

A Comprehensive Study of Cyber Crimes in India

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Abstract

Internet has shrunk the world as a global village and shattered the cultural and lingual boundaries which are the biggest advantage of it. Internet has brought tremendous changes in every sphere of life and provided human beings facilities which were not even imagined earlier. But like every coin has two sides, internet also has brought many bad consequences which are outweighing its benefits. Cyber crimes are also one of the crimes which uses internet and computer to commit crimes. It has been found that cyber crimes are increasing at an alarming rate, This study focuses on the growth of internet users in world as well as in India and consequently growth in cyber crimes. It also examines the age group and gender of persons committing crimes over the platform of internet and the major motives behind the cyber crimes. Secondary data has been used for carrying out the study.

Keywords: Internet, Cyber crime, IT Act, IPC Act, SLL

Introduction

Since last few decades there is phenomenal growth in cyber crimes across the world and also in India. The new waves of crimes-the cyber crimes are the byproducts of Internet. The increasing access to internet through computer or mobiles has added fuel to the fire in increasing incidence of cyber crimes. According to Venkatesh Subramaniam CISO, Idea Cellular Limited "The rising wave of digitization with diverse applications and services available through multiple channels has compounded the all-pervading cyber threat. While providing a wider vulnerability base to exploit, it also offers a greater potential return for cybercriminals as they 'follow the money'".

It has changed the forms of old traditional crimes as opined by Majid (2006). "In India, at least one cyber attack was reported every 10 minutes

in the first six months of 2017. In 2017, as per the Indian Computer Emergency Response Team (CERT-In), a total of 27,482 cases of cybercrimes have been reported across the world. These include phishing, site intrusion, virus, and ransom ware". (India, July 2017)

According to a World Bank 2016 report, quoting a 2014 study, the global cost of cybercrime was estimated between \$375 billion (Rs 2,512,500 crore) and \$575 billion (Rs 3,852,500 crore). It further reported that per person cost of data breaches ranged from \$51 in India to \$201 in the United States.

What are Cyber Crimes

Defining cyber crimes, as "acts that are punishable by the Information Technology Act" would be unsuitable as the Indian Penal Code also covers many cyber crimes, such as email spoofing and cyber defamation, sending threatening emails etc.

According to the Council of Europe Treaty all the criminal activities against data to content and copyright infringement are referred as cyber crime (Krone, 2005).

Zeviar-Geese, suggest the broader definition including activities such as fraud, unauthorized access, child pornography, and cyber stalking.

A simple yet sturdy definition of cyber crime would be "unlawful acts wherein the computer is either a tool or a target or both".

Forms of Cyber Crimes

The cyber crimes have different faces which is committed in diverse fashions. It can be categorized on the basis of

- Computer as a target
- Computer as a tool

Major Cyber Crimes are as Follows

- **Financial crimes** : It includes cheating, credit card frauds, money laundering etc.
- **Cyber Pornography** : Pornographic websites, pornographic production of pornographic magazines using computers or transmitting porn photographs through internet fall in this crime.
- **Selling of illegal Articles** : Illegal articles like narcotics, weapons and wildlife are sold by fake names on websites.
- **Intellectual Property Right Infringement** : These include copyright infringement, software piracy and trademark violation.
- **E-mail Spoofing** : Email originating from some other sources and actually sent by another sources are called email spoofing. It is used to defame and also sometime cause monetary damage.
- **Cyber Stalking** : It involves following someone across the internet by posting and threatening on bulletin board, entering chat room or constantly bombarding the victims with emails.
- **Web Jacking** : It is like hijacking the websites and taking the control over site and changing information.
- **Data Diddling** : It involves changing raw data just before processing and altering again when processing is over.
- **Virus/worm attack** : These are the programs which attach themselves with computer and then circulate to other files and computer through network.
- **Logic Bomb** : These are event driven program which trigger at a particular date otherwise remain in dormant stage.

- **Trojan Attacks** : These are unauthorized programmes functioning from inside the authorized programmes.

