

The Law Applicable to P2P Networks on National and International Bases for Violating Intellectual Property Rights

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ABSTRACT

To provide a path to the copyright holders for filing a lawsuit against the infringers and violators through a legitimate process and applying the law that applies to that particular situation that keeps a balance between the peer-to-peer network technology and copyright holders this research has presented four different law strategies that can reduce the violation of the rights of the intellectual properties on national and international bases and advance the P2P network file-sharing procedure. The authors include the incorporation of the proper law for any illegal activity regarding copyrights via peer-to-peer networks on national and international bases with modification in the security system of file-sharing. It caters to the filing of the case for the violation of any copyrighted works regardless of where the cases have happened, and the law should be standard for all the intellectual properties and is acceptable by other countries as well.

KEYWORDS

Copyright Law, Information Technology, Intellectual Property Rights Infringement, Peer-to-Peer Networks

1. INTRODUCTION

P2P (peer-to-peer) networks are a systematic networking process that operates as a distributed architecture. This network helps all the systems and devices that have P2P technology as peers, accountable for both the client and server duties. These devices share files via P2P networks and have no central administrator; these systems are their administrator with the same rights and duties. There is no central server involved in operating them. However, the most important usage of P2P network is file sharing via BitTorrent or other P2P software. Some data can be downloaded from another system having P2P software without requiring any prior permission from the other system if the system is in working position and it is easy to access the system with a new peer without any central configuration. The system can automatically download a file from different locations simultaneously (Schollmeier 2001). However, the negative aspect of the P2P network is the security of the file. P2P lacks secure file sharing, even if one is willing to share the file but only with the trusted people (Kretthika et al. 2017). The scope of information technologies used in the intellectual property rights field has increased. Intellectual property (IP), like any scientific discovery or innovation, is a result of scientific research and activities. Furthermore, these works need to be protected from any infringement. Since the development of information technology, many copyrighted works are based

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only in a virtual environment, namely websites, databases, and clouds. Moreover, in the digital age, it has become important to maintain a decent view of copyrighted material through P2P file sharing technology. The use and promotion of copyrighted work must be with the consent of the copyright holder (Schollmeier 2001).

The main research objectives are as follows:

- considering ways for the intellectual property owner to file a lawsuit against the violation of their intellectual property rights;
- considering ways to improve P2P networks in a digital world;
- analyzing the working process of P2P networks.

An ecosystem should be developed for sustainable innovations, and legal framework should be developed to tackle the violation of intellectual properties (Jain et al. 2014; Piatek et al. 2008). The legal framework is important for catching infringers of copyrighted works (Law Teacher 2020).

Legal development for the protection of copyrighted works on an international level is in progress after the rise in infringing cases that have increased because of the advanced technology. International law operates under two subdomains: protection under public international law and private international law. However, at the regional level, law enforcement is still under development because of the political and economic differences (Mollah 2015; Verma 2004).

It can be difficult to find the person responsible for infringement of intellectual property rights, especially since P2P uploads and downloads can exceed millions of times and take place between a huge number of users located in different countries. In addition, it is well known that laws protecting intellectual property rights vary from country to country. Determining who is responsible, as well as the law that a court may apply to a claim, is considered on two levels. Herewith it should be understood that not all infringements are considered as criminal law violation. In the digital age with advanced information technology, not all infringements fall under criminal law because some people do not download files to violate someone's rights. It would be an infringement if someone downloaded the file and then used it in their project without copyright permission for example *Capitol Records, LLC v. ReDigi Inc.*, No. 16-2321 (2d Cir. 2018) and *EMI Christian Music Group, Inc. v. MP3tunes, LLC*, No. 14-4369 (2d Cir. 2016). The criminal law should be updated according to the seriousness of the infringement by the third party (Min 2019).

2. MATERIALS AND METHODS

This study is based on a review and analysis of international normative legal acts in the field of intellectual property protection, including such documents as:

- The World Intellectual Property Organization WIPO Copyright Treaty;
 - The World Trade Organization WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS);
 - the Berne Convention for the Protection of Literary and Artistic Works.
- The study also considers national laws and court decisions in this area, including:
- the US Digital Millennium Copyright Act (DMCA);
 - the United States Court of Appeals for the Ninth Circuit Opinion for *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004.

