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# IPR AND DIGITAL ENVIRONMENT IN INDIA: RECENT TRENDS AND CHALLENGES

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## ABSTRACT

Every human being possesses intelligence, however, to varied degrees. Each person has a special talent. New types of property that are the result of human intelligence and endeavour have emerged as a result of the knowledge society that has replaced agricultural and industrial societies. How individuals think, communicate, and share knowledge has altered as a result of revolutionary advancements in information and communication technologies. The use of effort, talent, and judgment by an author, artist, or another creator in the creation of an original work is protected by copyright. It is a special type of intellectual property, and its significance is increasing daily.

Controlling the internet circulation of copyrighted content is one of the largest problems brought on by digital technology. Therefore, it might be difficult to find and prosecute online intellectual property rights violators. Furthermore, there is growing worried around the development and protection of intellectual property using cutting-edge technology like blockchain and artificial intelligence.

Intellectual property law is significantly impacted by digital technology, particularly in the fields of copyright, trademark, and patent law. Digital material is easily copied and distributed online, which has resulted in widespread intellectual property rights violations.

This research work mainly focuses on IPR and digital technology-related issues and some of how intellectual property law is adapting to the impact of digital technology.

**Keywords:** Intellectual Property Rights, Digital Society, Library, Digital Environment, Information and Communication Technology.

## INTRODUCTION

It's the Human being who has the capacity of creativity, they have an exclusive bundle of rights over their work for a limited period. In ancient days creative persons like artists, musicians, and writers made, composed, or wrote for fame and recognition rather than to earn a living, the question of IPRs never arose. The importance of Intellectual Property Rights was recognized only after the invention of the printing press which made possible the reproduction of books in large quantities.

The IPR law plays a vital role in deriving the socio-economic, political, technological, environmental, and cultural benefits of a developing nation. It refers to creations of the mind, such as inventions, literary and artistic works, designs, symbols, names, and images used in commerce. Intellectual property is a series of legal rights that give rise to, in most cases, temporary protection for different types of inventions, designs, brand names, or original creations. Intellectual Property refers to several distinct types of legal monopolies over creations of the mind, both artistic and commercial, and the corresponding field of law. Intellectual property is a means to disseminate information Besides protecting the right owners from illegal infringements and rights violations. The original creators of works protected by copyright and their heirs have certain basic rights. They hold the exclusive right to use or authorize others to use the work on agreed terms. The creator of works can be prohibited or authorized relating to; -

1. Its reproduction in various forms, such as printed publication or sound recordings;
2. Its public performance as in a play or musical work;
3. Its translation into another language or its adaptation such as a novel into a screenplay.
4. Need and Necessity of IPR
5. To make available incentives to the individual for new inventions or creation
6. Providing recognition to the creators and inventors
7. Ensure remuneration for intellectual property. Without the protection of ideas, businesses and individuals would not reap the full benefits of their inventions.

8. Ensuring the availability of genuine and original products.
9. To protect the right of individuals to enjoy their creations and inventions.
10. To ensure protection against unfair trade practices.
11. To assure the world of a flow of useful, informative, and intellectual works
12. To encourage the continuing innovativeness and creativity of the owner of IPR
13. IPR is needed to create value for R&D.

India needs to defend its IPR system. This will help in building a strong resolve to encourage and maintain an effective innovation strategy for India's manufacturing and business environment.

### **Protection of IPR**

Protection of IPR allows the innovator, brand owner, patent holder, and copyright holder to benefit from his/her work, labour, and investment, which does not mean a monopoly of the intellect. Such rights are set out in the international declaration of human rights, which provides for the right to benefit from the protection of the moral and physical interests resulting from the right holder's work; literal or artistic product.

### **Components of IPR**

**Patents:** A patent is an inclusive right granted by a country to the owner of an invention to make, use, or manufacture, provided the invention satisfies certain conditions stipulated in the laws. A patent grants an inventor the right to exclude others from making, selling, offering to sell, and importing an invention for a limited period, in exchange for the public disclosure of the invention. An invention is a solution to a specific technological problem, which may be a product or a process.

**Trademark:** A trademark is a recognizable sign, design, or expression which distinguishes a product or service from the similar product or services of the traders.

**Trade Dress:** Trade dress is a legal term of art that generally refers to characteristics of the

visual appearance of a product or its packaging that signs the source of the product to consumers.

**Design:** It is the process of design applied to products that are to be manufactured through the technique of mass production.

**Copyright:** A copyright gives the creator of the original work exclusive rights to it, usually for a limited time. It provides legal rights exclusively given for a definite period to the creators of an intellectual work e.g., Literary works, artistic works, musical works, films, computer programs.

**Trade Secret:** A trade secret is a formula, practice, process, design, instrument, pattern, or commercial method, of compilation of Information.

**Supplementary Protection Certificate:** an IPR that extends the duration of certain rights associated with a patent.

**Geographical Indications:** A geographical indication is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.

**Mask works:** Mask works are defined as a series of related images, however, fixed or encoded, having, or representing the predetermined three-dimensional pattern of metallic insulating or semiconductor material.

**Tangible Research Property:** Tangible research property includes all tangible items produced in the course of research or other projects supported by the universities or external sponsors.

