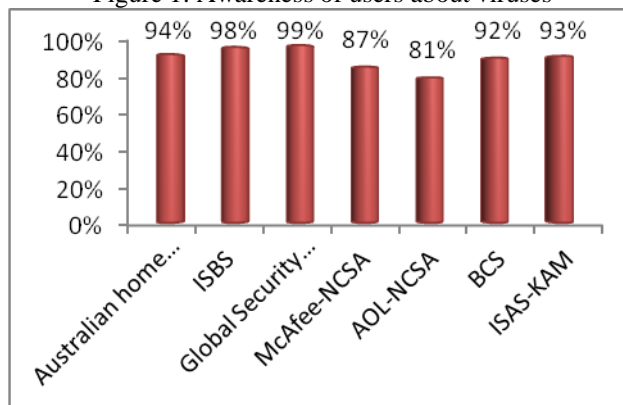


Figure 2: Use of Antivirus

The above figure shows that use of antivirus amongst the user is quite high but there is still the need to enhance the awareness about use of antivirus amongst the users. Global security survey says that 99% of users are using antivirus. Australian Home User Computer Security survey says that 94% of users use antivirus. The results from ISAS-KAM also not very different, they stay on 93%. The results from British Computer Society survey show that 92% of users are using antivirus to protect their systems. Figures of ISBS tell us the same stories that use of antivirus is high that is 98%. However McAfee and AOL figures are slightly lower than other surveys. They are respectively at 87% and 81%.

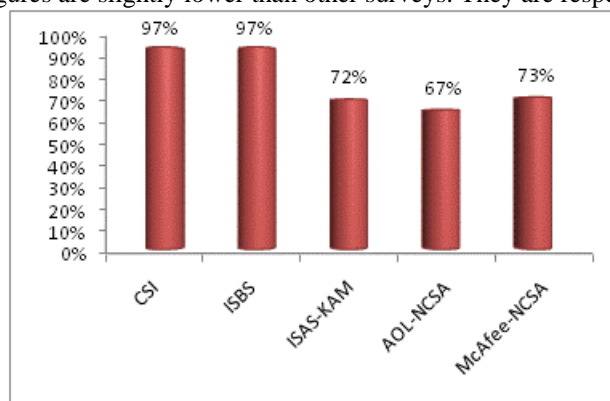


Figure 3: Use of firewall

CSI says that 97% of the users are using firewall in their systems these figures are similar to ISBS which revealed the same figures. However, they are from big businesses that show the businesses are using firewall for their security. While results of the survey shows that 72% of users are using firewall in their system these figures are not far behind from McAfee-NCSA which says that 73% of users are using firewall. AOL-NCSA says that only 67% of users are using firewall.

As growth of Internet increases, the uses of new technologies are also increasing. People are likely to adopt new changes and using the available facilities. Connecting their system through wireless network is advancement of new era. Hot spots are making their own wireless home networks, which is now very common. When users were asked that how they connect to Internet through wireless connection or through wired connection, 79% of users said that they connect

to Internet through wire. Only 21% of users said that they do not connect to Internet through wireless. As this facility is being utilized by a lot of the users so in case if any intruder try to enter in to the network that is not properly configured, a huge number of networks and users could be at risk.

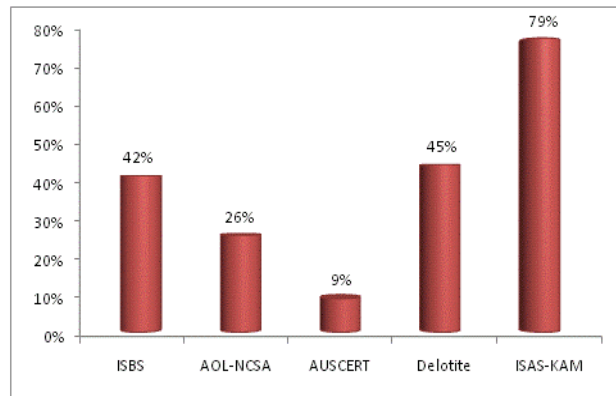


Figure 4: Users using wireless connection

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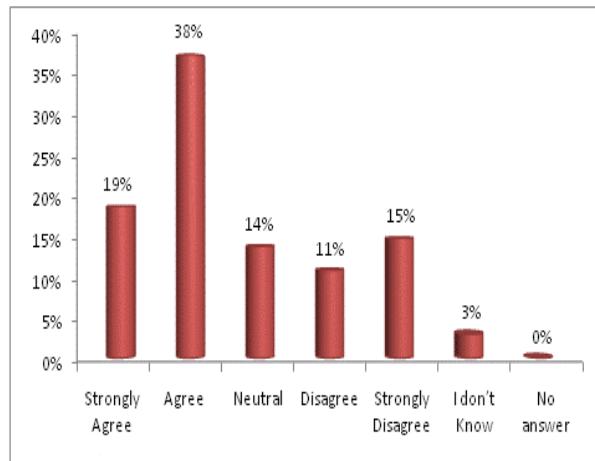


Figure 5: I disclose my bank/card details on online transactions

Online shopping has always been threat for home users. Fake web sites try to get user information for illegitimate purposes. According to Get safe online 18% of users will not shop online due to fear of online crime. In a survey conducted by British Computer Society, it was found that 8% of users claimed that they have been a victim of online crime fraud.

