

# Study of Consumer Behaviour using E-Commerce focused on security

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## Abstract

*Electronic commerce is generally thought as simply buying and selling of goods and services using the internet. But actually e-commerce involves much more than electronically mediated transactions between organizations and customers. People using internet must understand the risk of using it. The security safeguards ensured are sometimes not adequate to protect the data or private information. Many people are getting victim of frauds. Credit card and identity theft are common online frauds now days. There is a need of controlling, monitoring, auditing and taking actions so we can attain highest level of security. No matter how secure the system is but a malicious insider can create blunders so ecommerce is slowly focus on internal security and started training and orientation program to make people aware of security concerns.*

**Key Words-** *Consumer Behaviour, E-commerce, Cryptography, Internet Security.*

## Introduction:

Electronic commerce is generally thought as simply buying and selling of goods and services using the internet. But actually e-commerce involves much more than electronically mediated transactions between organizations and customers. E-business is much more than buying and selling on the Net. Some broad definitions of E-commerce are quoted below.

*Keesler. M. (2003)* “Electronic commerce can be viewed as the conduct of business commercial communications and management through electronic methods, such as electronic data interchange and automated data-collection systems”, Traci G. (Analyst, The New York Times) “E-commerce services are the silver bullet that will enable companies to take advantage of the true business opportunities on the web.”

Information technology Developments in recent years have enabled major advances in several areas like telemedicine, digital libraries, distant learning and electronic commerce. *Kessler (2003)* According to Forrester Research electronic commerce generated sales worth US\$ 12.2 billion in 2003. From this data, we can imagine

how important e-commerce is in today's world. Today we are living in an era of 'e-everything'. *IDA Singapore* "E-commerce provides more choices and more convenience to users." Consumers can shop in cyber malls or e-shops, read newspapers, play games, interact with different communities and government bodies all from one location. We can see the deep impact of e-commerce today all around us.

The roots of net are in 1960s. The term E-commerce has gained attention in recent a few years. Electronic commerce has been around in different forms for almost over 20 years. Electronic Data interchange and Electronic Fund Transfer technologies were introduced in late 1970s. Now a days Credit cards and Debit Cards are very popular. Automatic Teller Machines and telephone Banking is also famous now days, which started growing from 1980s, are also a part of Electronic commerce.

Due to convergence of technological developments, merging of telecommunications and computing industries and appropriate business climate electronic commerce is booming. The growth of e-commerce is accelerated because of the popularity of the internet and commercialization and privatization of the internet.

But still E-commerce has not reached its potential; it is in its early stage and is growing rapidly. E-commerce has been divided into four categories considering the characteristics of the buying and selling parties. These categories are: business to business (B2B), business to consumer (B2C) or consumer to consumer (C2C) or consumer to business (C2B). (Korper and Ellis, 2001).

### **Importance of the topic:**

The way we communicate, transact business and undertake the function of government has changed significantly. It is not a simple change from hand written letter to E-mail; from face to face transaction to business over the internet; or from people queuing at government office to internet with government agencies electronically but much more than that. E-commerce has become a very important part of economy now. Government of every country is actively promoting the use of e-commerce. The world is becoming small; the whole world is becoming a global village because of e-commerce. The increasing use of Internet and e-commerce is a most important element of the knowledge Economy concept. *Tony Blair (2000)* "E-commerce lies at the heart of my vision for building a modern knowledge-driven economy". The development of information communication technologies has change the world for people, business and governments. This technological innovation has definitely lower the international trade barriers. One person sitting in UK on his

computer can find out information about the supplier of a particular product he want and can buy it at cheaper price than local market price.

*Mr. Mike O'Brien (2004)* (The secretary of state for energy and e-commerce) “UK companies have adopted E-commerce to improve the productivity and efficiency over the past few years. Companies are making more sophisticated use of Information and communication Technology (ITC) than ever before. U.K has now reached a position in which the competitiveness of our broadband market is among the best in the major industrial countries. In the Survey of e-readiness 2004, the Economist intelligence Unit ranked the U.K second in the world in its assessment of technology infrastructure, general business environment, and social and cultural condition that influence usage and support services to e-business.” the use of ICT and improvement in business performance and productivity are linked. So U.K companies should continue the adoption of ICT. U.K has create one of the most innovative and exciting e-commerce in the world. He believes that ICT has become a critical factor in business success, and these entries show how companies in the UK are deploying them more innovatively than ever before. Trade Appliances is the best example of a UK based company which has increase its turnover 100% by adopting technology. It was awarded as the national award winner of the year 2004 awards. Electronic commerce is a rapidly emerging market. China’s internet user base is expected to grow 28 percent this year to 120 million, according to the official Xinhua news agency. From the data we can imagine how rapidly the number of users of electronic base commerce is increasing. Virtual business, markets and trading communities are developing. The SMEs are also going virtual and adopting bricks and clicks strategy.

