

Cyber Crime in India – A Challenge to Growth of E-Commerce

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Structured Abstract:

Purpose: This is an age of Information Technology. It encourages every dimension of human's life. Electronic commerce consists of the purchasing and disposing of products or services over electronic systems of the computer networks. This paper attempts to focus on the meaning and the growth of E-commerce in India and to study the affect of cyber-crimes on E-commerce.

Design / Methodology / Approach: Books, Journals, different websites are used.

Findings: There is a possibility of tremendous growth in e-commerce in India. Fear of cyber crime is preventing this situation as this threat is also increasing with the opportunities. Cyber laws are in effect to fight the threats.

Originality / Value: This paper deals with the growth of e-commerce in India. Here we find out different factors which are making hindrance in growth of e-commerce. Different forms of cyber crimes which are obstacle in growth of e-commerce business in India are depicted with records.

Keywords: Information Technology, E-Commerce, Cyber Crime, Cyber Laws.

Paper Type: Research paper.

Introduction

There has been two major revolutions happened in our world. First is the industrial revolution and second is the electronic revolution. As we enter the 21st century, we are seeing the beginning of a new revolution, namely the E-revolution. It interconnects various parts of the world. The idea of conducting business through computer network, than face-to face, has been an integral part of many businesses. E-commerce is defined as the use of the Internet and the web to transact business. Since last decade the popularity of E-commerce is extremely increased because of very quick and easiest way of transferring goods and services both regionally and globally. Generally Electronic commerce consists of the buying, selling of goods and services through electronic network. It can involve electronic funds transfer, e-marketing, online transaction processing, automatic inventory management systems, online marketing and automated data collection systems. It typically uses information communications technology such as the Internet, email, databases, e-books, and mobile

phone. At present the growth of e Commerce is increasing worldwide. India is also on the rally of that growth. But the growth of e-commerce in India is not at par with the growth of internet penetration. Here a question of threat arises to ride the growth. The threat is cyber crime. In present day we are taking advantage of e revolution always with fear of cyber crime. Cyber criminals continue to develop and improve their techniques for shifting their targets from theft of financial information to business espionage and accessing business information. It is an important matter of concern. Major cyber-crimes reported in India are defacement of web sites, spam, computer virus, cyber squatting, cyber stalking and phishing, email misuse, credit card fraud, password cracking, hacking etc. Especially, cases of spam, hacking, cyber stalking and email fraud are extensive in India. To fight fast-spreading cyber-crime, The Parliament has passed the Information Technology Bill and it has now become an IT Act 2000. The IT Act 2000 provides legal legitimacy to electronic records.

Literature Review

Yougal Joshi and Anand Singh (2013) suggested that law will be more flexible to adjust the situation and more and more cyber cell to be established to enforce the law.

In their article, Er. Harpreet Singh Dalla and Ms. Geeta (2013) concluded that use of internet are increasing in the world in a large number rapidly, here it is very convenient to gather any information within a moment by using internet, a huge source for information.

Ravikumar and Dr. D. Kathirya (2013) depict that case of cyber crimes occurred in different states in India. Number of cases registered in Cyber crime was highest in Andhra Pradesh in 2011. He also compared cyber laws of India with other countries.

Objectives of the study

1. To study the meaning and the growth of E-commerce in India.
2. To study the meaning of cyber-crimes and its affect on E-commerce.

Research Methodology

The paper is prepared on the basis of secondary data. The information collected from published and unpublished data, library books, and use of various websites, articles and journals.

Limitation of the Study

This study is only based on India perspective. Time period of data related to cyber crime is for the year 2013 as no more latest data available on NCRB report.

Discussion

What is E-Commerce?

E-Commerce deals with the exchange of information, goods and services with the help of computer based networks. E-Commerce may also be defined as a new way of conducting and managing business using computer and telecommunication networks. The concept of E-commerce was started in 1970s. E-commerce plays an increasingly important role in the way in which products and services are purchased. It helps to strengthen the relationship and improving the efficiency of business. The internet can open up new scope for people to buy and sell of goods or services online. These activities are generally considered as E-commerce. E-commerce is business in the online environment. Here all transactions, deals conducted with the help of internet.