Objectives of The Study

1. To study the increase in the number of internet users/penetration in India since last 10 Years.
2. To study the no of cyber crimes in India since last 10 years
3. To study the cyber crimes committed according to age
4. To study the cyber crimes committed according to Gender
5. To study the cyber crimes committed according to age
6. To study the cyber crimes committed according to motives

Literature Review

Numerous researches have been carried out on cyber crimes some of them are as follows:

Odumesi John Olayemi (2014) conducted research on Cyber-crime and cyber security in Nigeria. They focused their study the social and technological impact of Cyber-crime. The researcher revealed lack of laws handling cyber crimes directly.

Stella E. Igun in her research entitled "Cyber Crime Control in Developing Countries' Cyber Cafes" discussed the challenge and problems faced by government and other stakeholders in fighting controlling cyber crimes in developing countries. The study focuses on the vulnerability of developing countries to cyber crimes and lack of major infrastructural devices for controlling Cyber-crimes.

"Children in India are in the highest risk category due to increased access to smart

phones and affordable internet which makes them the weakest link in the family's online security," says Ritesh Chopra (2016), Country Manager and Norton by Symantec.

A Study conducted by Boston Consulting Group on behalf of Telenor Group revealed that Approximately 100 million children in India will join the social networking sites. It further disclosed that percent children of age group 7-13 visit "YouTube" daily in Tier I and tier II cities and their parents are also aware of their children signing for the YouTube site.

Chandra N (2013) in her article entitled "Social Networking sites a concern for Parents" revealed that children who are more active and use social networking sites as their favorite pass time are more vulnerable to cyber crimes Cyber bullying and Stalking are a cause of concern for parents.

Williams (2001) and Grabosky (2007) in their separate studies reported internet as a useful tool for connecting people and facilitating commerce but at the same time criminals are also using the new opportunities to commit illegal activities.

Mc. Cusker (2006) blamed that individual and organized groups can use internet as an instrument to carry out new type of offences against computer data and system.

Dr. Jitendra Nagpal (2013), senior consultant, In-charge of Institute of Mental health, Moolchand Medicity said, "Around 60 to 70 percent cases of behavioural problems in children are associated with misuse of virtual space. Parents should talk with their kids and give them time instead of leaving them in the world of computer." (India Today in April, 2013)

According to a Lok Sabha reply on May 4, 2016 more than 8,000 websites were hacked in the first three months of 2016, and as many as 13,851

spamming violations were reported.

Clarke (2009) has warned that computer can be used for cyber terrorism and may be used for net war by installing malicious software without the approval of the users which may be used against the country.

Research Design

In this study descriptive and analytical research design has been used to carry out the research.

Data Collection

Research is based on second hand data collected from websites of Government of India.

Statistical Tools

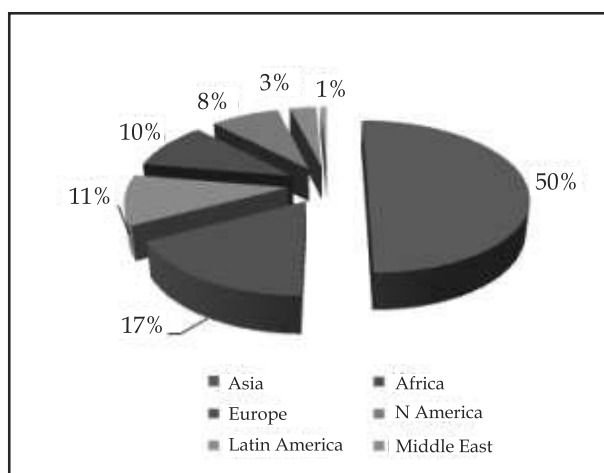
Only Frequency and percentages have been used to draw the conclusions.

Data Analysis

The Number Of Internet Users In India

Fig No 1. shows the percentage of internet users in world region wise. On analyzing the table it has been found that maximum internet users are found in Asia region which is 49.7 % followed by

Figure 1 : Internet users in the world by region June 30, 2017



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

Europe with 17%. Latin America, Africa, N America and Middle East have 10.4%, 10.0%, 8.2% and 3.8 % respectively. Oceania/ Australia has only 0.7 % internet users.

