

Intellectual Property on the Internet

Legal and Economic analysis

por

MIGUEL GÓMEZ MARTÍNEZ

SUMMARY

1. INTRODUCTION.
2. THE INTERNET AND ITS INFLUENCE ON THE DISTRIBUTION OF DIGITAL GOODS:
 - 2.1. IMPLICATIONS OF SHARING COPYRIGHTED WORKS ON THE INTERNET.
 - 2.2. AUDIOVISUAL WORKS.
3. LEGAL FRAMEWORK:
 - 3.1. SPANISH INTELLECTUAL PROPERTY LAW.
 - 3.2. UNITED STATES COPYRIGHT SYSTEM:
 - 3.2.1. *Infringement in the Digital Age.*
 - 3.3. INTERNATIONAL LEGAL FRAMEWORK FOR INTELLECTUAL PROPERTY LAW:
 - 3.3.1. *Location of Internet Transactions.*
 - 3.3.2. *Contracts, copyright and the Internet.*
4. ECONOMIC FRAMEWORK:
 - 4.1. ECONOMICS OF INTELLECTUAL PROPERTY:
 - 4.1.1. *Pricing of information goods.*
 - 4.2. MEDIA ECONOMY:
 - 4.2.1. *Implications for media managers.*
 - 4.3. THE «INVISIBLE HAND». DOES IT WORK WITH TECHNOLOGY?
5. TECHNOLOGICAL PROTECTION OF DIGITAL GOODS:
 - 5.1. DRM'S EFFECTIVENESS.

6. CHALLENGE FOR LEGISLATION.
7. CONCLUSIONS.
8. BIBLIOGRAPHY.

1. INTRODUCTION

This paper examines some of the most important issues related to the problematic topic of Intellectual Property on the Internet.

More specifically, it focuses on the legal and economic view of intellectual property on the Internet.

First, it introduces the Internet and its development and increasing influence in recent years (chapter 2), also in this chapter the author attempts to clarify the concept of «*Audiovisual work*», despite the difficulty of such a task, as will be explained later.

In chapter 3, there is a brief study of the legal framework, as it currently stands in Spain and in the United States of America.

Some aspects of the international legal framework for intellectual property law are also considered, for example the jurisdiction problem and the Internet, or the relationship between Intellectual Property and contracts.

Chapter 4 looks at the Economic framework of digital works on the Internet. Topics studied in this chapter include the economics of Intellectual Property, the Media Economy and how Adam Smith's theory of the «*invisible hand*» works with technology.

There are other ways to protect intellectual property of digital works, in addition to legal protection. Some corporations in the media industry have developed technological protection to protect their intellectual property rights; such as trusted systems, watermarks or Digital Rights Management systems (DRMs). This paper studies these systems in Chapter 5.

In the last chapter, before the conclusions, this paper will try to set out some starting points for this legislative and regulatory challenge; and how governments and society might handle the challenge of Intellectual Property on the Internet.

The conclusions of the study can be found in chapter 7.

2. THE INTERNET AND ITS INFLUENCE ON THE DISTRIBUTION OF DIGITAL GOODS

The advent of digital technology and the existing networked environment, the Internet, have had an immense impact on patterns of production, modification... of creative work in digital format.

There is no doubt about the fact that the Internet and telecommunications represent a very important part of everybody's life; and that they have brought about a sea change in the way people communicate with each other, a change in how people work...

The Internet has brought about big changes in the way cultural goods are distributed, because it has broken the barriers of the physical world.

Nowadays, Internet users, generally owners of cheap digital devices, have been able to play different roles.

The digitization process has changed the economics of creativity, dissemination and copyright by:

- Making technological tools and devices available that make creativity much cheaper and easier than at any other time.
- Greatly reducing the cost of reproducing work without a loss of quality.
- Allowing these reproductions to be distributed with the same ease, speed and cost than the original.

Digitization technology has enabled the spread of digital creativity on a massive scale and this clashes with modern Intellectual Property legislation.

For example, in the audiovisual market, the change which has transformed it, is the possibility of making movies and television series available using Internet technology. This makes possible the availability of audiovisual work to an incredible number of potential customers, relatively easily and at a relatively low cost.

The on-line sharing of digital versions of copyrighted movies has become widespread: in some cases, pirated versions of movies are available for download from the Internet before they are shown on the big screen.

The Internet could provide content producers with a low-cost 24/7 distribution channel for delivering digital goods and services; and also the Internet can be a very useful marketing channel.

But not everything on the Internet is good news: although the Internet as a platform for commerce is characterized by the ease and efficiency in which information can be distributed in the global marketplace. Such characteristics are seen by some people as a great threat to the interests of content producers.

Content producers, or at least some of them, perceive the Internet as a major problem; because once an information product, like a movie or a computer program is digitalized (reduced to a digital file) it can be distributed worldwide in unlimited numbers at virtually no cost, or at a very low cost.

For this reason, traditional content providers have been slow to embrace the Internet as a distribution channel, they consider the risk to their principal assets as being simply too great. This argument is, in part, one of the reasons why content producers have been reluctant to make their material available online. The law governing information goods, copyright law, is better settled off-line than online.

The convergence of media and technology is the issue which, in many instances, is causing legal difficulties. The issue of convergence poses difficulties, because comparable services, such as virtual worlds and interactive audiovisual services, would be subject to comparable laws, but they are not.

The new uses of digital goods in a purely digital environment are what cause uncertainty on-line, because it is difficult to predict how Intellectual Property law will be applied. In addition, there are some problems with new emerging business models that use, manipulate, re-purpose and repackage digital goods in ways not covered by intellectual property laws.

The issues concerning how intellectual property laws apply to this new business are unresolved causing legal uncertainty.

To solve these uncertainties, and the threat of unauthorized copying on-line, some companies have developed self-help technologies in an effort to reduce the business risks involved in making digitized content available on the Internet.

2.1. IMPLICATIONS OF SHARING COPYRIGHTED WORKS ON THE INTERNET

The structure of the Internet is based on a decentralized system, and that feature has increasingly empowered end-users to disseminate creative works to an unprecedented extent.

As explained above, using the Internet to distribute content is so easy and everybody can do it, with just a computer and an Internet connection.

Understanding not only the turn to technology as a regulatory system, but also the social, legal, political and cultural mechanisms by which it is possible, is, at one level, crucial to the ongoing disputes about copyright and the Internet.

But, in order to share copyrighted work, the person who shares it must have the right to do it. European copyright law reserves all acts of digital reproduction, communication and distribution to the public of their works to the copyright holders, or to those who hold those rights.

There are some methods of lawful dissemination remaining for the end-users.

Internet users are free to communicate and share the public domain and any and all authorized materials; but it is questionable whether, and under what conditions, end-users are entitled to share (or at least download) unauthorized copyrighted works under the European copyright exception of private copyright or pursuant to the United States fair use doctrine.

In the United States, the issue of direct liability has been examined and settled by two United States appellate decisions (cases: *«A&M Records v. Napster»*/*«BMG Music v. Gonzales»*).

In the European Union, recent case law on end-users' liability shows that file-sharing of unauthorized copyrighted works affects two distinct types of exclusive rights created by copyright law.

Unauthorized downloading of copyrighted works involves the right of digital reproduction; but uploading copyrighted works encroaches upon the right by making those materials available to the public.

While these decisions concerning end-user liability concluded that uploading infringed the exclusive right of making copyrighted material available to the public; there has been much uncertainty about the nature of infringement caused by merely downloading.

