PRE AND POST BEHAVIORAL STUDY OF STUDENTS REGARDING e-COMMERCE AND CYBER SECURITY

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Abstract: The development of Information and Communication Technology (ICT) represents an important part of the society .e-commerce plays significant role in our day to day activities. So the security on web is a prime concern as commercial transaction takes place on net.UGC also has recommended introducing cyber security as a subject for undergraduate students. The paper focuses on the security of web and students' perception before and after acquiring knowledge of cyber security.

Keywords: HTTP, SSL, VERIFIED BY VISA, EDI, B2B, B2C, C2C, C2G

INTRODUCTION

The development of ICT creates borderless world .e-commerce gives opportunities to do transactions and business on net. E-commerce was originally conceived to describe the process of conducting business transactions electronically using technology from Electronic Data Interchange (EDI) and Electronic Funds transfer (EFT).These technologies, which first appeared in the late 1970's, allowed the exchange of information and the execution of electronic transactions between business, typically in the form of electronic purchase orders and invoices. EDI and EFT were the enabling technologies that laid the groundwork for what we now know as E-commerce. E-commerce - Commercial transaction occur over internet using mobile, computer or any electronic gadget where buying/selling process or asking/providing services, done electronically is called e-commerce. Michael Aldrich demonstrates the first online shopping system.[1]

TRANSACTION ON NET

There are various types of business transactions done on internet which helps in re-engineering the process and advantages.

Business 2 Business (B2B):

B2B means, transaction between businesses. For example car manufacturing organization asks tyre manufacturing organization to provide the same.

Business 2 Customer (B2C):

B2C means, customer goes to particular website, select a product and purchases online or ask for services.
exp www.homeshop18.com.

Customer to Customer (C2C):

C2C means the person sales his own product used/not used through the commercial website that provides this type of services. e.g. www.quickr.com

Business to Government (B2G):

This type of transaction helps organization to view government policies electronically as well as submit tender and other necessary information related to tax etc.

SECURITY ON WEB

Https

Hypertext Transfer Protocol Secure (HTTPS) is a communications protocol for secure communication over a computer network, with especially wide deployment on the Internet. Technically, it is not a protocol in and of itself; rather, it is the result of simply layering the Hypertext Transfer Protocol (HTTP) on top of the SSL/TLS protocol, thus adding the security capabilities of SSL/TLS to standard HTTP communications. The security of HTTPS is therefore that of the underlying TLS, which uses long term public and secret keys to exchange a short term session key to encrypt the data flow between client and server. An important property in this context is perfect forward secrecy (PFS), so the short term session key cannot be derived from the long term asymmetric secret key; however, PFS is not widely adopted.[2]

SSL:

Secure Sockets Layer (SSL), are cryptographic protocols which are designed to provide communication security over the Internet.[3] They use X.509 certificates and hence asymmetric cryptography to assure the counterparty with whom they are communicating, and to exchange a symmetric key. This session key is then used to encrypt data flowing between the parties. This allows for data/message confidentiality and message authentication codes for message integrity and as a by-product, message authentication. Several versions of the protocols are in widespread use in applications such as web browsing, electronic mail, Internet faxing, instant messaging, and voice-over-IP (VoIP). An important property in this context is forward secrecy, so the short term session key cannot be derived from the long term asymmetric secret key.[2]

One Time Password:

A one-time password (OTP) is a password that is valid for only one login session or transaction. OTPs avoid a number of shortcomings that are associated with traditional (static) passwords. The most important shortcoming that is addressed by OTPs is that, in contrast to static passwords, they are not vulnerable to replay attacks. This means that a potential intruder who manages to record an OTP that was

already used to log into a service or to conduct a transaction will not be able to abuse it, since it will be no longer valid. On the downside, OTPs are difficult for human beings to memorize. Therefore they require additional technology to work. In some mathematical algorithm schemes, it is possible for the user to provide the server with a static key for use as an encryption key, by only sending a one-time password.[4].Reserve bank of India also provides guideline for online banking [5].

Verification By Visa And Verification By Master:

Verified by Visa / MasterCard Secure Code is an easy and secure online payment service from HDFC Bank[6] that enhances the security of any online purchase that you make. With this service, you are protected against any unauthorized purchases from your Credit / Debit card even before it happens. All you have to do it confirm your identity with a unique password for every online purchase. Also, you can be reassured of the authenticity of the online store with the help of a personal assurance message.

