

## Cyber Crime and Internet Growth in Pakistan

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**Abstract:** Crime is a social phenomenon that has existed throughout human history. As people and technology evolved and developed new technology, there is no doubt that criminals continue to exploit or take advantage of this technological progress. We are now in the era of an information revolution, which provides modern science, high technology and accordingly, it is axiomatic that new types of crimes have come to the forefront. The criminal of yesterday is exactly like the criminal of today and therefore, the crime of yesterday is certainly not like the crime of today.

**Key words:** Digital subscriber link, internet protocol, internet service provider, wi-max, hybrid fiber-coaxial, broadband, electronic war

### INTRODUCTION

Cybercrime is any crime committed on the internet using the computer as either a tool or to target victims. It is very difficult to classify crimes in general into distinct groups as many crimes evolve on a daily basis. Even in the real world, crimes like rape, murder or theft need not necessarily be separate. However, all cybercrimes involve both the computer and the person behind it as victims; it just depends on which of the two is the main target.

Hence, the computer will be looked at as either a target or tool for simplicity's sake. For example, hacking involves attacking the computer's information and other resources. It is important to take note that overlapping occurs in many cases and it is impossible to have a perfect classification system.

It also can be defined as a crime that is committed by a person using his computer knowledge and software to do unlawful activity. It is any illegal act using the computer as a tool or the subject of crime.

### MATERIALS AND METHODS

**Internet services and user growth in Pakistan:** Internet services are now available in all the major urban areas of Pakistan. The Internet is now considered an essential part of the data communication network services in Pakistan and the number of users is growing every second. Many of the leading Internet Service Providers (ISPs) operating in Pakistan appears in the following Table 1 (Saeed, 2003).

Table 1: Internet Service Providers operating in Pakistan

Name of ISP	Website
Apollo Online	<a href="http://www.apollo.net.pk">http://www.apollo.net.pk</a>
Brain Net	<a href="http://www.brain.net.pk">http://www.brain.net.pk</a>
Comsats	<a href="http://www.comsats.net.pk">http://www.comsats.net.pk</a>
Crestar	<a href="http://www.crestamnet.net">http://www.crestamnet.net</a>
Cyber Net	<a href="http://www.cyber.net.pk">http://www.cyber.net.pk</a>
Fascom	<a href="http://www.fascom.com">http://www.fascom.com</a>
Gerry's Net	<a href="http://www.gerrys.net.pk">http://www.gerrys.net.pk</a>
Global Net	<a href="http://www.global.net.pk">http://www.global.net.pk</a>
NetSol Connect	<a href="http://www.netsolir.com">http://www.netsolir.com</a>
Pak Net	<a href="http://www.pak.net">http://www.pak.net</a>
PTCL	<a href="http://www.ptcl.com.pk">http://www.ptcl.com.pk</a>
SuperNet	<a href="http://www.super.net.pk">http://www.super.net.pk</a>
World Call Online	<a href="http://www.worldcall.net.pk">http://www.worldcall.net.pk</a>
Wateen	<a href="http://www.wateen.com">http://www.wateen.com</a>

In Pakistan operators are offering wide range of technologies like Digital Subscriber Link (DSL), Cable and Wi-Max. They have added 25,500 new broadband connections in the financial year 2007-08, which is a nearly 150% increase compared to the previous financial year, Pakistan Telecommunication Authority (PTA) statistics reported (Yaseen, 2008).

The Internet Protocol (IP) traffic through high-speed access links has become a success factor that has made the rapid transfer of online information and communication services, data, voice and video footage possible. The ease of communication due to the highly competitive market of service providers has been penetrating in the country with modest acceleration in the metropolis.

According to the 2008 PTA annual report, operators have started offering FTTH and Wi-Max services in

metropolitan cities. At present there are approximately 2,800 FTTH and 2,000 Wi-Max subscribers (Yaseen, 2008).

At present, Digital Subscriber Link is the leading broadband service in the country. Major DSL providers in Pakistan are Micronet, LinkDotNet, CyberNet, MultiNet and Pakistan Telecommunication Company Limited (PTCL) (Umer, 2008).

Hybrid Fiber-Coaxial (HFC) is the second largest broadband technology in terms of the market share. Approximately 25% of total broadband subscribers are using HFC technology. World Call Pvt. Ltd is the largest provider of Cable Modem Broadband in Pakistan, through its widespread HFC network in Karachi and Lahore. Wateen Telecom is another service provider which provides HFC service in the country (Umer, 2008).

A significant reduction in subscription and services charges has been witnessed in the country. The DSL subscription rate has declined to (nearly Rs 1200) per month from (>Rs 4,000) per month for 512 Kb connections (Umer, 2008).

Subsequent to the introduction of high-speed broadband access in early 2000, telecommunication companies have started offering a whole new variety of services.