2.2. AUDIOVISUAL WORKS

¿What is an audiovisual work? If we search different laws looking for a definition of this term, we will find that not all jurisdictions contain a definition in their copyright laws.

There are some jurisdictions which contain a definition in their copyright laws, but there is not a single concept to clearly establish what an audiovisual work is.

For example, French Copyright Act, article L112-6 defines audiovisual works as *«works consisting of sequences of moving images, with or without sound»*.

In Spanish Intellectual Property Law, in article 86 we find the following definition: *«the creations expressed by a series of associated pictures, with or without sound, which are intended primarily to be shown through projection machines or by any other means of public communication of image and sound; irrespective of the nature of the material supports such works»*.

In the United States Copyright Act, 17 USC Â§ 101 (1988) we can also find a definition of audiovisual works: *«audiovisual works are those works which consist of series of related images which are intrinsically intended to be shown by the use of machines, or devices such as projectors, viewers or electronic equipment, together with accompanying sounds, if any, regardless of the nature of the material objects, such as films or tapes, in which the works are embodied»*.

The CDPA 1988 (United Kingdom) refers to films, according to section 5B, a film is *«a recording on any medium from which a moving image may by any means be produced»*.

In we look for a definition in international treaties, we must see the Bern Convention, but in this document, only cinematographic works are mentioned, and the decisive feature of those works is the use of a cinematographic process.

So, as can be seen above, there is no unique definition of what an audiovisual work is; it seems that the idea of all laws is similar, and the prevailing characteristic is the existence of a sequence of related images. It is not important if there is sound or not, or the nature of the material objects.

A very good example of what an audiovisual work is, and, in my opinion, what everybody thinks about when we talk about audiovisual works, is a movie.

A movie has all the characteristics established by law, to consider a work as an audiovisual work.

It is a sequence of related images, with or without sound, and it does not matter what is the material object that the movie contains, because it is the same movie if it is recorded on a DVD, or if it is on your computer's hard drive.

3. LEGAL FRAMEWORK

Now that we have explained the problem with the Internet, digital works and the distribution of those works, we are going to study the current legal framework.

Information goods and services, including audiovisual works, are protected by intellectual property rights, principally copyright.

This system worked reasonably well when such goods and services were distributed physically, and copies were fixed, costly and traceable. However, with the development of digital technology, copying is simple, inexpensive and difficult to prevent or trace without copy protection technologies.

In this paper, we study the principal aspects of Spanish intellectual property law and also United States copyright law because, despite their similarities, there are some differences between them.

In addition, we discuss some issues of private international law and the existing problems in the international legal framework.

The reason for intellectual property and copyright can be justified by the argument that society, as a whole, benefits from the creation of literary, artistic, musical and other works of authorship, but the law has to grant authors the right to prevent others from making use of their works without paying for that privilege.

Copyright seeks to maintain an appropriate balance between the interests of authors, in benefiting from the economic value of their works, and the interests of the public, and subsequent authors, in having access to the works that copyright is designed to encourage.

The World Intellectual Property Organization (WIPO) argues that intellectual property rights are the tool which allows the correct exploitation of works, as a means of stimulating future cultural creation.

Free access to culture, without respect for intellectual property rights, seriously jeopardizes the cultural model undermining its development, richness and diversity.

3.1. SPANISH INTELLECTUAL PROPERTY LAW

It is important to explain the distinction that Spanish law makes between intellectual property and industrial property.

For most intellectual property systems, intellectual property includes copyright, patents, trademarks... but in Spain there is a difference.

In Spain, intellectual property is basically copyright, and what they call industrial property, includes patents, trademarks, and other similar rights.

Spanish intellectual property law dates from 1996, but in 2012 some changes were made, to adapt the law to the new circumstances.

First of all, Spanish law, establishes that intellectual property is integrated by personal and economic rights, which attribute the author full provision and the exclusive right for the exploitation of the work, without any other limitations other than that established by the law.

Strictly speaking, intellectual property is the author's right, integrated by many powers. It belongs to the creator just because of its creation.

Article 10 of Spanish property law establishes that all literary, artistic or scientific creations expressed by any means or medium, tangible or intangible, currently known or invented in the future are subject to intellectual property law.

This law makes distinctions between two types of rights which belongs to the author: namely moral rights and economic rights.

In article 14, it establishes the moral rights which are indispensable and inalienable; some of these rights are:

- The right to decide whether a work is to be disclosed and in what form.
- The right to determine how the disclosure is going to be made.
- The right to require the recognition of the author's condition.
- The right to demand respect to the integrity of the work and to prevent any distortion, modification, alteration or outrage against it which supposes any damage to the author's legitimate interests or damage to the author's reputation.
- The right to change the work respecting acquired rights of other people and the requirements of the protection of cultural assets.

There are some other moral rights, but the ones listed above are the most relevant.

If we look for economic rights, we have to look at articles 17 to 21 of the Spanish intellectual property law. Article 17 establishes that the author has all economic rights for the exploitation of his works, and establishes some of them, which are defined in articles 18 to 21.

They are called exploitation rights, also belonging to the author, and they can be subject to transmission. It is important to state that article 17 of Spanish Intellectual Property Law does not establish a closed list of economic rights.

Some of these rights are:

- Reproduction (article 18) «*direct or indirect attachment of the work, temporary or permanent by any means and in any way or of part of it, that allows its communication or obtaining copies*».
- Distribution (article 19) the law interprets distribution as making available the original or copies of the work to the public in a tangible support by sale, rent, loan...
- Public Communication (article 20) «*any act by which people can have access to the work without its previous distribution to each individual*».
- Transformation (article 21) includes the translation, adaptation and any other modification in the form of the work that turns it into a different work.

Spanish Law establishes some limits for intellectual property rights, which are in article 26 to article 40 of the law.

As an example, I am going to explain two of those limits, the ones that I consider are the most relevant to intellectual property rights.

The first limit is known as the «*limit for private copy*», and is regulated in *article 31* of intellectual property law. This article sets out that an author's authorization not necessary for the reproduction of any medium of works that are already divulged; when this reproduction is carried out by a person, not a legal entity; who uses it for private use. It is also necessary that the person who carries out the reproduction legally had access to the work. The copy that he or she obtains cannot be used in a collective or lucrative way.

The second limit to be explained is the «*citation limit*». It is set out in *article 32* of intellectual property law. Under this limit, it is lawful to include in a work fragments of other people's works; when these works are already divulged and its inclusion is made as a citation or for its analysis, comment or critical judgment. This citation limit is only allowed if it is done with teaching or research purposes.

Spanish intellectual property law establishes a limit in time for the intellectual property rights. These rights are valid during the life of the author plus 70 years after his death.

Spanish regulation of intellectual property also provides for a protection system; this system is based on two types of protection:

- *Civil system*, is based on Spanish civil law, and developed by intellectual property law, which allows the author to carry out some different court actions such as:
 - *Article 139 Intellectual Property Law*: allows the author to obtain, by legal process, the cessation of unlawful activity and to claim for compensation for moral and material damages.

- *Criminal system*, is established in Spanish criminal law, articles 270 to 272. This criminal system is based on two requisites; the illegal activity has to be made for profit and it has to jeopardize the author.

3.2. UNITED STATES COPYRIGHT SYSTEM

The United States system of copyright is similar to the European system and the Spanish system, but there are some differences between them.

Copyright Law derives from Art 1, section 8, clause 8 of United States Constitution.

If we study some case law about copyright, we can understand the fundamental tension of the copyright system.