Using comparative legal methods and the method of functional analysis, the study examines the existing legal instruments governing the protection of intellectual property in the digital age. Their advantages and disadvantages are examined, as well as the difficulties of their application

in the international context. The study provides an overview and analysis of the most common problems associated with the protection of intellectual property rights in the use of P2P, as well as issues of determining the jurisdiction of these cases. Taking into account the specificity of copyright infringement in P2P networks, the study considers current practice in terms of the law of a country where a file is uploaded or downloaded, the law of a country where a server is located, and the law of a country in which protection is requested.

3. RESULTS

The lack of adequate protection of intellectual property rights is associated with such types of offenses as piracy, plagiarism, illegal trade in intellectual property rights, and online sale of products without copyright permission. In this case, the main problem is the illegal copying and distribution of private information. Although such violations, in addition to the Internet, can also be carried out in other ways, in particular through the media, but it is the use of electronic means of information exchange that has brought such violations to a new level (Alguliyev 2015).

As the number of cybersecurity incidents has greatly increased and negatively impacted the economy and creativity, the most effective tool to address this problem is the legal framework. Criminal prosecution plays an important role and can help in identifying a potential offender (Schollmeier 2001; VasIU and VasIU 2019). The benefit of copyright gives the inventor, author, or manufacturer the right to control the distribution, public transmission, and reproduction of his/her product if it is his/her copyrighted work. Copyright used to cover only a small fraction of objects, but now it also covers images, audio recordings, and more. The P2P network creates a link to every PC that saves a digital copy of the downloaded file. The issue of copyright protection is not covered enough in the digital world, which contributes to copyright infringement. Though the new P2P technology now gives users a better opportunity.

The digital platform theory was proposed by Balkin (Peters 2020); it considers the creation of copyrighted materials and the development of an inclusive technology culture. Furthermore, sharing copyrighted materials through a P2P network must be protected by technology regulations, administration, and judicial regulation mechanism. The existing copyright law should be modified and include new technology (Alguliyev 2015).

The research is more focused on one jurisdiction regarding the cybersecurity infringement cases increasing by the day. To prevent breaches, comprehensive planning and strategies will be useful to address this problem using improved information technology and a combined strategy to deal with violators around the world (VasIU and VasIU 2019).

According to the analysis, intellectual property can be used only for informational and educational purposes, and commercial use without proper authorization is a crime (Huete 2019; VasIU and VasIU 2019). There is no sufficient legislative process that would lead to liability for the unlawful use of copyright owners' works (Gao 2016).

Many people around the world share copyrighted data like songs, movies, TV shows, and software via P2P networks. This circulation of files is a threat to businesses and rights holders. Speaking about monitoring shared files through P2P networks, and how data are collected for infringement, it should be noted that this area of legal regulation is subject to the US Digital Millennium Copyright Act (DMCA). DMCA criminalizes violation of the copyrighted data. Nevertheless, there are still some problems with overcoming copyright infringement through P2P networks. The legal enforcement wants to settle the dispute between the copyright holders and the P2P users as the P2P networks are not operated by a single organization (Piatek et al. 2008; VasIU and VasIU 2019). Overcoming the problem of copyright infringement in the era of advanced technology is still debated in legal field. The World Intellectual Property Organization (WIPO) formed certain treaties to protect the copyrighted work from infringement. Moreover, the internet is the most triggered platform for the infringement of files via P2P networks.

Although digital rights management (DRM) techniques are formed to tackle the violation of intellectual property rights, still their results are not satisfactory. However, for file sharing, certain approaches were suggested that reduce the file infringement, that is, link aggregation control protocol (LACP), in which there should be a login essential for a peer to sign in for P2P networks (unlike in the past when anyone could download anything from any peer); these protocols help to secure file indexing (Jain et al. 2014; Peters 2020).

The P2P architecture provides excellent distribution to users around the world (Gao 2016) and provides different storage depending on system capacity and computer placement (Law Teacher 2020).

P2P networks use BitTorrent that measures the users requesting several copyrighted documents. Many DMCA infringement complaints cannot be satisfied as these complaints concern different sources and different content that is not associated with a single network. It shows that DMCA is not ideal to monitor the P2P networks. Besides, DMCA is not appropriate in identifying infringing users (Otieno 2016). There is also no possibility for copyright holders to file a lawsuit against violators and infringers residing in other countries.