The access to the Internet has been available in Pakistan since the mid-1990s. PCTL started providing access via the nationwide local call network in 1995. Till the year 2000, there was no significant increase in the penetration rate. By early 2006 Internet penetration remained low and then it has risen to 7.2%. There were signs that this was changing, however. The country has been pursuing an aggressive IT policy, aimed at accelerating Pakistan's wheel for creating an exportable software industry and economic modernization. There is no doubt that this has been helping increase the Internet penetration rate and the popularity of the Internet. The latest statistics shows that Internet users reached 18,500,000 with a penetration rate of 10.6% (Table 2).

**Cyber crime:** The outcome of the information revolution and high technology has resulted in a very sophisticated means of telecommunications, which makes the world an electronic village opens to the public and virtually cancelled the geographic and political boundaries of the states. This technique is a system of transfer of technical information on a superhighway, or what is known as the

Internet, is not bad in itself but is a double-edged sword that can be harnessed for good benefit. It can also be used for evil and harmful means (Aghatise, 2006).

The many benefits in taking advantage of the global information network cannot be counted. At the same time, these have been increased incidents of network misuse where dishonest people used it to commit certain crimes. The adoption of this technique for some criminal elements will probably continue as long as network subscribers continue to increase and information can be accessed from many available sources.

It is a double-edged sword and without a doubt, the use of sophisticated network communications in contemporary society has given a new dimension for human civilization to facilitate the completion of transactions and increase the speed of access to information and data with very little trouble. But this modern marvel is often exploited by the wicked.

As for the negative aspects of the Internet, criminals have taken full advantage of new developments since many techniques encourage and help criminals increase the number of crimes without increasing the amount of effort needed for traditional means and with reduced prospects of discovery.

We can therefore conclude from this that there is an emergence of new patterns in criminality which were not seen in the past. These have even exceeded many past crime patterns which have led to the emergence of new patterns in war, also known as electronic warfare. We are also witnessing the beginning of an era of information explosion, which means we can expect the emergence of more of these new criminal patterns, which will require the modernization of regulations, systems and increased competence from security authorities to manage the issues resulting from the emergence of these new patterns.

This study is an attempt to take a quick look at the criminal developments of the Internet age in Pakistani society, specifically limited to the convention of the so-called Internet Crimes or cyber crimes. This is an attempt to shed light on the magnitude and pattern of the most important new offenses and identifying, as much as possible and outlining ways to identify, control and reduce them. Naturally, we cannot accurately count these crimes, simply because the crimes and their patterns are in constant renewal and there are not totally specific

**Table 2: Pakistan internet users and population statistics**

Years	Population 2009	Internet users (Dec. 2000)	Internet users (latest data)	Penetration (population %)	Growth 2000-2009 (%)
2000	163,985,373	133,900	133,900	0.1	0.0
2006	167,806,831	133,900	12,000,000	7.2	8861.9
2009	174,578,580	133,900	18,500,000	10.6	13,716.3

patterns or certain forms since it is from old era that is in continuous evolution. This regeneration of crime patterns is not limited only to the information age explosion but also to the phenomenon as old as human society. Nor is it limited to one community or the other but is instead a global social phenomenon that exists in all societies regardless of progress or failure within communities. These evolving patterns of crime are present in the development of any society.

**RESULTS AND DISCUSSION**

**Research problem:** Although, the Internet is not a totally modern service since it has been in use since 1969, it was originally used exclusively for military purposes in the United States (Dekker, 1997). Since then however, the spread of internet use on a global level in all areas invaded the world very quickly and at all levels of society.

In 1996, the Internet connected an estimated 13 million computers in 195 countries on every continent (Dekker, 1997) and one the study has estimated the number of Internet users worldwide in 1998 at 134 million and expected a tremendous increase in the number of users of the network annually, which reached 245 million in 2005, 265 million in 2007 and finally over 1,668,870,408 users in 2009.

The majority of this increase took place outside United States, meaning that the spread of the Internet is not confined only to America but will include all countries in the world. This clearly shows the rapid spread of the Internet phenomenon evolved all too quickly and was almost inevitable since those who lagged behind would be considered not developed.

Penetration rates are based on a world Population of 6,767,805,208 and 1,668,870,408 estimated internet users for September 30, 2009 (Table 3).

The Islamic Republic of Pakistan, like other states, began providing service formally in both the private and public sectors in 1995 and allowing private Internet Service Providers (ISPs) like Paknet, which fully owned subsidiary of Pakistan Telecommunication Company

Limited (PTCL), the formerly government-owned telcoms firm, began offering ISP services in 1999, Paknet is the largest ISP, followed by cyber.net, part of the local Lakson Group.

Other leading ISPs include wateen, Comsats, Brainnet, Fascom, Supernet, Worldtel (an affiliate of Worldtel Canada) and NetSolConnect (owned by NetSol Technologies of the US and the Akhter group of the UK) (Economist Intelligence Unit, 2006). The entry of this service to Pakistan, as in other states, caused the emergence of new and different types of crimes that were not familiar before and have gained the attention of security authorities who now claim to place high priority on combating these techniques and updating their anti-crime methods to fall in line with modern technology.