No doubt that the ability to exploit and control market globalization is linked to its implementation of e-commerce, but this increasing reliance on technology, combined with regulatory pressure and a shortage of skill has created a multitude of risk. The level of risk will increase with the growth of the e-commerce. People using internet must understand the risk of using it. The security safeguards ensured are sometimes not adequate to protect the data or private information. Many people are getting victim of frauds. Credit card and identity theft are common online frauds now days.

## Literature Review:

*(Michael C. et al. 1999)* Electronic has been defined as “any interaction between organization and its trading community, undertaken in an electronic manner”.*(Matthew L. James, 1999)* The information revolution has offered the world with the information superhighway that we know as the internet. Online buying and selling is

actually just a broader use of information technologies by business and government. Keeping in mind that the electronic commerce is a significant growing commercial sector the public is still concerned about the privacy, security and equitable access costs. (Steve Elliot 2002) The Government has recognized the importance of the E-commerce.

But the consumers are still afraid of the frauds taking place. Media headlines are booming with online frauds. Consumers don't feel safe while buying online. Sixth annual cyber source fraud survey indicated 37% Increase in lost revenue from small and medium business in 2004. Fraudsters will take away \$2.6 billion out of e-commerce. The cost of managing costs has also increase. The 28% order rejections have been noticed from merchants because of suspicion fraud.

Michael et. Al (1998) "conducting electronic commerce over the internet has to be completely secure, and above all else, this has represented one fundamental reason that has kept consumers and business users away, a perception of a non-secure environment. In respect of EDI, commerce Net, and industry association launched in 1994 and based in California to promote internet commerce, recently announced that a number of software vendor had successfully completed formal interoperability testing that demonstrated the secure exchange of EDI transaction over the internet. People may be doing it because they are seeking for intellectual challenges or may be with the intention to do fraud. To protect computer network modern data security technologies like encryption, authentication and effective firewalls should be used.

To use electronic mail is the key to the emerging electronic commerce community, and for many years technologies have been developed and improved to ensure the level of security, centered on the use of cryptography.

Cryptography is the art of writing, or solving ciphers- disguised ways of writing or representing symbols. It has been increasingly utilized to protect communication, especially on networks in the past decade, and the process of encrypting data has gained acceptance as a secure and strengthens mechanism.

## **Objectives:**

1. Analyse the use of Electronic commerce in today's world
2. Investigate the acceptance of e-commerce in the youngsters
3. Identify Security Challenges
4. Identify the advantages of e-commerce to retailers and customers.
5. Find Importance of Security in online buying and selling

6. Analyse privacy Issues

7. Analyse online payment practices in the current market.

## Methodology:

The topic for the paper is such that, to carry out the investigation on it, both inductive and deductive strategy needs to be devised. To fulfil the entire objective of the paper, researches and literature support both are necessary. The paper will contain Qualitative as well as Quantitative Data. The Combination of this both the methodology will make the whole paper. The research is containing of Secondary and Primary data.

➤ **The methods for collecting Secondary data are as following.**

▪ **Study Net:**

The study net is a portal for the students of University of Hertfordshire, which contains indexes, electronic journals, articles and Library catalogue. The huge database of University is full of information about the topic of paper will help to get some usable resources, statistics and data.

▪ **Magazines:**

Magazines provide latest updates and gives interesting information. It is also one of the cheapest resources of secondary information.

▪ **Database:**

Bibliographic and Full text Databases like BIDS and Athens serve Large Number of information on each and every topic. It contains electronic journals and indexes. Some of the articles and journals can help paper topic.

▪ **Academic journals**

Academic journals (printed and published) can be used to get information on the paper topic of e-commerce. Important data can be exploited form these academic journals.

▪ **Internet websites**

Internet websites are also called information highway. It is the cheapest and easiest means of secondary data. It is very easy and time saving way of getting secondary data. Almost all secondary data are available on the internet. The information is now just a click away.

▪ **News Articles**

News paper articles some times publish very important data in their articles, this data are reliable and latest. News paper brings day to day information so news papers and TV news may also be the source of secondary data in this paper

- **Books**

*Abraham Lincoln (US president)* “Books serve to show a man that those original thought of his aren’t very new after all”. Books can be the best source of the secondary information for the paper.

- **Papers and conference papers**

The research papers include particular detail about the topic, it is written on. It describes clearly, what is already been done on this problem and what might be done in the future or what is new.

- **Government Censuses or surveys**

Government censuses are basically the information, government collects for it self to target their resources more optimally and plan for future. It can be the good source of secondary data information for the paper.

