

Intellectual Property Rights in Digital Environment

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Abstract

Intellectual property refers to the ownership of intangible goods. This includes ideas, designs, symbols, writings and creations. It also refers to digital media such as audio and video clips that can be downloaded online. Since intellectual property is intangible, if it is stolen, it may be difficult to recover. Say for example, a person comes up with a great idea for a new invention. Copyright originated in an age where the expression of the intellectual product was in physical form, such as a book. Today, in the information age where digital information can be easily copied at minimal cost this natural physical limitation to unauthorized copying is removed. It is therefore time to reconsider the principle of the copyright model. The purpose of copyright law is to balance the rights of copyright holders and users. Existing copyright law is applicable in the digital age also. As more and more information becomes available in digital format, libraries must be ensured that public can enjoy the same access rights as with printed information. This paper deals with scope and coverage of various concepts connected with IPR, such as intellectual product, patents, copyright, designs, trademarks, computer software, databases, Internet and cyber laws. Copyright issues are associated with digital / electronic information and protection of digital right.

Keywords: Intellectual Property Right, Digital Society, Library.

Introduction:

The word intellect originates from the root "intellectus" in Latin which means the power of knowing as distinguished from the power to feel. Man has own capacity to acquire knowledge and increase his knowledge bank by gathering knowledge throughout his life time. An intellectual product is nothing but the brain child of his original idea, creative thought, which forms a special kind of property known as intellectual property. The intellectual property is ownership of something known as intellectual property. The interest and object of the right is the thing in which the owner has interest. The object in intellectual property right is immaterial.

Intellectual Product:

First I identify the components of an 'intellectual product' and then analyse how these individual components are created, combined, distributed, used and where and when copyright law is applied on this creative work.

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An intellectual product has two components: **intellectual** and **physical** component.
Intellectual product = intellectual component + physical component

The **intellectual component** is the intangible part of the product i.e. the creative work – The ideas, concepts, discoveries and the expression of these elements that is protected by copyright.

The **physical component** is the expression of the work reproduced in a physical medium. For example, in case of a book the physical component would be the paper, ink binding etc.

Now, consider the sequence of events involved in creating and publishing a book and subsequent use of that book.

If an author composes a story solely in his/her head, we can say that they have created the intellectual component of a new intellectual product, which is **intangible form** at this stage, and no one can access it.

Immediately the author produces a physical component in the form of a manuscript, the story and composition become tangible form. At this stage the author can claim copyright for his / her creation. The copyright granted to the creator will protect the expression of the story in its physical component. Now question is, if anybody destroys the manuscript, does the copyright for that story still exist? But the intangible story still exists in the author's brain and no tangible copy exists. The author has the right to re-write the manuscript.

The author now publishes the manuscript in printed book form. This book becomes a complete copy of the **intellectual product**, which is sold to the user. Since they become owner of the **physical component** of the product and can do the following with it:

- They can read the book and transfer the **intellectual component** of the **intellectual product** into their head.
- They are allowed fair use to the intellectual product such as quoting short sections of it.
- Destroy the book.
- Write over the page
- Under the first sale rule they can lend the book or sell it to another user.

Features of Intellectual Property:

1. It is a form of intangible property.
2. It's existence is distinct from the physical articles or goods which contain the rights.
3. In some cases the rights are capable of existence and enforcement with no tangible form.
4. The various rights might subsist in the same things. For example, a document might be subject to patent, design rights and trademarks. A pictorial trademark might also be subject to copyright.

Categories of Intellectual Property Rights:

"Intellectual property" consists of broadly two categories:
 (a) Industrial property and (b) Copyright.

Industrial property consists of rights relating to inventions, trade marks, industrial designs and geographical indications.

Copyright protects rights related to creation of human mind in the fields of literature, scientific, music, art and audio-visual works etc. The basic rights of ownership of intellectual property are known as "intellectual property rights" (IPR), which are primarily derived from legislation concerning patents, designs, copyrights and trade marks.

According to the World Intellectual Property Organizations, there are seven categories of Intellectual Property Rights:

- i) Copyright and Related Rights
- ii) Trade marks, Trade names and Service marks
- iii) Geographical Indications
- iv) Industrial Designs
- v) Patents
- vi) Layout Designs of Integrated Circuits
- vii) Undisclosed Information

1. Copyright

Copyright laws grant authors, artists and other creators protection for their literary and artistic works (e.g. books, movies, music, paintings, photographs, and software) and give a copyright holder the exclusive right to control reproduction or adaptation of such works for a certain period of time i.e. life of the author plus several decades.

Works covered under copyrights:

The copyright can be enumerated as follows:

- Artistic work: 1) It means a painting, a sculpture, a drawing 2) an engraving or a photograph 3) a work of architecture and any other work of artistic craftsmanship.
- Literary work: It includes computer programmes, tables and compilations including computer databases.
- Musical work: It means a work consisting of music and any graphical notation of such work.
- Dramatic work: It includes any piece of recitation, choreographic work or entertainment in dumb show.
- Cinematography film: It means any work of visual recording.
- Sound recording : It means a recording of sounds.