SCOPE OF STUDY

The area of research emphasize on students of third year bachelor of computer application of Naran Lala College of Professional and Applied Sciences, Navsari. This study focuses on the student awareness regarding security on web before and after getting knowledge of e-commerce and cyber security.

Sample Size and structure

The survey was conducted using questionnaire method. The sample size of 120 respondents has been selected as it represents the population in an appropriate manner. Primary data has been used and information is gathered by a detailed questionnaire to know about the preferences of students of Naranlala College of Professional and Applied Sciences, Navsari.

Demographic profile:

Gender:

The survey revealed that out of 126 students, 46 students were Male and 74 students were Female.

AGE:

All the students were between the ages of 17 to 21 years

Education:

All the students belonged to the undergraduate level of computer application.

DATA ANALYSIS

Most of the students are aware of e-commerce but not the use of it. Whereas 35% are aware and use the e-commerce. While, 20% are not aware of it.
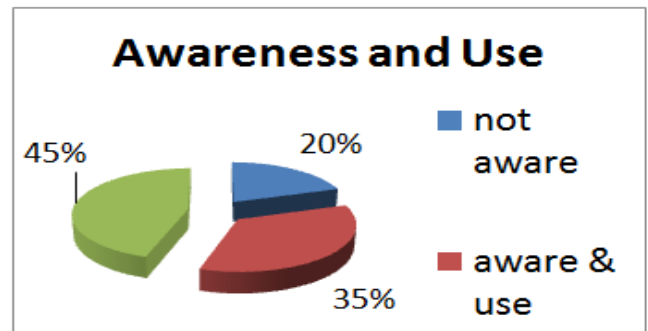
Awareness of E-Commerce:

Figure.1 Awareness and Use

Transaction Type:

Most of the student are just using e-commerce website to purchase the product online and their selection of transaction type is Cash on Delivery .85% of students preferring COD options. The reasons for it are that they don't have the credit/debit card as well as there is a myth regarding COD that once product is received & check it then pay for it.
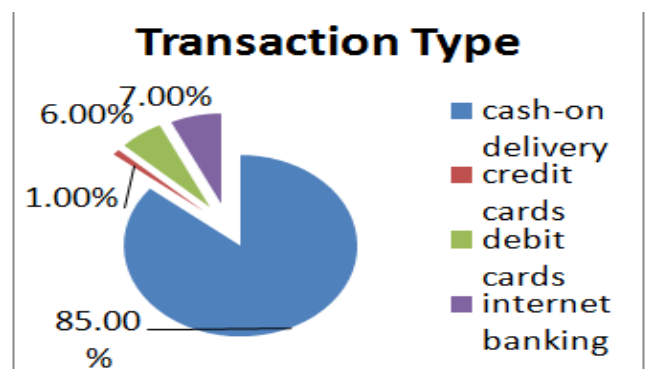

Figure.2 Transaction Type

Security Awareness:

Majority of students (fig 3), (99%) are not aware of RBI guidelines regarding security on web. After getting the knowledge this scenario is change. Students are not using any other facility like utility payment, train ticket booking because they are worried regarding security on web and have fear for it. Only 1% of students are not worried regarding security threats.
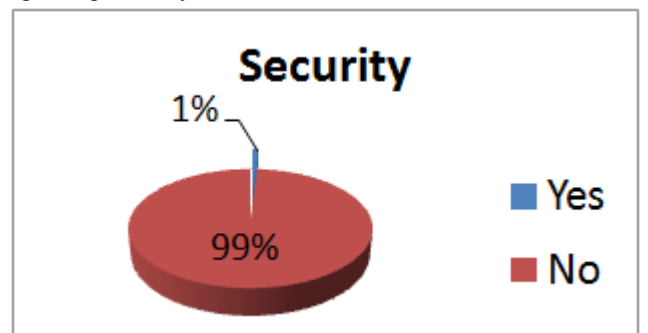