E-Commerce in India

In India E-commerce has considerable good prospect as India is a developing country. India had the small B2C E-commerce market and spending per online shopper among the BRIC countries. India was a leader in Internet user growth, especially through mobile connections in last few years. In India mobile shopper penetration is top among Asian countries. As per www.internetworldstats.com India has 375 million internet users with penetration of 30% (Table 1). Internet user in the world is highest in case Asia 49.6 % (Figure 1). Total percentage of online buyers to internet users is 18%. Compared to India, China, Sri Lanka and Pakistan have internet population of 674 (40%), 5 (15%) and 29 (15%) millions respectively. According to report of Statista 2016 near about 240 million people of India will buy goods and services through online in 2019. The Indian e-commerce industry grew by 33% in 2015 clocking sales of Rs 62,967 compared to Rs 47,349 in 2012 according to report of Times of India 6th September 2015. Lower internet density continues to remain a challenge for e-commerce. According to Table 1 in India internet user has increased 75 times from the year 2000 to 2015. This rate of increase is highest among all the countries.

Overall e-commerce industry is experiencing a high growth in the couple of years. India's E-commerce market is growing at an average rate of 35% CAGR since 2009 according to report of Times of India 6th September 2015. Population of the country is a factor influencing the

rapid growth of e-commerce. Middle class people of India approximately 288 million are equal to the entire consumer base of United States of America. It makes India a good attractive market for e-commerce. (Ref: A report of Internet and Mobile Association of India 2013). There is a increase awareness among the business environment in India about the scopes offered by e-commerce. Global trade, vast growing market, tremendous flow of information make world in a new era of business environment. But this digital age is now facing a challenge. The internet users, business houses, governments organizations are getting risks of cyber-attacks. The cyber criminals are developing and advancing their techniques to theft financial information to harm financially as well as to destroy the credibility of the organization.

What is Cyber Crime?

The basic idea of cybercrime is not so much different from that of conventional crime as both include activities which cause breach of rules of laws. Cyber crime may be generally defined as a criminal activity in which information technology systems are used for the committing the crime. The Oxford Reference Online defines 'cyber crime' as crime committed over the Internet. The Council of Europe's Cybercrime Treaty uses the term "Cybercrime" to refer to offences ranging from criminal activity against data to content and copyright infringement. From these definitions, we can say that cyber crime or computer crime as, "It is a technique that employs Information Communication Technology (ICT) components like computer and communication equipments etc. to harm the individual, trade, government and ICT infrastructure".

Act to Prevent Cyber Crime

In India cyber crime case are registered under Information Technology Act, 2000 and Indian Penal Code. Information Technology Act, 2000 signifies legal recognition for transactions carried out by means of electronic data interchange and electronic communication commonly termed as "electronic commerce", which involve the use of alternatives to traditional paper-based methods of communication and storage of information.

Cyber Crime in India

As today's consumer has become increasingly dependent on computers. We stored and preserved information in network based system. So the risk of being subjected to cyber-crime is high. Information on various crimes registered under IT Act 2000 is presented below.

As with the advancement of technology criminal minds are also getting advanced more and more. According to NCRB report increase percentage in cyber crimes of all type committed in 2012 and committed in 2013 is 52.5% (Table 2). A total crime reported under IT act was 2857 in 2012 and crimes reported in 2013 were 4356. Among these 4356 crimes reported most of the cases were of loss/damage to computer source (1966) and hacking of data (550). Variation in loss/damage to computer source data over 2013 was 36.5% and hacking is 26.4% which is alarming issue to concentrate. Crime cell of our country is also working its level best as persons arrested in 2012 for hacking crime was 137 and in 2013 are 193 for total 550 cases recorded, increased by 40.9%. But there is also little bit relief because the cases registered under categories of un-authorized attempt to access protected computer system, under publishing false digital signature certificate are not in violently increasing.

From the Table 3 we can see that cyber crime registered under both IT Act and IPC is in increasing trend. Despite of the increasing cases of cybercrime incidents in India and arrests of accused and conviction rate is very poor in India.