For example, in the case «*Sheldon v. Metro Goldwyn Pictures Corp.*» there are some important arguments, on the one hand, copying a work word for word might be legally wrong; but on the other hand, if a person has any «*natural*» rights, one of these must be the right to imitate others, for example, learning is a form of mimicry and progress depends on a generous indulgence of copying.

So the fundamental issue of the copyright system is to find the appropriate balance between public (which must allow generous indulgence of copying) and private (which does not allow the copying of a work word-for-word, and the right of the author to gain profit from his work) rights.

Copyright law strives to accommodate two competing goals: offering sufficient incentives to motivate the creation of original works of authorship, while allowing the public access to and use of these works.

Copyright systems protect works of authorship of certain types, the work has to be original to the author, it has to be fixed in certain forms, the work has to be an expression of an idea, but it cannot be an idea itself.

As long as the work satisfies these conditions, its author automatically gains copyright protection.

Copyright remains in ordinarily authored works for the life of the author plus 70 years.

There are some procedures for copyright:

1. Registering the work with the Register of Copyrights. This register has a declarative effect. This procedure is a precondition to filing a suit for copyright infringement, it provides a presumption of validity of copyright in the event of a lawsuit.
2. Depositing a requisite number of copies (2) with the Library of Congress. Failure to do so carries only minor penalties.
A deposit with the Library of Congress will satisfy the requirement to deposit copies for the purposes of registration.
3. Affixing the appropriate copyright notice to the work.

The United States copyright system, establishes different types of rights, it differentiates between exclusive rights and moral rights.

— *Exclusive rights:*

Section 106 of Copyright act, establishes five basic rights: reproduction, adaptation, distribution, performance, display.

They are exclusive in two ways:

- Without permission of the author no one else may perform the actions that are exclusively given to the author.
- They are the sum total of the rights granted to the author, and if a third party does anything that does not fall within these rights, then there is not infringement.

Those five exclusive rights are complicated in practice, and do not apply in the same way to each type of work because it does not make sense to give the work that right. For example: pictures do not have the public performance¹ right, because granting it would mean prohibiting people to show the physical object.

— *Moral rights:*

When the United States decided to join the Bern Convention, it was obliged to recognize some kind of moral right systems in its laws. The problem was that the United States' system was founded on economic exchange and the free alienation of rights was not well-suited to a set of rights or inalienable authorial rights.

The Visual Artists Rights Act of 1990 (VARA) implements a moral rights regime, but only in relation to «works of visual art». There are only two rights granted by VARA:

- *The right of attribution:* right to be identified as the author of your work plus the right to prevent the use of your name in relation to works you did not author.
- *The right of integrity:* right to prevent intentional distortion or mutilation of your work if you are an author of recognized stature.

These rights cannot be transferred, but they can be waived by the author.

¹ Public performance means the work is being performed at a place open to the public or where a substantial number of people gather, as it is being transmitted in a way that makes it public.

Regarding infringement of copyright, there are some issues that must be explained. First, all plaintiffs in an infringement action must prove that the work at issue is copyrighted and that they own the relevant rights.

There are two types of infringement:

- *Primary infringement*: the defendant is accused of directly infringing one or more of the exclusive rights.

Considering that the defendant has actually done that which belongs to the plaintiff by way of exclusive rights.

It does not matter here if the infringement was undertaken for financial gain, although the penalties for commercial infringement are more serious. It does not matter if the infringement was done unintentionally or accidentally.

The fundamental requirement is that the plaintiff must establish that the defendant actually copied the plaintiff's work. The plaintiff must prove that copying took place; this requires a combination of access and probative similarity.

Copyright only forbids actual copying, it does not forbid independent creation of the same work.

- *Secondary infringement / Secondary liability*: the defendant is alleged to have aided others in infringing.

The statute provides only for primary infringement. Courts have applied common law principles of secondary liability in order to find infringement for those who aid others in their primary infringements.

There must be a primary infringement, if not, there cannot be secondary liability.

Over time, ways of secondary liability for copyright have stabilized into two types of infringement: contributory and vicarious.

A *contributory infringement* occurs where a party intentionally induces or encourages primary infringement and declines to exercise a right to stop or limit the other's infringement.

In order to be found liable for contributory infringement, a defendant must have directly induced infringement by others, or provided the means to infringe with knowledge of infringement.

A person who does not directly violate one of the exclusive rights of a copyright owner, may, nonetheless, be held liable as a contributory infringer. *Vicarious infringement* involves a greater degree of control along with a direct benefit for the secondary infringer.

Another form of indirect liability, vicarious liability, may be found when a person who has the right and ability to control the activities of the primary infringer receives a direct financial benefit from the infringement.

But copyright is not an absolute right, it has some limitations, the most important one of which is the «*fair use defense*».

Those defenses and limitations are:

- *Equitable and Statutory Licenses and Defenses* (Sections 108 to 121 of Copyright Act). Rely on a type of wrongdoing: the plaintiff uses its intellectual property to extend its rights beyond those granted in the statute in ways that are anti-competitive.

It is rarely successful and requires very high levels of acts of bad faith by the plaintiff.

They are called «*statutory or compulsory*» licenses because they create a system whereby use is licensed automatically without permission of the copyright holder as long as the user pays a statutory set royalty.

A compulsory license basically exempts specific types of infringement as long as the person using the work pays the copyright owner some statutory fee, or complies with some other requirements.

To promote a particular socially beneficial use of a copyrighted work by persons other than the owner of the copyright; Congress may grant a license to use such a work to anyone whose use satisfies the conditions set forth in the statute creating the license and who pays the prescribed royalty.

A compulsory license allows Congress to precisely target the particular kinds of uses that it desires to promote. The statute granting the license can include detailed conditions that must be satisfied before a person may enjoy the benefit of this license.

By creating a compulsory license, Congress can require the license holder to pay a royalty to the copyright owner, balancing the interests of the public and copyright owners.

A compulsory license provides the user of another person's work with greater certainty that use is noninfringing.

- *Fair use*: This originates from the case of «*Folsom v. Marsh*». The factors of fair use are codified in section 107 of the 1976 Copyright Act, but the Supreme Court of the United States has stated that the categories of fair use are never closed.

Those factors are:

1. The purpose and character of the use, including whether it was of a commercial nature.
2. The nature of copyright work.
3. The amount and substantiality of the portion used in relation to the copyrighted work as a whole.

4. The effect of the use on the market or potential market for, or value of, the copyrighted work.

The fair use defense is a vital component in the balance between private and public interests in copyright, but it is not the savior of free expression and culture. It involves a balancing process by which a set of variables determine whether other interests should override the rights of creators.

- *The first-sale doctrine* is based on the case «*Video Pipeline, Inc. v. Buena Vista Home Entertainment Inc. (BVHE)*».

In the multi-billion dollar home video industry, an increasing amount of sales take place over the Internet.

This case examines the copyright issues that arise when an entity uses the copyrighted motion pictures to make short trailers, which are then made available for money to the entity's clients, which are video retailers, for the viewing by retail customers on the retailers' Internet websites, for the purpose of promoting sales of the copyrighted videos.

Video Pipeline argues that its actions of creating its own clips previews from those provided by BVHE and subsequently allowing customers of its retailer clients to view them on-line, is protected by the First-sale doctrine. This doctrine codified in 17 USC Â§ 109 (a) prevents the copyright owner from controlling future transfers of a particular copy of a copyrighted work after he has transferred its «*material ownership*» to another. This is an extension of the principle that ownership of the material object is distinct from ownership of the copyright in this material.

