PHENOMENOLOGICAL ASPECTS OF COMPUTER CRIME AGAINST INTELLECTUAL PROPERTY

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Abstract
The paper aims to realize a survey of this phenomenon by noting its specifics and recent globalization, by concentrating into the study and research of this new form of criminality, the great importance of the study of this criminal phenomenon, which is spread over in a global scale during the recent technical and technological development, including our country and many neighboring countries. With a much more increased role of the information technology in our lives, new trends in this technological transformation are observed as tools of illegal activities being used by certain individuals for criminal purposes.
Key words: *globalization, criminal phenomenon, technical and technological development, information, illegal activities*

1. INTRODUCTION

Nowadays the interaction with the global network (Internet) is turning inevitably into a stage of human development implying the exchange of values and models that gradually become available to all. However, it is associated with the spread of a growing control, in an attempt to isolate unacceptable elements of a global society. Computing revolution has extended its influence into every aspect of life, offering good things despite its negative side too (Seal 2010, p.18). Deliberate misuse of technological achievement often finds a country's legal system unprepared to regulate social relations in tune with this new development. For this reason not only our legislation, but the European one and wider are found before a gap that cannot be easily overcome. Even though there are many legal initiatives undertaken mainly in the unification and harmonization of legislations and practices in the fight against this new form of criminality, much remains to be done yet. Transnational character of cybercrime already requires not only local solutions but also international cooperation, so that the legal changes apply immediately and territorial barriers do not exist, thus giving a new dimension to the meaning of the rule of law.

Developments in information technology and communication as accessible tools of interaction between different users, require a new type of social relations, giving another dimension to the meaning of technology, not only as a public good but also as an invisible danger, which threatens everyone, regardless of geographical distances and time. Recognition of boundaries in the digital space, understanding and anticipating the consequences of actions or omissions in this space, will give an accurate interpretation of the specific features of this matter both legally as well as technically. The complexity of the problems raised to be studied and solved in connection with the performance of computer crimes as well as legal regulations, become more and more dominant. Today many countries face challenges in the fight against piracy and counterfeiting, the implementation of legislation on intellectual property, implementation and harmonization of legislation with the EU acquis in this respective field etc. Overcoming these challenges will increase professionalism in the field of information technology, creating conditions for the development of intellectual property and its wider application in both the domestic and global economic sphere.

2. HISTORICAL ASPECTS AND MEANING OF COMPUTER CRIME

At the beginning of the twentieth century, several authors, among which EH Sutherland (White Collar Crime) relate the onset of the cybercrime in the form of "white collars" (Wasik 1991, p.24). Other authors tie these beginnings with the information technology gradual development, its application and its wide use in various fields of life, out of which the first misuses began with the help of computers (Krapac 1992, p.15). The first recorded case of computer misuse is recorded in 1958, the year when the Stanford Institute (ICS) began keeping such statistics.

The appearance and use of information technology in everyday life brought on transforming of various forms of criminality making a big turning point in the world of crime by increasing and expanding it in many areas, which did not exist before. Today, computer technology is used in performing many tasks and functions in economic, legal, military, medical, scientific and other fields, enabling an ongoing progress and changing our lifestyle irreversibly (UN Manual , p.43-44).

The huge progress of information technology, in addition to its positive sides, opened the door to new anti-social behavior and crime in ways that never before were even thought as possible. Today, this progress provides new sophisticated opportunities towards the violation of the law. A challenge of the new legal status of social relations is a precise definition of this form of criminality. Apart commitments of many different authors in determining the definition of computer crime, there is not such a globally concept accepted yet. In contrast to the other forms of crime, this form is presented as a common phenomenological category by making it impossible to determine its exact definition. Computer criminality is a general form through which different types of criminal actions are presented (Jovaševič 2002). Another element which makes impossible or difficult such a precise definition, is its changing appearance and peculiar form, being adapted to the technological development pace of and often being a step forward. Various commitments have led to the finding that cybercrime presents not a common phenomenological category. Regarding computer crime definition, there are some different approaches in practice.