Conclusion and Suggestions

This paper focuses on not only on the understanding of the cyber crimes but also explains the impacts over the different levels of the society. In India prospect of e commerce is very high as business on e-commerce in increasing trend but pace of cyber crimes is also faster. This is a hindrance in growth of e-commerce. This will help to the community to secure all the online information and e-commerce business which are not safe due to such cyber crimes. The understanding of the behavior of cyber criminals will help to find out the adequate means to overcome the situation and its impacts of cyber crimes on society. The ways to overcome these crimes can be done by enforcing Cyber Laws effectively, Education and Policy making. The lack of proper training and skill to all level administrative workers for controlling the cyber attacks is also responsible for such problem. Further E-commerce requires the careful planning and coordination of a number of technological infrastructure components. Therefore to fight against such fast-spreading cyber-crime we must collaborate with each other globally to develop an effective model which will control the threat. Some precautions for fight with cyber crimes are described below:

1. Do not give out your personal information like password, user id etc.
2. Protect yourself simply by installing basic security programmers.
3. Do not respond to unknown E-Mail of offering lotteries, prize gift etc.

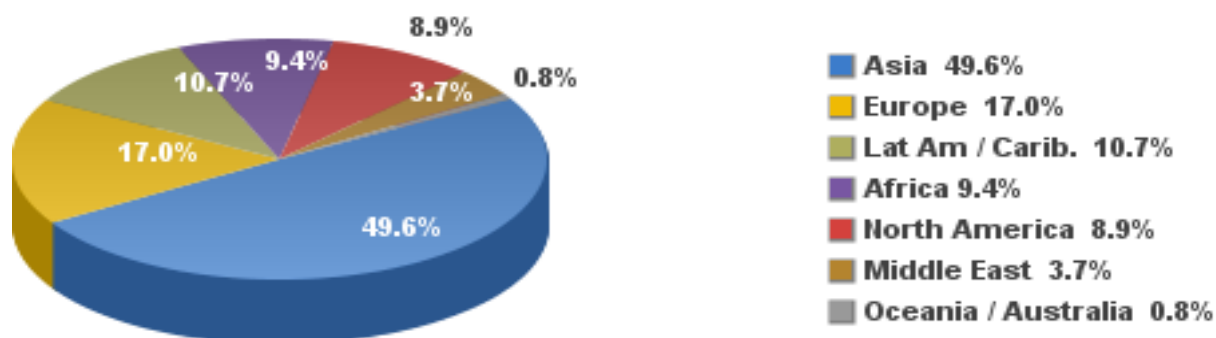
4. Ensure the connection is secure.
5. Always use such password which is very difficult to predict.

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Figure 1

Internet Users in the World by Regions June 2016



Source: Internet World Stats - www.internetworldstats.com/stats.htm

Basis: 3,611,375,813 Internet users on June 30, 2016

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Table 1

Asia Internet Use, Population Data-June 2016

ASIA	Population (2015 Est.)	Internet Users (Year 2000)	Internet Users 30-Nov-2015	Penetration (% Population)	Users % Asia
<u>Afganistan</u>	32,564,342	1,000	4,005,414	12.3 %	0.2 %
<u>Armenia</u>	3,056,871	30,000	2,126,716	69.6 %	0.1 %
<u>Azerbaijan</u>	9,593,038	12,000	5,851,753	61.0 %	0.4 %
<u>Bangladesh</u>	168,957,745	100,000	53,941,000	31.9 %	3.3 %
<u>Bhutan</u>	741,919	500	254,998	34.4 %	0.0 %
<u>Brunei Darussalam</u>	429,646	30,000	318,900	74.2 %	0.0 %
<u>Cambodia</u>	15,708,756	6,000	5,000,000	31.8 %	0.3 %
<u>China</u>	1,361,512,535	22,500,000	674,000,000	49.5 %	41.6 %
<u>Georgia</u>	4,931,226	20,000	2,411,370	48.9 %	0.1 %
<u>Hong Kong</u>	7,141,106	2,283,000	5,751,357	80.5 %	0.4 %
<u>India</u>	1,251,695,584	5,000,000	375,000,000	30.0 %	23.1 %
<u>Indonesia</u>	255,993,674	2,000,000	78,000,000	30.5 %	4.8 %
<u>Japan</u>	126,919,659	47,080,000	114,963,827	90.6 %	7.1 %
<u>Kazakhstan</u>	18,157,122	70,000	9,966,444	54.9 %	0.6 %
<u>Korea, North</u>	24,983,205	--	7,200	0.0 %	0.0 %
<u>Korea, South</u>	49,115,196	19,040,000	45,314,248	92.3 %	2.8 %
<u>Kyrgystan</u>	5,664,939	51,600	2,194,400	38.7 %	0.1 %
<u>Laos</u>	6,911,544	6,000	985,586	14.3 %	0.1 %
<u>Macao</u>	592,731	60,000	413,608	69.8 %	0.0 %
<u>Malaysia</u>	30,513,848	3,700,000	20,596,847	67.5 %	1.3 %
<u>Maldives</u>	393,253	6,000	230,000	58.5 %	0.0 %
<u>Mongolia</u>	2,992,908	30,000	1,300,000	43.4 %	0.1 %
<u>Myanmar</u>	56,320,206	1,000	7,100,000	12.6 %	0.4 %