Figure.3 Security Guidelines

Awareness Of Vbv And Vbm

As can be seen in figure (4), (80%) of students don't have knowledge regarding verification by visa and verification by master card and internet banking facility which are used to avoid online fraud.
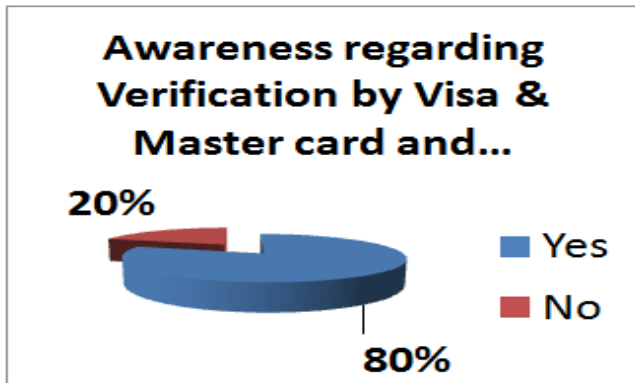
Figure.4 Awareness regarding Verification by Visa & Master card and Internet banking

Perception After The Knowledge Acquired:

The data in following (figure 5) are based on the fact that after getting the practical demonstration regarding VbV and VbM and RBI guideline, their mindset is changed regarding online security.
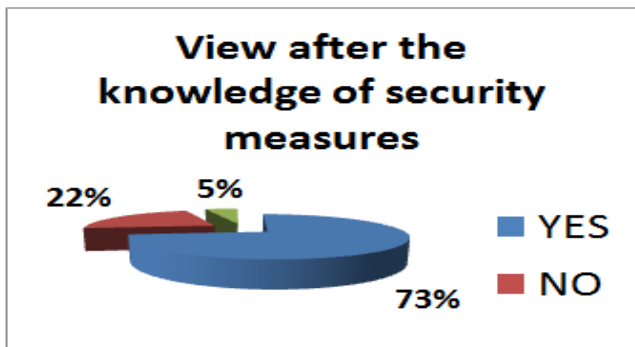

Figure.5 After knowledge of security measures

As can be seen from the above chart, approximately 73% of students changed their mind set regarding VbV & VbM to move from COD option to online transaction as well as pay utility bills and use other online services.

Spread Awareness:

As a good citizen, they are ready to give guidance to their parents and neighbors regarding online security. Following data representation shows that 88% students will willingly share the knowledge to others.
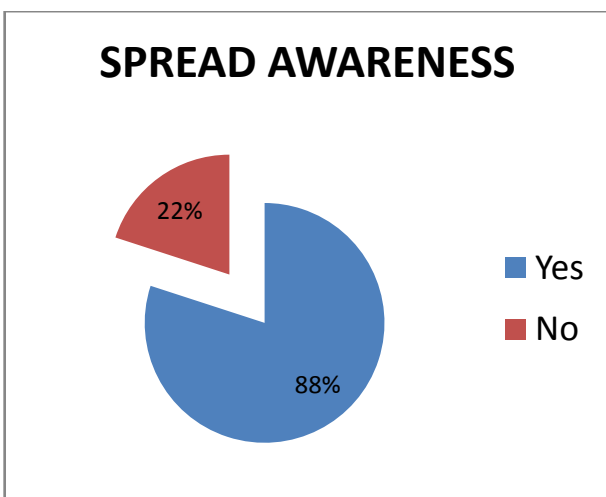

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Figure 6 ready to spread awareness

As can be seen from the above figure 82% of students are ready to share their knowledge regarding security on web to their parents and neighbors.

FINDINGS

Knowledge expansion:

Student's knowledge is expanded regarding e-commerce as they only had idea regarding purchase and sale.

Lack of ResourcesL

Students are not financial independent so they don't have credit/debit card or internet banking account.

Don't have knowledge regard of security guidelines of RBI, VbV and VbM on web:

They don't have much knowledge regarding security on web before the knowledge of subject in depth.

Realization of subject knowledge:

They realize depth of subject and importance as under graduate computer application students.

CONCLUSION

It is a good experience to work with students for this paper and get their valuable feedback and their work for this paper .After getting the knowledge of e-commerce and cyber security, they are looking confident about using online services as well as ready to spread awareness to friends, parents and others regarding security on web as well as advantages of e-commerce transaction.

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