- The paper will be matured with both primary and secondary data. The major primary sources for the research were as following.

- **Interviews**

In this paper, to accomplish all the objectives, different types of interviews were conducted. Mainly one-to-one interviews, dinner interviews, video-conference interviews, telephone interviews and group interviews will be taken.

- **Focus Groups**

Focus group is basically an interview to, but it involves 6-10 people at the same time. It can also be used to get opinion about new ideas or tests. Focus group is basically for the qualitative data gathering.

- **Surveys**

Surveys are used to collect quantitative information. For survey questionnaire was prepared and it will be distributed and the answers collected from the respondent was analysed and finally give a result. Surveys was conducted in cyber cafes and University libraries where students surf internet.

- **Online Forums**

Forum topics will be quoted on the websites and it will help to get qualitative information, like their opinions and views about the topic.

For the primary research process, six important steps were taken.

These six steps are shown below.

- **Step1: Defining the problem area**

First the problem or subject of the research will be identified. If one doesn’t know where he wants to go, he can’t decide which bus to take. If the problem is identified, it becomes easy to decide which method is appropriate for the research and after completing the research if the desired result is generated or not. It is the first and the most important step of the research process.

### ▪ **Step 2: creating the research design**

When the problem or research subject is defined well, the second step is to create a plan to follow to achieve the objectives of the research. In this step all the required data and information will be think upon and a structure will be create to conduct those researches. Interview type, structure of the interview, content and population will be decided. Questionnaire will be prepared.

### ▪ **Step3: Selecting the sampling procedure**

Sample is a group of people (element) selected from the whole population. These elements represent whole population. It is impossible to study whole population so sampling is done. Sampling is not as accurate as the census study but the trend or probable results can be drawn. Here in this paper, probability sample will be studied.

### ▪ **Step4: Data Collection**

Data will be collected through both primary sources and secondary sources of data.

### ▪ **Step5: Analysing Data**

All the gathered data will be analysed and compiled through statistical mechanisms.

### ▪ **Step6: Concluding**

After analysing the entire data proper conclusion will be drawn from it.

## **Observation of the Study:**

Security is an essential part of any transaction that takes place over the internet. Customer will lose his/her faith in e-business if its security is compromised. Following are the essential requirements for safe e-payments/transactions –

- **Confidential** – Information should not be accessible to unauthorized person. It should not be intercepted during transmission.
- **Integrity** – Information should not be altered during its transmission over the network.
- **Availability** – Information should be available wherever and whenever requirement within time limit specified.
- **Authenticity** – There should be a mechanism to authenticate user before giving him/her access to required information.



- **Non-Repudiability** – It is protection against denial of order or denial of payment. Once a sender sends a message, the sender should not be able to deny sending the message. Similarly the recipient of message should not be able to deny receipt.
- **Encryption** – Information should be encrypted and decrypted only by authorized user.
- **Auditability** – Data should be recorded in such a way that it can be audited for integrity requirements.

## Recommendation:

Key new developments in e-commerce addressed by the revised Recommendation include:

- **Businesses** should provide consumers with easy-to-use payment mechanisms and implement security measures that are commensurate with payment-related risks, including those resulting from unauthorized access or use of personal data, fraud and identity theft.
- **Privacy and security risks.** Consumer data is at the core of many e-commerce services and elevates privacy and security risks. The Recommendation recalls the need to address these risks consistent with other OECD instruments and includes two new provisions highlighting specific protections of particular importance for B2C e-commerce.
- **Payment protection.** Recognizing that the level of payment protection can vary depending on the type of payment mechanism used, the Recommendation calls on governments and stakeholders to work together to develop minimum levels of consumer protection across payment mechanisms.
- **Product safety.** In a number of countries, a range of unsafe products, which have been prohibited from sale or recalled from the offline retail market, are available in e-commerce. A new provision is added to ensure that unsafe products are not offered to consumers online, and that businesses cooperate with the relevant authorities to address the problem.

## Conclusion:

To conclude people mostly consider buying and selling of goods over internet is e-commerce. On daily basis e-commerce is growing widely. Utilizing the e-commerce technology there is a need have best security measures implemented which will help the firm. The expense in making e-commerce server secure will be less than recovering data once victim of an attack. There is a need of controlling, monitoring, auditing and take action so we can attain highest level of security. No matter how secure the system is but a malicious insider can create blunders so e-commerce is slowly focus on internal security and started training and orientation program to make people aware of security concerns.



Not only must e-commerce sites and consumers judge security vulnerabilities and assess potential technical solutions, they must also assess, evaluate, and Resolve the risks involved. A networked application cannot offer full measures of connectivity, security, and ease-of-use, all at the same time; there seems to be an intrinsic trade-off here, and some sacrifice is unavoidable.

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