According to Stanford Researches Institute computer crime definition is "any offense which to be performed requires that its perpetrators have a technical knowledge about computers" (Saari 1987, p.111). Even the European Organization for Economic Cooperation and Development OECD, in its meeting in Paris in 1983, has given its definition in relation to computer crime by treating it as "any illegal, unethical act and unauthorized behavior in data processing or their automatic transfer" (Seal 2010, p.29). In the same year the German Federal Police addressed for the first time this type of crime, and defines "computer crime means all behavior in which, either data processing equipment are used as tools for achieving punishable results, or as a direct consequence of a condemnable action". Later changes gave a clearer understanding of this definition by dividing it into separate elements depending on the social relations affected, by defining among others that "computer crime consists of computer fraud, computer espionage and computer misuse" (Mohr, 1987, p.41).

Many other authors with their publications and their findings give an approximate definition of computer crime, by grouping two important elements, first as an offense which can not be performed without special knowledge about information technology, and secondly, that can take place without the help of a computer. Both these elements should be treated cumulatively since the lack of one automatically excludes the other. Taber also shares the same view which provides that " computer crime should include professional actions with computers, under the conditions that to such a breach can not be reached by other means" (Taber, 1979, 517). Parker D, Mohr K, K Tiedeman, Von Zur

MUHLEN etc. share similar thoughts, providing a valuable contribution to the study of the phenomenon in this period.

In respect with the general opinion of computer crime definition of the above mentioned authors, but not exclusively theirs, we can say that it is a special kind of crime, in which the computer is presented as a tool for committing the offense (modus operandi) (Goldstein, 1985, p.215) or as a target to persons who possess special knowledge on computer systems, in order to bring illegal benefits to themselves or third persons. The first period of this phenomenon is selected not without purpose, although dealt with briefly; it is the entire foundation of today's contemporary treatment of computer crime.

3. INTELLECTUAL PROPERTY AS A CONTEMPORARY CONCEPT

The history of mankind is based on the application of imagination, innovation and creativity, i.e. existing knowledge. This is done to solve different problems. There are countless examples of how the imagination of individuals has made possible today's world technological progress and development throughout the history of mankind. The imagination is also the source of progress in art as it is in science. Music, painting, sculpture, architecture, various inventions, and other forms of creativity and expression are indicative of social progress and quality of life, being created by individuals who are not satisfied with the old world, but see and express things in new innovative ways. They are valued and protected by the society not simply as private ownership of their original creators for their economic, political and cultural role, but as an expression of heritage and human efforts.

This entirety, expressed in the term of 'Intellectual Property', has been a subject of early protection, beginning with the Venetian Law of 1474, as the initial systematic approach of inventions' protection of a certain patent; further on with the 1883 Paris Convention as the first international treaty to help individuals to protect their intellectual creations in other countries; and a few years later in 1886, the Berne Convention, another international treaty on the protection of literary and artistic works, regarding mutual copyright recognition among different countries.

Intellectual property (IP) is a term that describes ideas, inventions, technologies, artwork, music and literature, which are incomprehensible when initially created, but become valuable when turn into products. It is the commercial application of imaginative thought, in order to solve a technical or artistic challenge, it is not a product in itself, but a specific idea behind it, how it is expressed, labeled, described. Intellectual property derives from innovation bases in existing knowledge as a result of creative improvement on what has worked well in the past, or new creative expressions of old ideas and concepts (Bello 2009, p.152).

Intellectual property rights represent a bunch of rights created to offer exclusiveness to their holders. Some of the intellectual property elements are: copyright and related rights, patents, trademarks, plant varieties, geographical indications, industrial designs, etc. Intellectual property laws on the creation, registration and enforcement of intellectual property rights vary greatly from one country to another (Junghans & Levy, 2006). But international economic integration, globalization trends and global economic interdependence dictate their harmonization through treaties or governing bodies of regional and international IPR organizations (WIPO, EPO, TRIPS), where many countries have acceded in different periods.

The product of the human intellect occupies a more important place in meeting social needs. Undoubtedly the intellectual creation as a product of the human mind is the most valuable asset of a

nation. The intellectual results are phenomena of modern society life. Intellectual property takes an important value in social relationships, where the problems related to the birth, creation, development, consolidation and legal protection will be the focus of a growing interest among researchers as well as among subjects of intellectual property (Poltorak & Lerner 2002). Its place in the field of law, makes it as attractive as contemporary.