Six Rights of Copyright:

- The Right to Copy: If one creates something artistic that is fixed in some medium, only that person who holds the copyright may make a copy of the thing created.
- The Right to prepare Derivative works: A derivative work is a movie made from a book or video game based on a popular movie.
- The Right to Distribute Copies: In the digital world distributing copies would be posting material on the Internet.
- The Right to Perform Works Publicly: When a play is performed for an audience,

2. Patents

A patent provides a legal right for a limited period for an invention. It is a right to exclude others from making, using, or selling the invention without the permission of the patent holder. A patent is granted for a new and useful invention, such as a machine, process, or product, that functions in a novel and non-obvious way.

3. Trademarks

Trade marks are symbols, words, or designs that identify the goods or services of one party and distinguish them from those of others. They are used to protect the reputation and goodwill of a business. A trade mark can be renewed for a limited period.

4. Integrated Circuits

Layout designs of integrated circuits are protected by copyright law. They are the specific arrangements of components on a chip that are used to create a functional circuit. The protection is for a limited period and is subject to certain conditions.

5. Breeds

A breed is a group of animals that have been developed through selective breeding to have specific characteristics. Breeds are often registered and protected by law to ensure their purity and quality.

it is publicly performed. If a copyright holder allows a play to be performed by others, he/she is entitled to a royalty fee and control over how the work is performed.

- The Right of Public Performance of Sound Recording by means of Digital Audio Transmission
- The Right to Display Works Publicly: In an educational institute, if an instructor shows a copy of a painting in an art class, it is treated as fair use. In a distance – learning course, if the painting placed on a website that is accessible to everybody in the world, making it a public display and not exclusively an educational display in a classroom. If the painting appears on a website that was designed for the class, it may be used if the website is protected such a way as to allow access only to members of the class.

2. Patents :

A patent is an exclusive right granted for an invention –a product or process that provides a new way of doing something or that offers a new technical solution to a problem. A patent provides protection to patent owners for their inventions. Protection is granted for a limited period, generally 20 years. A patent can be three types: utility patents (which are divided into three categories: mechanical, electrical and chemical), design patents and plant patents. Utility patents are those inventions that are normally thought of as machines, such as a cell phone or an MP3 player. Design patents are granted to the design of a functional thing. A plant patent is granted on a new type of plant that is created by human intervention.

3. Trademarks :

Trade marks are signs or symbols i.e. logo and names registered by a manufacturer or merchant to identify goods and services. Protection is usually granted for ten years and is renewed as long as the trade marks continue to be used. Trademarks can be various types. A trademark may be a brand name, trade dress, service mark, certification mark or collective mark. For example, a brand name would be Coca-Cola; a trade dress would be the shape of the Coca-Cola bottle; a collective mark could be the CPA lettering after an accountant's name that designates an association such as Certified Public Accountants.

4. Integrated circuits :

Layout design (topography) of integrated circuits is a relatively new area in IP which has appeared with computer technology. The programming instructions on a computer chip are implemented through a circuitry printed on semiconductor layers. The design of circuitry on the chip requires great investment of knowledge, skills and capital and these needs to be protected as IP.

5. Breeder's right :

A plant breeder's right is a form of intellectual property right granted to breeders of new plant varieties. Breeders of new plant varieties are granted plant breeders' rights for

protection of their varieties against exploitation without their permission. A plant breeder's right is granted for 25 years in the case of vines and trees, and for 20 years in all other cases.

6. Trade secrets :

A trade secret (which is either equated with, or a subset of, "confidential information") is secret, non-public information concerning the commercial practices or proprietary knowledge of a business, public disclosure of which may sometimes be illegal. Unlike patents, trade secrets are protected as long as the information is kept secret.

7. Geographical indications :

A geographical indication is a sign used on goods that have a specific geographical origin and possess qualities or a reputation due to that place of origin. Most commonly a geographical indication consists of the name of the place of origin of the goods. For example Kolhapuri chappals from Kolhapur, India. Geographical indications may be used for a wide variety of agricultural products.

8. Utility models :

This concept originated in U. S. patent law. A utility model is an exclusive right granted for an invention, which allows the right holder to prevent others from commercially using the protected invention, without his authorization, for a limited period of time. Patent law in India does not provide any registration of utility model. For example, duplicate key making machine.

9. Industrial Designs :

An industrial design right is an intellectual property right that protects the visual design of an object. It is concerned with three-dimensional features, such as the shape or surface of an object, or two-dimensional features, such as patterns, lines or color. Industrial design is applied to a wide variety of products. From watches, jewelry, luxury items to industrial and medical implements; from house ware, furniture, electrical appliances to vehicles and architectural structures. In India, the Indian Design Act, 1911 has been replaced by the Design Act, 2000. The term for a design is 10 years from the date of registration. This period can be extended by 5 years if application is made before the expiry of 10 years.

IPR and Digital Rights :

In the digital age the issue of privacy is an important subject where unauthorized data sharing, data integration, unethical data utilization and unauthorized public disclosure are the major areas of concern. The major issues are to be considered as follows:

1. Is digitization to be considered as similar to reproduction, for example using Xerox machine?
2. Is digitization a creative activity such as translation from one language to another?
3. Can transmission of digitized documents through Internet be considered as commercial distribution or public communication similar to broadcasting?