ASIA	Population (2015 Est.)	Internet Users (Year 2000)	Internet Users 30-Nov-2015	Penetration (% Population)	Users % Asia
<u>Nepal</u>	31,551,305	50,000	5,700,000	18.1 %	0.4 %
<u>Pakistan</u>	199,085,847	133,900	29,128,970	14.6 %	1.8 %
<u>Philippines</u>	109,615,913	2,000,000	47,134,843	43.0 %	2.9 %
<u>Singapore</u>	5,674,472	1,200,000	4,653,067	82.0 %	0.3 %
<u>Sri Lanka</u>	22,053,488	121,500	5,689,800	25.8 %	0.4 %
<u>Taiwan</u>	23,415,126	6,260,000	19,666,364	84.0 %	1.2 %
<u>Tajikistan</u>	8,191,958	2,000	1,432,773	17.5 %	0.1 %
<u>Thailand</u>	67,976,405	2,300,000	38,000,000	55.9 %	2.3 %
<u>Timor-Leste</u>	1,231,116	0	290,000	23.6 %	0.0 %
<u>Turkmenistan</u>	5,231,422	2,000	638,233	12.2 %	0.0 %
<u>Uzbekistan</u>	29,199,942	7,500	12,716,575	43.6 %	0.8 %
<u>Vietnam</u>	94,348,835	200,000	47,300,000	50.1 %	2.9 %
TOTAL ASIA	4,032,466,882	114,304,000	1,622,084,293	40.2 %	100.0 %

Source: www.internetworldstats.com

Table 2

Cases Registered and Persons Arrested In 2012 and 2013 under IT Act 2000

Sr. No.	Crime types	Cases registered		% variation	Person arrested		% variation
		2012	2013		2012	2013	
1.	Tampering computer source documents	161	137	-14.9	104	59	-43.3
2.	Hacking: 1. loss / damage to computer source 2. hacking	1440	1966	36.5	612	818	33.7
		435	550	26.4	137	193	40.9
3.	Obscener publication in electronic form	589	1203	104.2	497	737	48.3
4.	Unauthorized attempt to access to protected computer system	3	27	800	1	17	1600
5.	Obtaining license or digital signature certificate by misrepresentation of facts	6	12	200	5	14	180
6.	Publishing false digital signature	1	4	400	0	8	-
7.	Breach of confidentiality	46	93	102.2	22	30	36.4
8.	Fraud digital signature certificate / privacy, failure of compliance and others	176	364	106.8	134	222	65.7
	Total	2857	4356	52.5	1512	2098	37.8

Table 3
Cases Registered of Cyber Crime under IT Act and IPC

Year	2013	2012	2011	2010	2009	2008	2007	2006	2005
IT Act	4356	2857	1770	966	420	288	217	142	179
IPC	1337	601	422	356	276	176	339	311	302
Total	5693	3458	2192	1322	696	464	556	453	481

Source: NCRB report (Table 2 & 3)