An urgent issue today remains the search for possible ways to solve the problem of legal liability for infringement of intellectual property rights. There is no doubt that a person legally liable for the abuse of protected works through P2P technology is every person who downloaded or sent a protected work, called for it, could have prevented it but did not. For example, a person who copied a legally protected film, book, or music is liable for that action; and a person who shared (through programs, apps, or devices) this file is considered an accomplice, inducer, or caller to that action.

The exchange of works on P2P networks takes place between hundreds of people from more than one country, and it is difficult to verify their identity. Besides, even if it can be verified, it is difficult for the violated right holder to initiate hundreds of cases in various countries to claim his/her rights. However, infringed rights can be protected if the specific party who infringed or urged the infringement is identified. For example, if a company has released a device, program or application to help download or organize work by sharing files on P2P networks, in this case the true owner of the protected work can sue the infringer and assert his/her rights.

In this context, US judicial authorities have heard numerous cases involving the sharing of works on P2P networks, and have convicted some people for their participation in and encouragement of copying of protected works. For example, a group of 18 record companies, all of which are members of the Recording Industry Association of America (RIAA), filed suit in the U.S. Court of Appeals for the Ninth Circuit (Otieno 2016) against Napster, claiming that the latter had violated their protected rights. The company provided a platform for users to access and download compressed digital music files, particularly MP3 files, from other users' devices using P2P technology, while most of these files were protected by intellectual property rights.

This case is considered historical because it is one of the first cases related to works shared on P2P networks. The suit states that the transfer of files through the Napster service was illegal and that the purpose was commercial, and concludes that exploitative copying constitutes commercial use when done to avoid purchasing a licensed copy. As to damages, plaintiffs presented sufficient evidence to show that Napster caused a decline in audio CD sales and prevented plaintiffs from entering the digital sales market. The court held that Napster was liable for copyright infringement (Henman and Adler 2002).

Another exemplary case was brought by a group of 28 major entertainment companies against Grokster, Ltd. (Otieno 2016). Grokster and other companies distributed free software that allowed file sharing via P2P networks directly between users without the presence of a central server (unlike Napster, which used its website). Users could share files directly between their computers; the group of affected movie studios owned the copyright to most of those files. The District Court (Mollah 2015) decided to dismiss the case, citing the *Betamax* decision (Burks 1985); the case then went to the Court of Appeals (Steckley 2005), after which it was heard by the US Supreme Court. The latter in this case sought to make a decision that balances two major considerations: copyright protection

for authors and encouragement for innovation in information technology. The idea was not to hold innovators or developers responsible and not to limit the development of the industry and technology. Developers were excluded from legal liability.

In that lawsuit, the Supreme Court unanimously concluded that the companies that distributed and promoted the software had the intent to infringe copyright because they encouraged infringement and profited from the advertising; they were held liable for acts of copyright infringement. In another case in the United States District Court for the Southern District of New York, the court ruled that Lime Group LLC was liable for copyright infringement (Bridy 2011).

In 2000, the company Lime Group LLC (Rona 2011) released a program that used P2P file-sharing technology called LimeWire, which allowed users to share digital files via Gnutella network, and most of those files were MP3. An expert report presented at trial confirmed that in a random sample of files available on LimeWire, 93% of those files were copyrighted; those files were distributed, published, and copied by LimeWire users without the owners' permission. At the time the lawsuit was filed, the number of program users was about 4 million (Bangeman 2008).

Thirteen major record companies, led by Arista Records, sued Lime Group LLC for copyright infringement. They claimed that LimeWire was used to obtain and distribute unauthorized copies, and that Lime Group LLC contributed to copyright infringement by distributing and maintaining the program. The defendant was liable for copyright infringement.

The court concluded that the defendant was encouraging users to infringe copyright by distributing the LimeWire software (Friedman 2014). The Court affirmed in this regard that LimeWire's email notice asking users to affirm that they did not use it to infringe copyright did not constitute any meaningful effort to mitigate the infringement.