On analyzing the Penetration of internet in major Asian countries, it has been found that Japan has maximum penetration of internet amounting 94% followed by S Korea having penetration 92.7%.

Table 1 : Penetration of Internet in Major Asian Countries

S.No.	Country	Penetration % of internet users to population
1.	Bangladesh	44.5%
2.	China	53.2%
3.	India	34.4%
4.	Japan	94.0%
5.	S. Korea	92.7%
6.	Pakistan	22.7%
7.	Singapore	81.2%
8.	Sri Lanka	32.1%

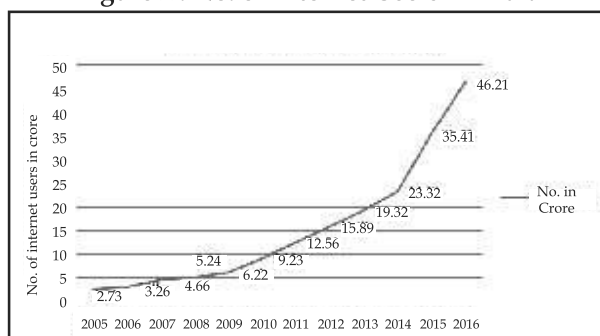
Source : Internet World Stats
www.internetworldstats.com/stats.htm

Singapore has penetration of internet 81.2% and China, Bangladesh, India and Sri Lanka penetration rate is 53.2%, 44.5%, 34.4% and 32.1% respectively. India also has witnessed a significant growth in internet users in India which has been depicted in Table 2 and Fig 2.

Table 2 : Growth in Internet Users and Internet Penetration Rate in India

Year	No of Internet users (in crore)	Penetration
2005	2.73	2.4%
2006	3.26	2.8%
2007	4.66	4%
2008	5.24	4.4%
2009	6.22	5.1%
2010	9.23	7.5%
2011	12.56	10.1%
2012	15.89	12.6%
2013	19.32	15.1%
2014	23.32	18%
2015	35.41	27%
2016	46.21	34.8%

Source : Internet world stats

Figure 2 : No. of Internet Users in India

Source : Internet world stats

On examining the table 2 it has been found that the growth in internet users is very fast since 2012 when it was 15.89 crore users with 12.6% penetration and it reaches 35.41 crore users with penetration of 27% in 2015 and 46.21 crore with 34.8% penetration in 2016. The same has been presented in Fig 2.

No of Cyber Crimes In India Since Last 10 Years

Table 3 shows the increase in incidence of cyber crimes in India. The Table reveals that though in the beginning more crimes occurred and registered

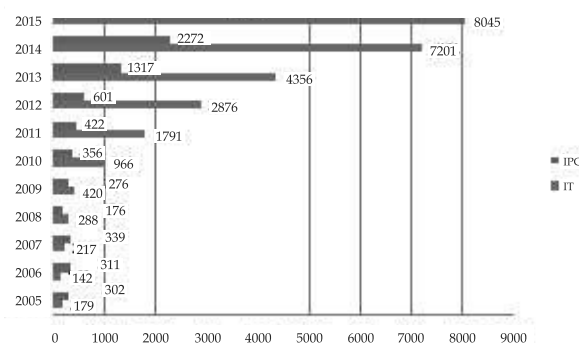
under IPC Act but since 2008 the no of crimes under IT act surpassed crimes under IPC Act.

Table 3 : Growth in Cyber Crimes in India

Year	Crimes under IT Act	Crimes under IPC Act	Total No of crimes
2005	179	302	481
2006	142	311	453
2007	217	339	556
2008	288	176	464
2009	420	276	698
2010	966	356	1322
2011	1791	422	2213
2012	2876	601	3477
2013	4356	1317	5693
2014	7201	2272	9622
2015	8045	3422	11476

Source: National Crimes Records Bureau

The table also shows that there was drastic increase in the It act crime since 2012 which increased to 2876 from 1791 crime of previous year and it reached to 4356, 7201 and 8045 crimes in 2013, 2014 and 2015 respectively. Fig 3 also shows the increase in cyber crimes in India.