Otherwise, these crimes will be widespread and cause additional worry to society and its security. Eventually, security authorities will find them unable to prevent criminals from quickly using their techniques and even exploit it for their criminal activities.

This will certainly cause a serious threat to society and its security unless the security forces and society itself quickly start initiatives to identify these new patterns and be better equipped to deal with it and avert its dangers.

Therefore, it is necessary and important to start work on identifying the magnitude and patterns of the most important crimes perpetrated by Internet users in Pakistani society along with working to identify the most important features and characteristics of the perpetrators. According to this view, security authorities can develop plans for the present and future to face these types of non-traditional and new crimes.

Hence, the problem of the research is confined to determine the size and patterns of internet crimes most common among Internet users in Pakistani society, especially in relation to sexual crimes, privacy crimes, electronic commerce crimes, crimes of piracy and others, while identifying the most important features and characteristics of the perpetrators of those crimes among Internet users in Pakistani society.

Table 3: World internet users and population statistics

World region	Population (2009)	Internet users (Dec. 2000)	Internet users (Latest data)	Penetration by pct. of population (%)	Growth 2000-2009 (%)
Africa	991,002,342	4,514,400	65,903,900	6.7	1,359.9
Asia	3,808,070,503	114,304,000	704,213,930	18.5	516.1
Europe	803,850,858	105,096,093	402,380,474	50.1	282.9
Middle East	202,687,005	3,284,800	47,964,146	23.7	1,360.2
North America	340,831,831	108,096,800	251,735,500	73.9	132.9
Latin America	586,662,468	18,068,919	175,834,439	30.0	873.1
Oceania/Australia	34,700,201	7,620,480	20,838,019	60.1	173.4
Total	6,767,805,208	360,985,492	1,668,870,408	24.7	362.3

## **CONCLUSION**

Cybercrime in Pakistan has its global impact especially with cyber terrorism, example of this, the disappearance of the The Wall Street Journal correspondent on Jan. 23, 2002, from Pakistan's southern city of Karachi and his captors started sending e-mails to newspapers, then the investigators starting to trace the e-mails sent by the kidnappers, this was one of the important reason for establishing the National Response Center for Cyber Crimes in Pakistan to combat against cybercrimes (Wired web site, 2003).

## **RECOMMENDATIONS**

Despite the progress being made by the government, Strong and specific regulations should be implemented for Prevention of Cybercrimes. Pakistan should learn from the countries which proceeded in the implementation of such law, Pakistan has to prepare itself for the changing and increasing phenomenon of cybercrime as it is not only affecting the country but also affecting its relations with other countries. We must develop education programs, training and security awareness to help minimize the risk caused by the Cybercrimes. Pakistan Government and private sectors should invest more in improving the information infrastructure security, developing the awareness among the student, employees and people of Pakistan. Government employees and law enforcement should be train to understand the real risk of cybercrime. The country facing many problems varying from poverty, unemployment, financial and political all

those issues will increase the number of Cybercrime and cybercriminals. For those who think we are immune from cybercrime, they should understand that we are living in an electronic village open to the public, cancelled with the geographic and political boundaries of the States. So let's take an action and be prepared for the future.

## **REFERENCES**

- Aghatise, E.J., 2006. Cyber crime definition. Computer Crime Research Center, June 28, 2006. <http://www.crime-research.org/articles/joseph06/>.
- Dekker, M., 1997. Security of the internet. The Froehlich/Kent Encyclopedia Telecommun., 15: 231-255.
- Economist Intelligence Unit, 2006. Overview of E-commerce in Pakistan. [http://globaltechforum.eiu.com/index.asp?layout=rich\\_story&doc\\_id=9616&title=Overview+of+e-commerce+in+Pakistan&categoryid=30&channelid=4](http://globaltechforum.eiu.com/index.asp?layout=rich_story&doc_id=9616&title=Overview+of+e-commerce+in+Pakistan&categoryid=30&channelid=4).
- Saeed, S., 2003. The South Asia life and time. Issue 35, September 2003. <http://www.the-south-asian.com/index.htm>.
- Umer, 2008. Pakistan defense an independent defense organization committed to the research and analysis of Pakistans security and strategic affairs. <http://www.jp12.org/pr/?url=www.defence.pk>.
- Wired Web Site, 2003. Pakistan creates cyber crime wing. <http://www.wired.com/politics/law/news/2003/03/58033>.
- Yaseen, M., 2008. Pakistan telecommunication authority. PTA Annual Report. [http://www.pta.gov.pk/annual-reports/annrep0708/ch\\_01.pdf](http://www.pta.gov.pk/annual-reports/annrep0708/ch_01.pdf).