Under the first-sale doctrine, the copyright owner cannot control the future transfer of a particular copy once its material ownership has been transferred.

The whole point of the first-sale doctrine is that once the copyright owner places the copyright item in the stream of commerce by selling it, he has exhausted his exclusive statutory right to control its distribution.

- *Copyright Misuse*, based on the case «*Napster Inc. v. A&M Record Inc.*». Napster argues that the court should deny summary judgment or stay the matter to allow for further discovery because plaintiffs are engaged in copyright misuse.

Copyright misuse, as a defense to an infringement action, finds its origins in the equitable defense of unclean hands and is similar to the patent law defense of the same name.

- *Audio Home Recording Act of 1992*. The statute states that no action may be brought under this title alleging infringement of copyright based on

the manufacture, importation, or distribution of a digital audio recording device, or an analog recording medium, or based on the noncommercial use by a consumer of such a device or medium for making digital music recordings or analog musical recordings.

3.2.1. *Infringement in the Digital Age*

Many acts of online copyright infringement are initiated by individual Internet users. Copyright owners would find it impractical to identify and sue such individual infringers in large numbers.

Rather than pursue individual infringers, copyright owners have usually preferred to sue online service providers who act as conduits for such infringing activities.

In 1998, the Digital Millennium Copyright Act (DMCA) made two profound changes to the copyright system.

The first is established in section 1201; it deals with «*anti-circumvention*» provisions.

New types of liability created in this section involve means of getting around (circumventing) digital rights management systems and related technological protection measures.

The section forbids direct circumvention of these measures as well as the sale and manufacture of devices that circumvent these measures. These are radical departures from the regular types of copyright liability, in part because they invoke criminal sanctions and in part because they do not actually require any copyright infringement at all.

The second change included in the Digital Millennium Copyright Act is the creation of limitations on Internet Service Providers' (ISPs) liability including the «*notice-and-take down*» provisions and the safe harbor provisions in section 512 of the Act.

Any transfer of data on the Internet involves potential infringements of the reproduction right and the public distribution right.

Section 512 limits ISPs' liability for infringement of the distribution right to two situations:

- They will be liable where they are performing some function that is not part of the technical infrastructure of the Internet.
- Where they have knowledge the data stored and passing through their system is infringing copyright.

Section 512 limits online service providers' liability for direct, contributory and vicarious copyright infringement.

This limitation is known as «*safe harbor for on-line service providers*».

3.3. INTERNATIONAL LEGAL ENVIRONMENT FOR INTELLECTUAL PROPERTY LAW

In legal terms, the primary issues involved relate to «*jurisdiction*». Due to the fact that, in the Internet environment, it is not clear which law is applicable and which court can decide.

Jurisdiction settles questions about which particular court or court system will be used as well as the power of a court to take a party to court and render a decision that is binding on that party.

It is a general principle in the physical world that the laws of a particular jurisdiction normally only have effect within the boundaries of that jurisdiction.

The application of this principle to the physical world is comparatively straight-forward; the geographical location of an actor or an object at the relevant time is objectively determinable, and on that basis the application of local law and the appropriate jurisdiction can be decided.

Legal principles concerning jurisdiction on the Internet have emerged through case law, however as Internet technologies have advanced, the development of legal principles has lagged.

In a global environment, the matters at issues, the networks used, and the parties involved are spread across vast distances and many national boundaries.

The geography of the Internet is purely virtual. In operation, it pays no heed to geographical or political boundaries.

Furthermore, the physical location of those parts of the Internet infrastructure via which communication is carried may be purely fortuitous.

The result, in many cases, is that the parties to an Internet transaction are faced with overlapping and often contradictory claims that national law applies to some part of their activities.

Once jurisdiction has been established, a given court determines which legal principles are to be used in each case. Local, regional, state, national or international laws, rules or treaties might be invoked, or the practices of national or international agencies or tribunals might be used.

3.3.1. *Location of Internet transactions*

Private international law or a conflict of laws determines the applicable law and jurisdiction in cross-border transactions; by deciding whether a relevant element of the transaction can be localized in the jurisdiction in question.

The problem with Internet transactions is localizing the relevant element of the transaction.

And here is the fallacy of «*Cyberspace*»; this concept states that the Internet is a new and separate jurisdiction in which the rules and regulations of the physical world do not apply.

According to the «*cyberspace*» concept, Internet activities do not take place anywhere in the physical world, but occur solely in this new place called «*cyberspace*».

But there is a big problem with that concept, constituent elements: humans and corporate actors, computing and communication equipment through which the transaction is done... have a real-world existence and are necessarily located in physical world legal jurisdictions.

Those elements of cyberspace are the key elements that give national jurisdictions a justification for claiming jurisdiction over them, and the application of their laws to an Internet transaction.

Instead of those existing physical elements, there are fundamental difficulties in applying traditional localization principles to a transaction which is carried out via the Internet.

Doing so requires the identification of the physical location where the appropriate element of the transaction occurred, as a consequence of which jurisdiction is awarded to the state in whose territory that place is located, or its law is applied.

The likely result of applying the concept of localization to electronic commerce or Internet transactions is either:

- The applicable law or jurisdiction is potentially that of every country in the world.
- The applicable law or jurisdiction is purely fortuitous, and has no obvious connection with the parties involved or the substantive transaction.

3.3.2. *Contracts, copyright and Internet*

Copyright law gives strong protection to copyright owners while also protecting the interests of the public; but many content providers are not satisfied with this balance.

They have taken to using contract law to impose terms of use upon consumers that exceed the protections that copyright law confers, and to assert rights to works to which they do not hold copyright.

As a result, contract law, which enables over-reaching, is increasingly supplanting copyright law as the basis for protecting creative works.

It is a fact that the world of cyberspace is fully regulated by contract law. If you want to build a website, you will have sign several contracts (Example: one for getting the domain name), or when you buy a package of software, the relationship with the Internet Service Provider (ISP), if you want to download information from Internet, you will have to agree to the click on license...

It is fair to say that the relationship in the world of Internet is fully composed of contracts, which can impose an increasing number of limitations depending on how they are used.

Contracts allow content providers to limit access to works to those who agree to obey by their conditions. Whereas copyright law is limited in duration, contracts are used to give content providers perpetual rights along with other differences.

Contracts play a fundamental role in copyright law, for without them, the production and dissemination of works to the public would be more problematic. Indeed, contracts enable authors to transact with the party who is best suited to commercially exploit their works, as well as to set conditions under which they want to disseminate these to the public.

In application of the principle of freedom of contract, parties are free to negotiate the content of their agreement, so as to best suit their needs and to ensure the most efficient exploitation and dissemination of their work.

In the digital age, private regulations are supplanting public law.

4. ECONOMIC FRAMEWORK

To understand the problem with intellectual property and the Internet, we need some knowledge about the economic framework and what is happening in the market.

To work well, markets need respected and enforced property rights. Without property rights there would be nothing to trade in market settings, because trading fundamentally consists of exchanges of specified rights to things or; rights to use things in certain, highly prescribed, ways.

There are two reasons for property rights:

- They afford people a measure of power over things, and, therefore, a measure of freedom to do as they please.
- The development of the digital sector of the economy depends critically on respect for an enforcement of property rights to what is commonly referred to as «*Intellectual Property*».

Instead of that, Lawrence Lessig and Siva Vaidhyanathan have said that copyright was never meant to give property rights to copyright holders in the same sense that people have rights to, for example, real estate. Copyright holders were given a temporary «*monopoly*» over what they had created for a limited amount of time.