Figure 3 : Cyber Crimes Cases Registered Under IT Act and IPC Act

Source: National Crimes Records Bureau

Cyber Crimes Committed According To Age and Gender

Table 4 reveals cyber crimes committed by age and gender during 2014 and 2015.

committed by females under IT Act and IPC respectively. Similarly under age group 18-30 years 3089 IT crimes and 1565 IPC crimes were reported against male and 99 IT and 18 IPC crimes against females. In age group 31 to 45

Table 4 : Cyber Crimes according to Age and Gender

ACT	Below 30 year		18-30 years		31-45 years		45-60 years		Above 60 years	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
IT Act	95	3	3089	99	1546	27	191	5	47	0
Total	98		3188		1573		196		47	
IPC ACT	51	1	1565	18	1023	12	191	4	2	0
Total	56		1583		1035		195		2	
SLL	2	0	43	0	93	2	11	0	1	0
Total	2		43		95		11		1	

Source : National Crimes Records

The table reveals that most of the cyber crimes committed under IT Act and also under IPC Acts were of the age group 18 to 30 years and the no of cyber crimes were 3188 and 1583 respectively. It was followed by 1573 IT Act cyber crimes and 1035 IPC cyber crimes committed by age group 31 to 45 years' persons. The cyber crimes of juvenile - under 18 years were only 98 under IT Act and 56 under IPC Act. Among 45 to 60 years age group and more than 60 years were the crimes reported under IT Act were 196 and 47 and under IPC Act 11 and 1 respectively.

Cyber Crimes According To Gender

The Table 3 clearly indicates that most of the cyber crimes are committed by male under every age group and under each type of crimes. On examining juvenile group it reveals that males accounted for 95 and 51 crimes were committed by male and 3 and 1 crimes were

years, 45 to 60 years and above 60 years the no of crimes committed by males under IT Act were 1546, 191 and 47 while crimes under IPC Act were 1023, 191 and 2 crimes were reported. When we look for females their no are 27, 5 and 0 crimes under IT Act while 12, 4 and 0 IPC crimes were reported in age group 31-45, 46-60 and above 60 years respectively.

Cyber Crimes According To Motives

On examining the Table No 5, it is inferred that maximum cyber crimes were committed for financial gain followed by fraud/ illegal gain the no of which are 3855 and 1119 respectively.

Table 5 : Cyber Crimes Motive Wise

S. No.	Motive	No of crimes
1	Personal Revenge / Scores Settling	304
2	Emotional Outburst Like Anger	223

3	Financial Gain	3855
4	Extortion	295
5	Causing Disrepute	387
6	Prank	284
7	Fraud	1119
8	Insult To Modesty of Women	606
9	Sexual Exploitation	588
10	Political Motives	47
11	Inciting Hate/ Crime Against Community	205
12	Inciting Hate/Rime Against Country	12
13	Disrupt Public Service	33
14	Sale/ Purchase of Illegal Articles	14
15	For Business Interest	170

Source : National Crimes Records

606 crimes fall under category of insult to modesty and 588 under sexual exploitation category. Scores Settling, Emotional Outburst like anger, extortion, causing disrepute and pranks have 304, 223, 295 and 284 crimes respectively.

Politics were also found to be the motives of cyber crimes and its no is 47. Similarly for personal business gain 170 crimes were committed and sale purchase of illegal articles 170 crimes were reported. Crimes against community and against country were 205 and 12 respectively.

Finding And Discussion

1. It has been found the internet penetration is increasing very fast in India which has reached 34.7 in 2016 as compared to 27% in 2015. It simply shows that more population

are accessing to internet decreasing the digital divide.

2. But simultaneously the number of cyber crimes is also increasing from 9622 to 11476 crimes.
3. Most of the cyber crimes in India are being carried out by 31 to 45 years old persons followed by 45 to 60 year old persons.
4. In All crimes, male committed more crimes than females.
5. The main motive of cyber crimes has been reported to be financial gain followed by modesty to women and her sexual exploitation.

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