Defendant could have stopped the violations (Rona 2011) by restricting the use of its product by filtering, preventing access, controlling, and organizing users, but defendant did none of these things (McGill 2008).

Special attention should be paid to the issue of the law applicable to intellectual property rights. Issues related to intellectual property rights are governed by national law and do not involve conflict of laws. In the earlier cases, the court applied U.S. law because the elements of those claims were national.

Intellectual property rights disputes that may arise from file sharing on P2P networks are rarely purely national in nature, because files are exchanged between many people who may be present in several countries. It is also possible that the infringing company or companies belong to more than one country. In such cases, if there is a dispute regarding intellectual property rights, it is governed by national law. The conflict of laws arises, and the judge must search for the applicable law. another similar case can be found in See also case law on this topic; Alliance of Artists and Recording Companies, Inc. v. Denso International America, Inc., No. 18-7141 (D.C. Cir. 2020), and the case of Recording Industry Association of America, Inc., Appellee, v. Verizon Internet Services, Inc., Appellant, 351 F.3d 1229 (D.C. Cir. 2003),

Because of the differences in the national laws of different countries, states resort to finding the applicable law to resolve international issues. The parties to a dispute may agree to apply a particular international agreement or treaty to resolve their issue without resorting to conflict of laws rules.

The international community has resorted to the use of international conventions to regulate aspects of intellectual property and to apply these conventions to related disputes. Among these conventions is the Berne Convention for the Protection of Literary and Artistic Works, signed on September 9, 1886 (Ricketson and Ginsburg 2006).

The World Trade Organization concluded on April 15, 1994, the TRIPS Agreement (Correa 2020), which incorporates by reference the Berne Convention for the Protection of Literary and Artistic Works and the Paris Convention for the Protection of Industrial Property. There is also the WIPO Copyright Treaty (WCT) (of 1996), which is a special agreement within the framework of the Berne Convention and deals with the protection of works and the rights of their authors in the digital

environment, and each contracting party (even if not bound by the Berne Convention) must comply with the substantive provisions. In addition, the WCT mentions two topics that must be protected by copyright: 1) computer programs, regardless of their mode of expression or form, and 2) data sets or other materials (“databases”), regardless of their form, if they are considered to be intellectual innovations (WCT 1996).

4. DISCUSSION

The rules of conflict of laws in various countries determine the law applicable to a traditional legal relationship. However, when it comes to electronic legal relationships, it is not always possible to localize a particular country to enforce its law. If a harmful action occurred in a specific country, the conflict of law rules refer to the application of the law of that state, but it is more complicated when this action is carried out on the Internet, such as infringing copyright through P2P networks (Al Adwan 2020) since it is difficult to determine the country in which it occurred. Views differed regarding the application of one of these laws: the national law, the law of a country where a file is uploaded or downloaded, the law of a country where a server is located, and the law of a country in which protection is requested; these views are addressed as follows:

4.1. National Law

Some authors (Hillier 1998) consider referring to the national legislation when considering actions that take place on the Internet. However, it may sometimes be difficult to determine the place of data uploading on the Internet or the place of the server that hosts the website. In practice, website owners store their websites on more than one server.

In fact, it is difficult to determine the law applicable to copyright for material distributed on P2P networks. There may be many people of different nationalities who infringe intellectual property rights; the same goes for rights holders who have been subjected to infringement. Consequently, it is not clear which nationality can be relied upon to determine the applicable law.

4.2. The Law of a Country Where A File Is Uploaded Or Downloaded

Regarding the law applicable to intellectual property infringement, defamation or disrespect that occur on the Internet, some have called for the application of the law of the country in which the file was uploaded or the country where the file was downloaded. Material is transmitted over the Internet in two ways: it is uploaded by one person and downloaded by another (Hillier 1998), and the applicable law is either the law of the country where the file was uploaded or the law of the country where the file was downloaded.

In this regard, some (Al-Hawari 2012) consider applying the law of the country in which the file was uploaded because that country is most closely associated with the malicious act; it is the starting point in the commission of that act. This country has the electronic tools that were used in committing the malicious act. The uploading country can also be considered the country of first publication. Others (Salama 2000) consider applying the law of the country where the file was downloaded, on the grounds that the copyright holder has suffered financial loss and damage in that location.