Copyright is a device that has been developed to provide economic incentives for creativity. However this incentive does not need to be unlimited.

We need to use certain rights as an incentive for people to be creative

4.1. ECONOMICS OF INTELLECTUAL PROPERTY

In the context of a global marketplace of ideas, it appears as if political boundaries and the sovereignty of the nation-state are disappearing, making it increasingly difficult to closely scrutinize infringement in the many facets of intellectual property.

The demand curve for intellectual property products depends on whether original copies are perfect substitutes or imperfect substitutes.

The cost of copying influences the demand for originals. If the price of the original rises, there is an increase in the number of copies. Also, if the price of the original does not increase, but the cost and ease of copying is very little; there is also an increase in the number of copies.

Piracy makes economic sense when the costs of unauthorized duplication are significantly less than the monopoly pricing for those goods.

As improvements in digital technology and telecommunications lower copying costs, and monopolists resist concomitant price reductions in their products (their reproductions and distribution costs are also declining) copyright violations are likely to increase.

Digital goods² can be easily copied. Indeed, every copy that the owner of the digital good produces harbors the potential to be a master, which means that every buyer can become a seller. Moreover, each buyer can reproduce copies at little more, and perhaps less, cost than the owner of the original, and there is nothing stopping the buyers of the pirated copies from becoming pirates themselves.

Digital goods piracy often requires minimum skills and computer sophistication; but a sizable percentage of young people already have this required limited skill set, so they are potential, if not actual, pirates of digital goods.

Even when each pirate produces few copies, the number of copies produced by all pirates can escalate geometrically.

One way of attempting to control piracy is to make it more costly, by utilizing legal enforcement and penalties or through the use of a copy protection scheme that makes duplication more expensive.

The problem with that is that it makes the primary goods more expensive as well. In addition, these costs are a dead-weight loss to network product markets.

Strong or excessive intellectual property rights enforcement can also have serious economic implications for networks due to the question of liability for content distributed over networks.

If networks are involved with enforcement, either as being held liable for distribution of allegedly illegal copies or in terms of having to monitor or provide

² Digital asset or virtual asset is really a collection of ones and zeros. It is a digital image and its depiction in a computer graphical form is not «goods» as such.

information on suspected violators, this not only will impose added costs, but will add a considerable risk that can threaten the viability of networks.

Thus copyright enforcement can severely disrupt the efficient functioning of network markets, with little concomitant creation of social benefits.

It is important, however, to maintain some degree of enforceable intellectual property rights, to ensure that creators have the ability to benefit commercially from their work.

Intellectual property products in the form of informational content have become global commodities that challenge the existing legal framework for safeguarding them. National laws are lagging behind their treatment of intellectual property.

It is not longer possible to apply established legal concepts of copyright to computer communications as they have been applied to the print media.

The failure of countries to protect the Intellectual Property rights of other countries' citizens and corporations has to be rectified by an international organization, or several types of losses will be incurred by the originators and might serve as a disincentive to trade Intellectual Property embedded goods.

This involves loss of social welfare because new products will be available in smaller numbers in the future.

An effective copyright system is designed to provide an economic incentive to those who create copyrightable work as well to those who publish and distribute such works. Such a system should benefit the public simultaneously.

It is clear that this information economy generates a conflict of interest between those who exercise the right to know and those who subscribe to the right to protect intellectual property. There are economic costs and benefits related to both of these viewpoints.

It is very important to set up an intellectual property system which guarantees the property over digital goods. When the rights of any goods are not assigned and protected, there is a disincentive to produce them.

Granted, when rights are not protected, some people might buy the goods out of respect for the firm's right to what it produces. At the same time, if people can claim and consume units for goods that are produced without having to pay for the units, then we should expect some unknown number of consumers (at times, perhaps all) to do exactly what they can do, claim and use the good without paying for it.

The firm producing the goods will not be able to charge as much as it could, otherwise, the demand for the goods will be undercut by the number of people who use the goods without paying.

A lower price will mean that the firm could not justify producing as many units as it would produce if it could charge a higher price. This is because the marginal costs of producing units can be expected to rise.

The firm would be reducing its profits by producing and selling units on which the marginal costs is greater than the price, which is suppressed by the

lowered demand that, in turn, is suppressed by the absence of property rights enforcement.

The tactics the studies are using so far may not be the most effective in stopping the activities of online users and could, in fact, be counterproductive.

4.1.1. *Pricing for information goods*

As explained above, the Internet is precipitating a dramatic reduction in the marginal costs of production and distribution of digital information goods, while reducing the transaction costs for their commercial exchange.

These developments are creating the potential to use pricing strategies for information goods based on aggregation and disaggregation³.

This is because of the ability to cost-effectively aggregate very large numbers of information goods, or, at the other end of the spectrum, offer small components for individual sale. These strategies have implications for information goods that are not common in the world of physical goods.

Aggregation can be a powerful strategy for providers of information goods. It can result in higher profits for sellers as well as socially desirable wider distribution of the goods, but it is less effective when the marginal production costs are high or when consumers are heterogeneous.

Aggregation strategies can take a variety of forms: bundling (aggregation across different goods), site licensing (aggregation across different users) and subscriptions (aggregation over time).

On the other hand, low distribution and transaction costs offered by ubiquitous networking and micro-payment technologies enable the use of disaggregation strategies such as per-use fees, rentals, and sale of small components. Disaggregation strategies enable sellers to maximize their profits by price discriminating when consumers are heterogeneous.

The optimal pricing strategies will often involve mixed aggregation, which is the simultaneous availability of information goods in aggregates of different sizes and compositions as well as individually.

4.2. MEDIA ECONOMY

The media economy is defined as the study of how media firms and industries function across different levels of activity⁴ in tandem with other forces

³ Aggregation and disaggregation of information goods: implications for bundling, site licensing and micro payment systems.

⁴ Levels of activity used to describe where activity among media firms and industries actually take place. Example: national level, global level, individual level...

through the use of theories, concepts and principles drawn from macroeconomic and microeconomic perspectives.

The media economy includes: the cable television industry, the satellite industry, the telecommunications industry, the audiovisual industry...

One feature of the evolving media industries⁵ is the changing nature of their markets and industries; companies now compete with one another across markets and in different industries in the media economy.

In the evolving media economy, the individual is in charge of his/her own media consumption (what you want, when you want it and how you wish to access it).

This change has disrupted the traditional business model and forced advertisers constantly to re-evaluate their strategies and marketing practices.

The intricacies of the media economy demand new definitions for markets and how we identify market structure. The reality is that media companies are transforming themselves into multi-platform media enterprises distributing content to different reception technologies available to consumers on a 24/7.

Changing audience behavior has forced media companies to distribute content across different platforms.

The objective of firms is to maximize profit; for profits to be maximized, the total cost of producing the selected output of the good must be minimized. Production must be economically efficient. Total costs depend on the number of each factor employed and the price per unit that the firm has to pay.

Online media is the result of cross pollination of communication technologies, offering users enhanced human communication channel functions. The versatility and interactivity of the Internet distinguishes it from other media.

As a communication medium, although the Internet constitutes one underlying communications infrastructure, it also combines within it more than one medium.

Revenue is generated in online media through three streams: service subscriptions, on-line advertising, and pay-per-content.

4.2.1. Implications for media managers

Managers should not expect to continue to do business as usual in single network product markets over the long run.

Digital telecommunications are removing market barriers and radically transforming cost structures.

⁵ Media firms: individual companies or entities that are incorporated through their respective domestic country; and operate for a profit.