When participants are asked about giving personal information on online transactions, 19% strongly agreed that they prefer to give their bankcard details for online transactions. 38% of users agreed that they give their card details in online transactions, 14% of participants are neutral on this. While 15% strongly disagree as they said they never disclosed their bank details for online transactions. 3% of participants do not know about that whether they use bank details in on line transactions or not. 11% of the users disagree with that they use their bank details for online transactions.

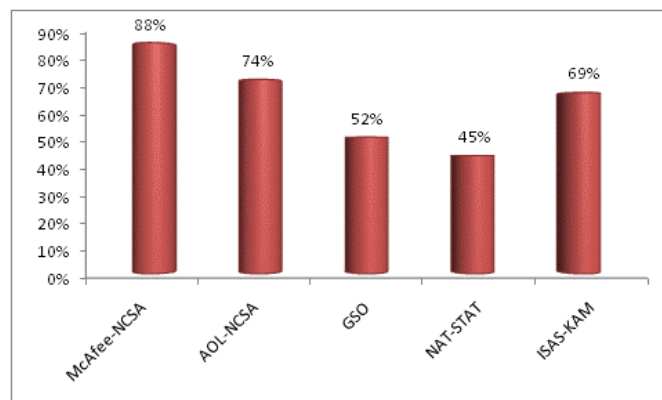


Figure 6: Use of online Banking

While comparing these figures from the other available survey they have different results for using use of online banking. Figures from McAfee are quite high they say that 88% of users are using online banking. AOL-NCSA says that 74% of users using online banking. Figures from get safe online and NAT-STAT are quite low they 52% and 45% respectively. The differences in the result of the survey could be of several reasons people are not happy with online banking. They are not using because fear of Internet threats. The figures of ISAS-KAM are quite good. Eventually they are from high tech users but still there are few who not using online banking due to online fraud threats.

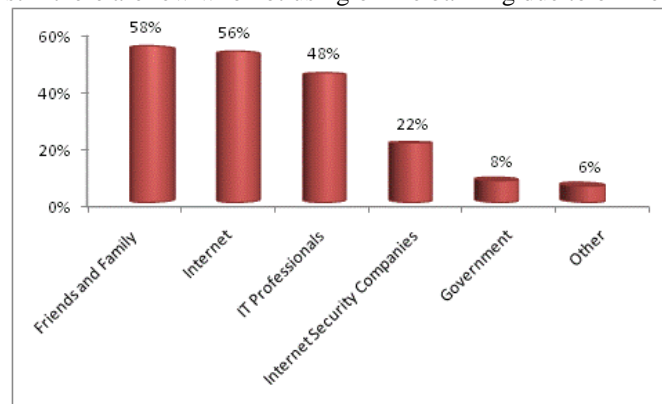


Figure 7: Who is the source of your online security advice?

Media is playing a vital role in security awareness. It is clear from the results that awareness of computer crime amongst the respondents is high and it can be suggested that the media has played a significant role in this (Dowland et al, 1999). When participants were asked about the usual source of security advice, 58% of users said that they got advice from friends and family. 56% of user said that they got advice from Internet web sites. IT professionals are doing a very good job on that and they always do researches and try to find out the new ways to get good security advices. 48% of users say that they get advice from them. Internet security companies are also very helpful in promoting security features, 22% of users get advice from them. Government is also performing its job in terms of security, they always inform about the new threats and new security advices time to time. 8% believed that they are getting advice from sources of Government. 6% of the users say that they are getting advice from other sources like computer magazines, online help etc.

#### 4. Conclusions

This is the requirement of the day to improve security awareness amongst the users. As it is, clear from the aim of this project, which tried to find out the perception of security amongst student of Plymouth University. Many articles are available on the Internet who mainly informs user about the security but the results shows that still there is a need to do more work in terms of security.

There is a need to concentrate on the user who belong undergraduate courses because the lack of awareness has found amongst them. It is interesting to see that among all users, a decent ratio is following security policies and love to implement them on their daily routines but some are still in dark ages that do not bother to change their habits.

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