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4. Can we consider database as a special collected work that should be protected by the copyright law?
5. What can be considered as fair use in the Internet environment?
6. What are the concerns of the library community?
7. In the digital context if access is restricted by the copyright owner, how could the public exercise fair use with those work?

The above issues are specific to the library. The libraries have allowed their users to read a document, to browse through the whole collection; to search through the library catalogue; to supply Xerox copy for research and education purpose; to procure photocopies of articles from other libraries or clearing centers; to widely distribute the reproduced copies of documents for public awareness and to provide inter library loan service. Whether all these activities will continue in the digital age? If digitization is considered as reproduction work, it is quite clear that in digitization, the initial work is merely changed into the digital form and the process of changing is accomplished by a machine, without any creativity. If it is considered as a translation from one language to another, the digitization is also a change from natural human language in to machine language. However in digitization, there is no creativity involved, and it could be considered as a similar activity to reprography. The copyright protects only creative works. Simply transformation in to the digital form of an original document cannot be considered as creative work. The transmission of information on Internet can be considered similar to broad casting; hence copyright law cannot be applied.

Ways for Protection of Digital / Intellectual Property:

Digital Rights Management (DRM) technologies (also known as Electronic Rights Management Systems) ensure copyright through identifying and protecting the content, controlling access of the work, protecting the integrity of the work and ensuring payment for the access. DRM technologies prevent illegal users in accessing the content. Access is protected through user ID and password, licensing agreements. Another way to protect digital content is through Technical Protection Measures (TPM). These technologies allow publishing companies in securing and protecting content such as music, text and video from unauthorized use. If an author wishes to collect fee for use of his or her work, then DRM technology can be used. The TPM and DRM technologies are increasingly employed to sell and distribute content over the Internet.

1. Cryptography:

Cryptography is the oldest mechanism employed to ensure security and privacy of information over networks. This involves scrambling (or encryption) of the information to render it unreadable or not understandable language, which only the legitimate user can unscramble (or decrypt). However cryptography protects the work during transmission or distribution only. After the work is decrypted, it does not provide any protection.

2. Digital Watermark Technology:

A digital watermark is a digital signal or pattern inserted into a digital document. It is similar to the electronic on-screen logo used by TV channels. A unique identifier is used to identify the work. The message might contain information regarding ownership, sender, recipient etc or information about copyright permission. The system consists of a watermark generator, embedder and a watermark detector decoder. The legal user can remove these watermarks with a predetermined algorithm. The watermarking technology is extensively used in protecting multimedia works.

3. Digital Signature Technology:

Digital signature includes identity of the sender and/or receiver date, time, any unique code etc. This information can be added to digital products. This digitally marks and binds a software product for transferring to a specified customer. Digitally signed fingerprints guarantee document authenticity and prevent illegal copying.

4. Electronic Marking:

In this technique, the system automatically generates a unique mark that is tagged to each of the document copies. This technique is used to protect copyright as well as in electronic publishing where documents are printed, copied or faxed.

5. Security Features of Operating System:

For protection of files, data etc the operating system of computer such as Windows 2000 Professional, Windows 2000 Server, MS-SQL Server has some unique special security and integrity features.

Conclusion :

A number of issues are associated with the usage of digital information i.e. issue of single articles versus full issues of e-journals, user-friendliness, incompatible hardware and software, formatting, graphics, scholarly recognition and obsolescence. While it is important to protect the copyright of the publishers, it is equally important to protect interest of the libraries and the user. In digital environment it is difficult to draw a boundary line between what is permissible, to what extent and what is infringement. Small-scale violations which do not conflict with owner's rights may be accepted as a part of fair use. In the context of digital information, it is difficult to judge, comprehend fair use, access and control the infringement of copyright law. It is almost impossible for a copyright owner to know which person used his/her work. In this context it is necessary to modify the copyright law. The librarians in the digital environment have some responsibility to collect information and help the readers by giving it even if it is an electronic form. The copyright protection should be encouraging the creativity and not for creating hurdles in the use of information. The Librarians should work as a catalyst for the free flow of information between the owners of copyright and the users of the information. ●

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References :

- Bentley, Nicholas (2004). Distributed Intellectual Property Rights. Available at <http://www.commonrights.com> (Accessed on 05-01-13)
- Technology management in libraries: Papers presented in honour of Dr E Rama Reddy, Librarian, Hyderabad University. (2006). edited by A.L Moorthy, *et al.* New Delhi, Allied.
- Malwad, N. M and Anjanappa, M. "IPR in digital environment: issues of concern to library community". Available at <http://ir.inflibnet.ac.in/handle/1944/130> (Accessed on 01-02-13)
- Paul, S. S. (2003). (A) Basic understanding of intellectual property. Kolkata: Diamond.
- Wherry, Timothy Lee. (2009). Intellectual property: everything the digital – age librarian needs to know. New Delhi: Indiana Publishing House.

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