Consumer expectations are also changing, as they come to value flexibility and the ability to exert greater control over their consumption of information goods and services.

The mechanics of distribution are increasingly transparent to consumers, whose value is increasingly associated with content rather than format.

Network markets are evolving and the pace of change is likely to only get faster, and the changes more significant. The new market and cost structures will face convergence and competition among a range of network products, complements and substitutes.

Increased competition will also tend to reduce a firm's ability to engage in monopoly pricing and price discrimination.

4.3. THE «INVISIBLE HAND» DOES IT WORK WITH NEW TECHNOLOGY?

The economy is based on free trade, aversion to price controls, freedom of occupation, of domicile, of enterprise... in summary, our economy is based on Adam Smith's theory of the «invisible hand».

The question that J. Bradford DeLong and A. Michael Froomkin have raised is, if these implicit underlying assumptions are likely to fit the «new economy» of the future.

New technologies might be starting to undermine those basic features of property and exchange that make the «invisible hand» a powerful social mechanism for organizing production and distribution.

Bradford and Michael state that the case for the market system has always rested on three implicit pillars; three features of the way that property rights and exchange worked:

- *Excludability*: the ability of sellers to force consumers to become buyers, and thus to pay for whatever goods and services they use.
- *Rivalry*: a structure of costs in which two cannot partake as cheaply as one, in which producing enough for two million people to use will cost at least twice as many of society's resources as producing enough for one million to use.
- *Transparency*: the ability of individuals to see clearly what they need and what is for sale, so that they truly know just what they wish to buy.

All of these pillars suit much of today's economy pretty well, although they are less suited to the telecommunications and information processing industries. How will they suit tomorrow's economy?

We can see the «invisible hand» of the competitive market beginning to work less well in an increasing number of areas.

- *Excludability*: in the information-based sectors, the owners of goods and services will find that they are no longer able to easily and cheaply exclude others from using or enjoying the goods and services.

Without excludability, the relationship between producer and consumer becomes much more akin to a gift-exchange relationship than a purchase-and-sale one.

The user sends money to the producer not because it is the only way to gain the power to use the product, but out of gratitude and for the sake of reciprocity.

- *Rivalry*: in the information-based sectors, the use or enjoyment of the information-based service will no longer necessarily involve rivalry. If goods are rivals charging the ultimate consumer the goods' cost of production or the free-market price provides the producer with an ample reward for its effort; but if not, if two can consume as cheaply as one, then charging a per-unit price to users artificially restricts distribution.

- *Transparency*: in many information-based sectors, the purchase of a good will no longer be transparent. The «invisible hand» theory assumes that purchasers know what they want and what they are buying so that they can effectively take advantage of competition and comparison-shop.

If purchasers need first to figure out what they want and what they are buying, there is no good reason to assume that their willingness to pay corresponds to its true value to them.

Transparency is at risk because much of the value added in the data-processing and data-communication industries today come from complicated and evolving systems of information provision.

5. TECHNOLOGICAL PROTECTION OF DIGITAL GOODS

It is true that the protection of digital goods is a duty related to intellectual property Laws, and how they work.

But instead of the protection of law, there are other means of digital goods protection, based on technology.

Since it is impossible to sue every copyright infringer because of the cost of such law suits, the dream of entertainment content owners is a device that can stop any possible infringement using a technology-based access or copy control mechanism.

Such a device will always remain a dream because permissible copying cannot possibly be determined by a machine; but copy and access controls can successfully stop some illegal copying and make other copying appear just shady enough so that most people will avoid doing it.

Technical devices against piracy are usually known as systems of identification of the work. Their task is to embed distinguishable digital marks in the work that are capable of identifying it. These marks also reveal the identity of the right holders, the use that is licensed...

One approach that copyright owners have tried is to control unauthorized access to information products through the use of trusted systems.

A trusted system, also known as a digital rights management system (**DRMS**) is a technological device (usually implemented through computer code) that controls access to or use of an accompanying information product.

Such systems prevent a person from making any use of an information product beyond that which the copyright owner has authorized.

DRM is the most promising solution to the problem of managing copyright on digital networks.

A trusted system acts as a self-enforcement mechanism, cutting off access to the information product if the user does something not allowed by the license.

The use of trusted systems provides a much finer degree of control than copyright law, and moves the legal basis of protection in the direction of contracts and licenses.

Without trusted systems, effective enforcement of copyright in the digital medium is nearly impossible.

However, the use of any such device has to be under light control in order for it not to be used to the detriment of the public; because using DRM will give private corporations a great deal of power.

Lawrence Lessig argues that *«what copyright seeks to do using the threat of law and the push of norms, trusted systems do through the code. Copyright orders others to respect the rights of the copyright holder before using his property. Trusted systems give access only if rights are respected in the first place»*.

Such a system would not require a monolithic system of authority to oversee the production of every device; it would, like the Internet, depend only on shared or translatable protocols, so that a network of networks could function as a system and together ensure that the rules are comprehensive and inviolate.

Using trusted systems allows the author and the publisher to set terms and conditions for use of the work. Using a rights management language, the publisher specifies the time period over which the rights apply. He may assign different fees for different rights; he can determine, and specify each right.

Using a trusted system, these rights are associated with the digital work, either by bundling them together in an encrypted file or by assigning the work a unique digital identifier and by registering the work and its rights in an on-line database.

The alternative, based on copyright as used for most printed works, is to have a single fee for the purchase of each work, and then general legal standard about how works can be used.

Trusted systems offer the possibility of differential pricing and «*metered use*» in which the amount that someone pays to use software depends on how much they use it.

A set of terms and conditions in trusted systems is much like a contract or license agreement for using a digital work.

The problem of trusted systems is that like any other technology, they are susceptible to circumvention. A piece of computer code designed to prevent unauthorized access to information goods may be defeated by another piece of computer code.

This has led to a sort of technological arms race, in which trusted-system creators and hackers take turns outwitting one another.

One of these methods of copyright protections is the addition of a «*watermark*» the video signal which carries information about sender and receiver of the delivered video. Watermarking enables identification and tracing of different copies of video data.

The watermark is a digital code embedded in the video which typically indicates the copyright owner. If applied to individual copies of the video, it may also be used to indicate the identity of the receiver of each copy. If an illegal copy appears, the embedded watermark can be retrieved from the copy. This allows illegally reproduced copies to be traced back to the receiver from which they originated.

Digital video delivery networks need tools for copyright protection. One such tool is watermarking of video data, because it makes it possible to identify and trace different copies of a video sequence.

5.1. DRM'S EFFECTIVENESS

It is far from proven that it is possible to build an unbreakable DRM technology and even less clear that it is possible for the various players in the content industries to agree on a standard path.

The fundamental dilemma faced by DRM proponents, is that DRM is designed to protect content, but the ultimate goal is to sell both locked content and players or viewers capable of unlocking it.

With only DRM schemes, a consumer will always end up with both, the problem and the solution in hand; so DRM will not be effective – its purpose is to control digital goods.

6. CHALLENGE FOR LEGISLATION

The examination of legal and regulatory issues indicates that the challenges raised by the Internet are unlikely to be resolved merely by adopting and extending existing legal concepts.

We need to re-think the legal principles and social institutions that enable the market and the information society to coexist and work together in constructive ways.

In the current digital and knowledge economy climate, the circulation, distribution and «*accumulation of knowledge*» have become determinant in the growth of the economy. This also justified the fundamental and catalyzing role of intellectual property rights in the current knowledge economy, since intellectual property laws can directly determine public access to various intellectual resources, the duration of that access and the price for using those resources.