Given the ability to upload and download data stored on the Internet in all countries connected to the network, the liability of the offender can be determined according to the laws of all countries connected to the network (Jerker and Svantesson 2016; Salama 2000). It is also difficult to determine the place of downloading, namely, the data can be downloaded by a person who uses an electronic device while traveling on an airplane or ship (Al-Hawari 2012).

Materials are distributed on P2P networks to many people and uploaded and downloaded millions of times, which makes it difficult to determine where they are uploaded and downloaded, and even if those places (countries) can be identified, the law of which country should apply?

4.3. The Law of a Country Where A Server Is Located

Some authors (Bogdan 2006) believe that in determining the applicable law, the law of the country where the server hosting the website is located can be considered. As in such cases, it is websites that perform the main functions (commercial operations such as displaying goods and conducting advertising and others) in distributing infringed files. The location of websites can be used to determine jurisdiction. For example, if an Emirati national is slandered, i.e. his/her personal photos are published on a site hosted in France, French law applies to this cybercrime because the server where the crime was committed is in France.

This trend has not been supported and has been criticized on the grounds that a website can be hosted on servers located in more than one country, and this website can collaborate with other websites located in many countries. In addition, these websites can operate as a single location (Jerker and Svantesson 2016), making it difficult to find the server that hosts the website to determine jurisdiction (Hillier 1998).

Similarly, the location of the server hosting the website is usually a random location, chosen for purely technical reasons, and no connection is established between the country where the server is located and the disputed situation. In addition, a website owner may not know where the server hosting their website is located, and this location is unstable because the server may be moved to another country or the website may be moved to another server located in another country without notifying the website owner. Thus, it is difficult to determine the applicable law for copyrighted materials that are shared on P2P networks because these materials are often distributed without a central server.

4.4. The Law of The Country in Which Protection Is Sought

Regarding property rights to material published over the Internet, some have found it appropriate to apply the law of the country in which protection is sought based on several arguments, the most important of which are (Al-Hawari 2012; Salama 2000):

First: when a person whose copyrights have been infringed over the Internet sues in a particular country, he/she must prove that the actual infringement has been committed in that country and, therefore, the law of that country applies (Salama 2000).

Second: this approach is supported by certain international conventions, such as the Berne Convention, namely that the extent of protection and remedies afforded to the author to protect his or her rights must be governed by the law of the country where protection is sought.

Third: in most cases, the law of domicile or residence is applied, and the affected person is given the right to choose the law applicable to the litigation (Salama 2000). Usually, the greatest amount of damage occurs in a state where protection is sought, and in most cases, this state is the home of the affected person, as the person seeking protection tends to file a case in his/her state.

Thus, the materials on P2P networks are distributed by many people from many countries; also, in most cases, the copyrighted materials that have been infringed belong to many people of different nationalities, which makes it difficult to apply national laws.

The study clearly shows weak cybersecurity in P2P networks. P2P networks should have a central administration to fight against inauthentic tampering and protect intellectual property rights. In addition, P2P networks should develop a criterion in the system to notify the copyright holder whenever someone downloads their files, and develop security system to protect the rights of copyrighted works owners. The study proposes to create a legal framework at the international and national level to protect intellectual property rights. Policies should also be established so that holders of intellectual property rights can sue infringers in their home countries and be compensated by the infringer.

5. CONCLUSIONS

This research paper emphasizes the importance of creating a basic law to protect intellectual property rights on the Internet internationally. Moreover, there should be a single organization to monitor the use of files on peer-to-peer networks. The article discusses four strategies for legally fighting intellectual property infringement, namely the application of national law; the law of the country where the file was uploaded or downloaded; the law of the country where the server is located; and the law of the country where protection is sought. The study concludes that it is most common to apply the law of the country in which protection is sought. The party whose rights have been infringed on a P2P platform usually sues for intellectual property rights infringement in their home country. The study took into account existing legal acts and judicial precedents, which led to its limitation. However, multiple premises indicate that the number of court precedents related to the protection of intellectual property rights on the Internet will increase. It is anticipated that further research related to copyright protection issues will be based on promising court decisions.

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CONFLICT OF INTERESTS

Authors declare that they have no conflict of interests.

DATA AVAILABILITY

Data will be available on request.

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