The protection of these rights should already result in a new concept in accordance with the emergence and application of information technologies and the distribution of global communication tools. The gap created between law and information technology affects mainly objects of intellectual property, since the technological development, the exchange of information in real time and low-level awareness of users, often make the protection of these rights by their holders impossible and a senseless waste of resources. Stricter measures taken by the authorities against this phenomenon would lead to a violation of another right, such us the internet.

A change in the individuals' behavior toward intellectual property and their awareness regarding respecting of these rights as well as the legal consequences which may be faced are also important.

There are two fundamental principles of intellectual property rights.

a) In the first one, legal protection is based on the balancing of the interests of the state and the holder of the intellectual property. In connection with this breach of the inviolability of the scope of patent rights - a patent holder may be obliged to give permission so that his invention can be used (compulsory license), by defining also his right of such an intellectual property.

b) The second principle lies in the fact that after the expiration of the protection term of intellectual property rights, the public can freely use the object of the patent or copyright. Intellectual property Objects are not sold, but licensed or the usage right over them passed upon - its economic character. Taking in consideration the problems of intellectual property rights, it is necessary to analyze them in from a contemporary understanding, evaluating their transformation related to the development of computer technology, global connectivity tools and information dissemination.

The main problem of Intellectual Property and in particular of copyrights in relation to computer technology lies in the fact that such internal forms which has appeared lately, make it difficult or practically impossible to be kept safe. Nowadays, as a result of very low prices of optical carriers or flash drives, the simplicity of registration, the speed of copying and distribution on a global electronic communication network, the intellectual property objects have become easily accessible and sources of free of charge information. In case of copying without permission of the rights' holder and dissemination of that information, it is very difficult to find the real perpetrators that have violated the law, and it is even more difficult to punish them. Precisely for this reason, the unauthorized use of intellectual property without the permission of the rights' holder thereof shall be considered as a criminal offense (Petrof 2011, p.4).

4. ROLE OF THE INTERNET IN VIOLATION OF INTELLECTUAL PROPERTY

Global network (Internet) today is presented as a serious scheme with tools and resources to distribution and sale of pirated copies of computer software, computer games, artistic creations and other intellectual property products (Копчева 2006, p.112) .

More important is the determination of the legal nature of the Internet and what it represents. As the subject of law, it appears to create different relationships with its users; as the subject of legal

relations, its nature remains to be discussed. The development of technological opportunities and the electronic automation of many processes in the operation of computer software or websites have slowly added to the complexity of these online relationships. Global network connection has become a necessity now, by changing and the concept of human social interaction. Everyone is automatically connected to the Internet and therefore has access to information resources and especially those containing intellectual property, thus turning the global network in a "paradise" for computer crimes, because this network is not subject to any specific national legislation.

Changing the nature of intellectual products, from hardcopies, whose authors undoubtedly were easily identified, to free and unprotected digital copies that are out there in the global network, whose authors real or fake is one of the biggest problems. Various websites like Youtube or Peer-to-Peer technology (P2P) offer millions of products with artistic intellectual property that can be uploaded, downloaded, used or copied without any limitation in time or space by everyone as a product of his own. Of high importance in connection with intellectual property rights, is the question if there is a breach or violation of economic or moral rights, as the economic aspect affects directly the possible holder of that right to continue to create rights or exercise activity in this area. Development of illegal business in connection with the violation of intellectual property, is not a problem only of the rights' holder who owns them, but affects the whole economy of a country.

The other aspect is the infringement of moral rights, rights which are inalienable, but of individual character. Piracy violates the privacy rights of authors, without prejudice to the interests of consumers, diminishing state budget revenues, revenues that are generated by all citizens and private sector. Modification of an work and its recast back into a digital canvas with another name, makes the user unable to identify the real author. The easiness in communication and information search that nowadays is offered by Internet has decreased significantly users' and awareness, because many of them already do not care or are not interested whether they are violating a right or not, since their tracing and punishment as mentioned above has a cost that often exceeds even the capabilities of a developed country.