If we ask ourselves why these activities present fundamentally new challenges to the law, we see that challenges arise out of two characteristics which are rarely, if ever, exhibited by traditional physical world activities.

The first one of those characteristics is the digital nature of all Internet activities, and the consequential ability for automated decisions to be made in respect of them. Because existing law and regulation has its basis in physical world activities, it assumes the presence of physical world objects and human decision-making.

In the world of the Internet, however, no physical objects are transferred between parties, and in many cases is it hard to identify a human decision-maker.

A further consequence of digitization and automation is that many Internet activities are widely distributed, both among actors and jurisdictions, thus making it difficult or impossible to apply existing laws to the Internet equivalent of physical world activities.

Second, the characteristic is that the majority of Internet transactions have a real, or potential, cross-border effect.

The cross-border nature of Internet transactions poses two types of challenge to the law:

- National law controls on dealings in information, such as information assets and personal data, become less meaningful and in particular hard to enforce.
- The multiplicity of overlapping applicable laws and jurisdictions can lead to situations where an activity is subject to multiple and contradictory regulation, or to no regulation at all.

To meet these challenges, the global system of laws has to develop new legal concepts and devise techniques for eliminating cross-border conflicts.

Most of the problems arising from global reach occur because: Applicable national laws differ from each other, they are often unenforceable in practice.

If those laws are substantially identical in effect, the most difficult legal problems under the applicable national law differing from each other disappear, leaving only the question of which state has jurisdiction in the particular circumstances.

In the longer term, the Internet and the commercial and non-commercial activities carried out by means of it will impose substantial pressure on national legislators to eradicate the differences between their own laws and those of other countries.

One of the preeminent challenges in the digital age is to address how the cultural bargain of copyright protection should be structured in our new communications environment.

At the same time that copyright law is reaching into new nooks and crannies of the information commons, a powerful force in the opposite direction is gaining momentum. Millions of individuals are learning that the market or copyright are not necessary to create valuable kinds of economic and social value.

Big content industries are not longer necessary, to find an audience for a song or a movie, or to engage in collaborative creativity.

In fact, it would be convenient and cost-efficient to bypass the traditional market gatekeepers entirely.

In the current digital environment, widespread copyright piracy has caused huge economic loss to copyright holders, especially producers of digital copyright products; it has reduced authors' incentives to create new works, but also reduced distributors' and publishers' incentives to make continuous investment in the compilation and distribution of copyright works.

In order to formulate a property copyright policy, it is important to identify major copyright problems. One of the most fundamental issues or problems is widespread copyright piracy; but underlying it, there are many sub-related issues:

- Social resistance problems: such as lack of public support for intellectual property rights enforcement.
- Legislative problems: lack of strong copyright legislation.
- Law enforcement problems: inadequate public / government / administrative support.
- Institutional problems: lack of transparency of court systems, local protectionism and inadequate well-trained legal personnel.
- Economic problems.
- Public interest problems: such as conflict between copyright protection and effective technology transfers, and conflict between strong copyright protection and the public right to access information.

7. CONCLUSIONS

The Internet has brought about very important changes in how cultural goods are distributed, because it has broken the barriers of the physical world.

As the entertainment and information markets have become more complex, intellectual property law has become longer, more specific and harder to understand.

1. First of all, about the *legal issue*:

Historically, intellectual property law has benefited not the authors of cultural works but its distributors, the modern media industries are dominated by a select few corporations that have consolidated control over the culture market by asserting their intellectual property rights as a way to govern where work comes from and where it goes and to benefit financially from its circulation.

But those companies are being challenged by a big change in the market, a change that is making them lose control.

Some countries tried to maintain the «*statu quo*» of the market using intellectual property rights, but in an era of globalization of communication and trade, any attempt to introduce national intellectual property solutions severely disregard the new reality and lose sight of the precise scope of the problems that are emerging. National solutions can serve only as stopgap solutions.

Especially in the light of the Internet and other online services, the interests of the authors are necessarily their interests around the globe. However, enforcing intellectual property regulation globally, is extremely challenging because some countries are not willing either to commit resources or to take action to protect these rights.

When dealing with international intellectual property conflicts and intellectual property rights enforcement problems, the collaborative and practical attitudes of governments in different countries are very important. The issue facing governments and the industry is how to promote a balance among creators, distributors, and users of intellectual property in the digital world.

Part of the problem is where decisions are made as to which rules are built into technological systems, how they are built and to what ends. In addition, it is an important fact that copyright laws usually become obsolete when technology renders the assumption on which they were based outmoded.

The author of this paper thinks that international cooperation is needed to set up a harmonized intellectual property system in as many countries

as possible to guarantee the protection of Intellectual Property rights and to eliminate part of the existing legal uncertainty.

2. About technological protection:

As we have seen, one possible approach to copyright protection is Digital Rights Management (DRM), a scheme that uses technology to identify conditions of use of intellectual property.

But those systems have to be strictly monitored, because as we have explained in chapter 4 of this paper, if they are not monitored, they will give huge power to the managers of the DRM system, and so the balance that intellectual property rights try to achieve, will not exist.

3. About the media industry's strategy:

Some recent experiences such as Napster, or peer-to-peer networks; and the persistent unauthorized trade in other information products despite copyright owners' substantial efforts to banish it from the networks, lead us to two propositions:

- That individuals, and in some cases businesses, are unlikely to conform their behavior to what the courts have declared voluntarily.
- That efforts by copyright owners to vindicate their rights by taking legal action against infringers are unlikely to reduce unauthorized reproduction and distribution to a level that copyright owners consider acceptable.

It may be that the best strategy for companies would be to concentrate on developing a business model that provides a satisfactory experience for their customers at a reasonable and fair price.

Going after people who are engaged in illegal downloading activities seems counterproductive. Not only does it distract from the development of new technologies and services that satisfy the consumer, which should be the companies' foremost concern, but it creates bad publicity for the industry while alienating young people who are the industry's best hope for future paying customers and who, once alienated, will simply turn to the newest technology that allows them to circumvent the industry's effort.

This is the reality of a dynamic digital world.

The industry will have to develop new commercial models that better exploit the changing technologies and ensure fair compensation for creators. In fact, nowadays, it seems as if some new business models are appearing in the market, completely changing the current behavior of

consumers and authors. For example, Kit Dotcom, the creator of «Mega Upload», has recently announced that he is going to create an Internet platforms in which authors could upload their works and sell it, keeping 90% of the profit they make.

We have to consider that in the market, there are other important players, who operate on the Internet, like Google, Microsoft, yahoo...

These companies are also making efforts to help intellectual property protection on the Internet, for example, Google has recently announced it would alter its search algorithms to favor websites that offered legitimate copyrighted works.

Intellectual property law is not well suited to the Internet world, and the market is not working as it should. People now have access to works by quickly searching on the Internet, piracy is disseminated all around the world, and nobody can control it.

That's why the author of this paper thinks that the market has to change and new business models are needed.

It is obvious that intellectual property law has to change to suit the new environment, but the law will always lag behind reality, and the Internet reality is always changing, so it would be very difficult to have a law which fits well with reality.

Education is one of the best ways to minimize the impact of copyright violation and abuse of intellectual property.

Educating the public (consumers and copyright holders) to understand the significance of intellectual property rights protection is important to effectively prevent piracy.

8. BIBLIOGRAPHY

BOOKS

- *The Oxford introductions to US Law. Intellectual Property*. Dan HUNTER. Oxford University Press 2012.
- *Intellectual Property. Patents, trademarks and copyright in a nutshell*. Arthur R. MILLER; Michael H. DAVIS. Thomson Reuters, West Group 2012.
- *Intellectual Property and the Internet*. Margaret Jane RAPLIN; John A. ROTHCHILD; Gregory M. SILVERMAN. Thomson (Foundation Press) 2004.
- *Intellectual Property Desk book for the Business Lawyer*. AMERICAN BAR ASSOCIATION. Section of Business Law. Committee on Intellectual Property.
- *Intellectual Property for the Internet*. Lewis C. LEE; J. Scott DAVIDSON. Wolters Kluwer 2010-2.

- *Intellectual Property and information wealth. Issues and Practices in the Digital Age. Volume One Copyright and Related Rights*. Peter K. YU. Praeger Publishers.
- *Industria Audiovisual y mercados digitales*. Miguel Ángel BENZAL. ICADE/Revista de las Facultades de Derecho y Ciencias Políticas y Empresariales núm. 78. Septiembre-Diciembre 2009.
- *The Media Economy*. Alan B. ALBARRÁN. Routledge.
- *Media Economics*. Colin HOSKINS; Stuart MCFADYEN; Adam FINN. Sage Publications.
- *Media Economics. Theory and Practice*. Alison ÁLEXANDER; James OWERS; Rod CARVETH; C. Ann HOLLIFIELD; Albert N. GRECO. Lawrence Erlbaum Associates Publishers.
- *Handbook of Media Management and Economics*. Alan B. ALBARRÁN; Sylvia M. CHAN-OLMSTED; Michael O. WITH. Lawrence Erlbaum Associates Publishers 2006.
- *The Economics of Intellectual Property in a world without frontiers. A study of Computer Software*. Meheroo JUSSWALE. Greenwood press 1992.
- *The Economics of Intellectual Property IV*. Ruth TOWSE; Rudi HOLZHAVER. The International Library of Critical Writings in Economics. An Elgar Reference Collection.
- *Copyright & Fair Use. The Great Image Debate*. Helene E. ROBERTS; Christine L. SUNDT. Gordon and Breach Publishers.
- *Copyright Protection in Video Delivery Networks by Watermarking of Pre-Compressed Video*. Frank HARTUNG; Bernd GIROD. Telecommunications Institute. University of Erlangen-Nuremberg.
- *Internet publishing and beyond. The Economics of Digital Information and Intellectual Property*. Brian KAHIN and Hal R. VARIAN. Harvard Information Infrastructure Project in collaboration with the School of Information Management and Systems at the University of California at Berkeley.
- *Digital Copyright*. Jessica LITMAN. Prometheus Books.
- *Legal Protection of Digital Information*. Lee A. HOLLER. The Bureau of National Affairs Inc.
- *A Practical Guide to Copyright Law in the Digital Age*. David MIRCHIN. Massachusetts Continuing Legal Education (MCLE 2002).
- *Research Handbook on the future of EU Copyright*. Estelle DERCLAYE. Edward Elgar Publishing Limited.
- *Intellectual Property Law and Interactive Media*. Edward LEE LAMOUREUX; Steven L. BARON; Calaire STEWART. Peter Long Publishing Inc.
- *Contracts and Intellectual Property in the information Age*. Ryu KOJIMA. LLM Paper Harvard Law Library.
- *EU Digital Copyright Law and the End-User*. Giuseppe MAZZIOTTI. Springer-Verlag 2008.

- *Internet Law*. Chris REED. Cambridge University Press.
- *The Law of Virtual Works and Internet Social Networks*. Andrew SPARROW. Gower.
- *Copyright and Multimedia Products. A Comparative Analysis*. Irini A. STAM-ATOUDI. Cambridge University Press.
- *The Intellectual Property Debate. Perspectives from Law, Economics and Political Economy*. Meir PEREZ PUGATCH. Edward Elgar Publishing Limited.
- *Media, Technology and Copyright. Integrating Law and Economics*. Michael A. Einhorn.
- *Wired Shut. Copyright and the shape of digital culture*. Tarleton GILLESPIE. The MIT Press (Massachusetts Institute of Technology) 2007.
- *Re-thinking Intellectual Property. The political economy of copyright protection in the digital era*. Dr. YiJun TIAN. Routledge-Cavendish (Taylor&Francis Group).
- *Artists, Technology and the Ownership of creative content*. Norman Lear Center at the USC Annenberg School of Communication.
- *Copy fraud and other Abuses of Intellectual Property Law*. Jason MAZZONE. Stanford Law Books.
- *Little Book of Movie Law*. Carol ROBERTSON. American Bar Association.

CASE LAW

- «Supreme court of “Sony v. Universal”».
- «Grosker case».
- «Sheldon v. Metro-Goldwyn Pictures Corp».
- «Chamberlain Group Inc. v. Skylink Techs Inc.» (2006).
- «Lasercom Am Inc. v Reynolds».
- «Folsom v. Marsh».
- «A&M Records Inc. v. Napster Inc.».
- «Kelly v. Arriba Soft Corporation».
- «Video Pipeline Inc. v. Buena Vista Home Entertainment Inc.».
- «Napster Inc. v. A&M Records Inc.».

ABSTRACT

INTELLECTUAL PROPERTY
DIGITAL RIGHTS MANAGEMENT
INTERNATIONAL COOPERATION

The author of this paper thinks that international cooperation is needed to

RESUMEN

PROPIEDAD INTELECTUAL
GESTIÓN DERECHOS DIGITALES
COOPERACIÓN INTERNACIONAL

El autor de ese estudio entiende que la cooperación internacional es necesaria

set up a harmonized intellectual property system in as many countries as possible to guarantee the protection of Intellectual Property rights and to eliminate part of the existing legal uncertainty. one possible approach to copyright protection is Digital Rights Management (DRM), a scheme that uses technology to identify conditions of use of intellectual property. But those systems have to be strictly monitored, because if they are not monitored, they will give huge power to the managers of the DRM system, and so the balance that intellectual property rights try to achieve, will not exist. That efforts by copyright owners to vindicate their rights by taking legal action against infringers are unlikely to reduce unauthorized reproduction and distribution to a level that copyright owners consider acceptable. It may be that the best strategy for companies would be to concentrate on developing a business model that provides a satisfactory experience for their customers at a reasonable and fair price.

para establecer un sistema armonizado de propiedad intelectual en el mayor número de países posible, para garantizar la protección de los derechos de propiedad intelectual y para eliminar parte de la actual inseguridad jurídica. Una posible solución para proteger los derechos de propiedad intelectual es el sistema de «Gestión de Derechos Digitales» (Digital Rights Management – DRM), que usa la tecnología para identificar las condiciones de uso de cada obra. Pero esos sistemas tienen que ser controlados estrictamente, porque si no están controlados, pueden dar un gran poder a los gestores del sistema DRM, y por lo tanto el equilibrio que los derechos de propiedad intelectual tratan de conseguir, no existiría. Los esfuerzos de los propietarios de derechos de propiedad intelectual, relativos a la reivindicación de sus derechos por la vía de las acciones legales contra los infractores, no están consiguiendo el objetivo de reducir la reproducción y distribución no autorizada hasta un nivel que consideren aceptable. Puede que la mejor estrategia para las compañías sea concentrarse en desarrollar un modelo de negocio que proporcione una experiencia satisfactoria para los consumidores a un precio justo y razonable.

(Trabajo recibido el 26-11-2012 y aceptado para su publicación el 1-4-2013)