There are two elements which seriously infringe intellectual property rights. The first element relates to the transnational nature that Internet has. It is because of this character, that even more states have attempted to impose restrictions in accessing of certain categories of information on the Internet, but have faced strong opposition from interest groups, especially from the human rights protection organizations.

Internet and mobile telephone use in Turkey has grown significantly in recent years, though access remains a challenge in some parts of the country, particularly in the Southeast. Until 2001, the government pursued a hands-off approach to Internet Regulation but has since taken legal considerable Steps to limit access to certain information, including Political some content. In February 2011, the Information and Communications Technologies Authority (BTK) announced Countrywide Plans to ESTABLISH a Mandatory filtering system with the aim of Protecting Citizens from so-called "harmful content," Which Was included but not limited to sexually-explicit content and terrorist propaganda (Decision 2011). Subsequent to strong Opposition from the public, street Demonstrations, and a legal challenge, the Policy Was made optional for subscribers (Comert 2011). Nonetheless, Civil Society Organizations Have Continued to criticize the system since it became Operational in November 2011, and a legal challenge is Ongoing at the Council of State level.

According to Engelliweb, there were over 29,000 websites blocked as of April 2013, almost 10,000 more compared to February 2012. Several Domestic news websites and online streaming services,

Such as Last.fm and Metacafe, Continue to Be Blocked in Turkey. Over the last three years, Citizens Have Filed five separate applications to the European Court of Human Rights (ECHR) to challenge the government's blocking of YouTube, music streaming site Last.fm, and the webpage creation tool Google Sites, Before The Appeals after local Were Courts rejected. Was YouTube unblocked in 2010. In December 2012, ruling in the case of Ahmet Yildirim v. Turkey, the ECHR By-Held that there HAD been a violation of Article 10 of the European Convention of Human Rights in the case of the Turkish court's blocking of the hosting platform Google Sites. The Verdict, however, did not Result in any shift in government policy related to the Law No. problematic. 5651, often the messages to block websites. Its 2012 In Progress Report for Turkey's Accession to the European Union (EU), the European Commission Stated That "Frequent website bans are a cause for serious Concern and there is a need to revise the law on the Internet." (Freedom House 2013).

The second element, which is more dangerous, is the organized crime that is adapted very quickly with computer technology and the possibility created by a global network by facilitating to a large extent their criminal activity. When these two elements become cumulative, the criminal activity, and specifically that against intellectual property, takes epidemic proportions by turning it into an international legal element. Criminological literature provides for opinions and statements of various authors on the relation between computer crime and organized crime. In this respect many authors cite cybercrime as a special form of organized crime respectively "white collars" crime (Seal 2009, p.69). Regarding this, Glirk American, a criminologist, found that "computer crime is a new form of organized and professional crime firstly used in the field of economy" (Glick 1995). Organized computer crime requires less personal contact, with little need for formal organization and does not need control over a particular geographic area.

5. COMPUTER PIRACY

Computer piracy is a criminal offense which we face often nowadays, and consists in the violation of intellectual property rights through the use of computer systems or the Internet. It appears to be of high economic interest the piracy of movies and music and especially that of software, which is manifested in a criminal behavior such as the illegal sale of preinstalled software in computer systems, the creation of illegal copies from an original copy, the distribution in the global network without prior authorization of the copyright’s holder (Petrovic, 2000, p.189), the use of original software intended for personal use for commercial purposes, the decoding access for pirate broadcasting of television programs through the central server hardware. It is the consumer demands steadily increasing for new and low cost products and services that enable hackers to exploit rich-quick opportunities. Many users do not know or forget that the downloading of music, movies or computer programs from the Internet or distributing tits copy to their friends, constitute a violation of intellectual property rights. It is worth noting that the use of unlicensed software constitutes legal responsibility as well as sets the computer before certain risks, such as virus infection, and consequently damage or theft of personal items.

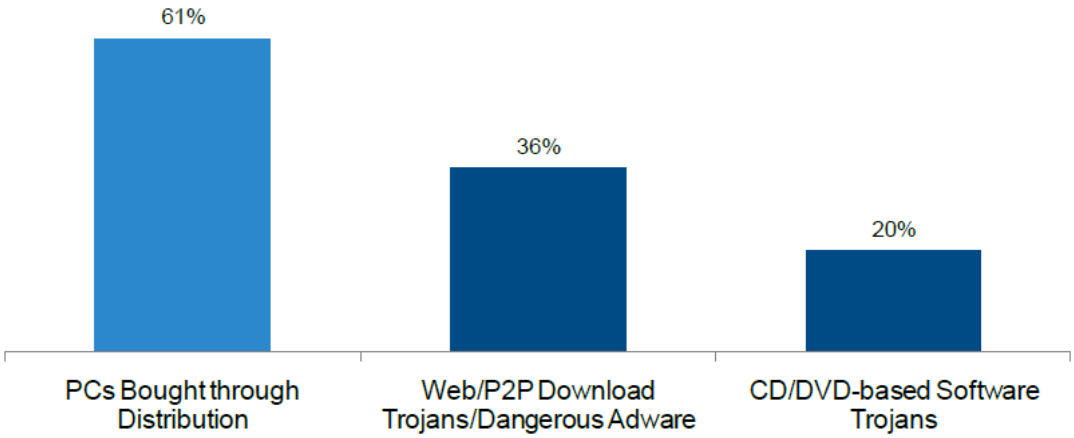
In 2013 the International Data Corporation (IDC) tested pirated software from more than 550 Web sites and P2P or CDs Bought in street Markets to determine the prevalence of malware in pirated software. In January and February of 2014, the Department of Electrical and Computer Engineering at National University of Singapore conducted a forensic analysis of 203 PCs That Were purchased from PC resellers, Specialty shops, and PC Markets in typical buying Situations in 11 Countries. Together, this research found the chances of encountering malware in a pirated copy of software is one in three. The chance of encountering malware in a PC with pirated software is purchased more than 60%.

Some of this malware May be cleaned or blocked by antimalware programs, but certainly not all of it. There are a number of Reasons: infections in base software, nor They are in Operating Systems, May be hard to detect; pirated software disables some functions That make it easier for PCs to get Infected by malware from Elsewhere; and many users, Especially Those deliberately using pirated software, do not install security updates. The NUS team actually used five different anti-malware Programs in order to find all the Threats and each time a new program used more Was Threats Were found. Many PC users have only one Will such program (IDC 2014).

Figure 1 shows the infection rates of pirated software by source of infection.

FIGURE 1

Infection Rates by Source



The European Parliament and the European Commission have undertaken consecutive legal steps in the fight against piracy and counterfeiting, by even spending more money and human resources, but unfortunately with minimal progress.

Software piracy, being deliberate or not, is illegal and punishable under national laws. It becomes an obstacle for innovation, a risk to business success and undermines budget revenue.

6. CONCLUSIONS

This criminal offence is very specific as this phenomenon has spread throughout the world alongside the development of information technology. It requires in-depth knowledge not only in the legal sphere, but also in new technologies. Understanding the function of information technology now appears before scholars of law as a necessity, because the interaction between the law and the technology increases the complexity and leads social interaction to a level where the preservation or respect of a right, seriously touches or violates another right. Progress in technology has often placed organized computer crime a few steps in advance of the legal and technical measures of more developed countries, making it difficult to detect and punish the perpetrators. Computer crimes against intellectual property in many developing countries, but not only, have been seen as crimes without direct impact onto their societies. That is because the detection of this new form of crime is too small and too expensive for these countries' budgets. Damages caused by the infringement of intellectual property rights is estimated at billions of dollars, even though from the standpoint of a simple user,

non-payment of a movie, music or software gives him the feeling of some saving and of an immediate personal benefit.

Awareness of different countries governments has set this new form of criminality in international agenda by creating cooperation mechanisms not only in the institutional level but also in the legal one. However, an ongoing challenge remains the development and strengthening of institutions that deal with intellectual property protection, including measures in the field of information technology, frequent professional training, increasing development of services towards users' awareness. Increasing the strengthening of cooperation between institutions at the national and international level will serve to the improvement of the intellectual property rights protection.

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