**Database Rights:** Database rights are granted to a person who funds selects and arranges the content into a database.

**Industrial Design Rights:** Industrial Design Rights protect the visual designs of objects that are not purely utilitarian. It consists of the creation of a shape, configuration, or composition of patterns or colour or a combination of pattern and colour in three-dimensional forms containing aesthetic value.

**Financial Incentive:** These exclusive rights allow the owner of Intellectual Property to benefit from the property they have created, providing a financial incentive for the creation of an

investment in intellectual property and the case of patents, pay associated research and development costs.

**Economic Growth:** The WIPO treaty and several related international agreements are premised on the notion that the protection of intellectual property rights is essential to maintaining economic growth.

**Morality:** According to Article 27 of the Universal Declaration of Human Rights, “everyone has the right to the protection of the moral and material interests resulting from any scientific, literary, or artistic protection of which he is the author”. Although the relationship between intellectual property and human rights is a complex one, there are moral arguments for intellectual property.

So, any research, innovations, or inventions leading to a product, process, design, methods, literacy, artistic work, etc, which may result in financial gains is registered under intellectual property rights acts.

### **Objectives of Copyright**

The object of copyright is to promote progress along with encouraging authors, composers, and artists to create original works by rewarding them with the exclusive right for a limited period to reproduce the works for the benefit of the public. On the expiry of the term copyright the works belong to the public domain, and anyone may reproduce them without permission. Initially, copyright law applied only to the copying of books. Over time other uses such as translations and derivative works were made subject to copyright. Copyright now covers a wide range of works, including maps, music, dramatic works, paintings, architectural drawings, photographs, sound recordings, motion pictures, and computer programs.

### **General Principles of Copyrights**

- Printing of copies
- Audio, Image, and Audio-visual copies
- Multimedia products
- Archiving

- Digital Libraries
- Electronic copies
- Electro copying and networking

### **Copyright Violation**

- Hacking
- Virus Attack
- Spreading misinformation
- Cutting Communication
- Violation of privacy
- Cracking
- Data fiddling
- E-Mail security destruction
- Alteration of Information

### **Copyrights in India**

The journey of copyright in India may be traced back to the year 1847 when the first copyright act was enacted. A modified version of the same was enacted in 1914. In India, the development of copyright law has been closely aligned to the British Copyright law. Several amendments to this act were affected in 1983 to avail benefits arising from the revision of the Berne Convention and universal copyright convention to which India is an adherent. Amendments of 1992 extended the term of copyright protection from the lifetime of the authorship plus 50 years to the lifetime of authorship plus 60 years. Indian Copyright Act of 1957 replaces the Act of 1914. Act 1957 came into force on 21st January 1958. The Copyright Act of 1957 further became amended five times in the years 1983, 1984, 1992, 1994, and 1999. With these amendments offence of infringement of copyright has been declared as an economic offense.

The copyright act of 1957 provides copyright protection in India. Now the new copyright bill 2010 passed by the parliament on 17th May 2012 will be known as the Copyright (Amended) Act 2012. The 2012 amendments make Indian Copyright Law comply with the Internet Treaties – the WIPO Copyright Treaty (WCT) and WIPO Performances and Phonograms Treaty (WPPT). The amendments introduced through the Copyright (Amendment) Act 2012 can be categorized into:

- Amendments to rights in artistic works, cinematograph films, and sound recordings.
- WCT and WPPT-related amendments to rights
- Author-friendly amendments on the mode of Assignment and Licenses
- Amendments facilitating Access to Works
- Strengthening enforcement and protecting against Internet piracy
- Reform of Copyright Board and other minor amendments

### **IPR and Digital Technology**

Inventions, works of art, symbols, logos, and trademarks are typically connected with intellectual property, and as a result, they all are legally protected by trademarks, copyrights, and patents. Intellectual property law has been significantly impacted by digital technology, as seen by cyber squatter legislation and important legal and practical advancements in protection. The acceptance of e-commerce and business process patents would have a tremendous impact on freedom, computers, and privacy. By describing it to safeguard freedom and privacy, some of their personal information has been recommended by granting individual property rights.

Intellectual property must now safeguard not only novel non-traditional trademarks like holograms but also entirely digital works like software and mobile apps. How to uphold these rights in digital settings and marketplaces is also a topic of debate. A company's intangible assets can be quite valuable and protecting them is essential and challenging in today's increasingly digital and interconnected world. Notwithstanding the continual development of legal standards in this field, disagreements over intellectual property of any kind may be extremely damaging to a company's brand.

## **What is Digital Technology?**

Digital technology refers to the use of electronic devices, tools, and internet systems that process, store, and transmit information from one place to another in digital form in a fraction of a second.

## **What is the impact of digital technology on Intellectual Property Law?**

Intellectual property law has been significantly impacted by digital technology, which has changed how intellectual property is produced, shared, and safeguarded. Some of the most significant ways that digital technology has affected intellectual property law are:-

**Copyrights** – With the development of digital technology, it is now simpler than ever to produce, duplicate, and disseminate creative works like music, movies, and novels. The goal of copyright law, which tries to safeguard authors' rights while simultaneously facilitating the free flow of information, has been made more difficult by this. One of the most important changes in this field has been the increase in digital piracy, which has prompted several legal countermeasures, such as the use of Digital Rights Management (DRM) technology and stepped-up efforts by copyright holders to enforce their rights.

**Trademarks** – How trademarks are protected has also been changed by digital technologies. As businesses look to protect their brands in the online marketplace, the growth of e-commerce has increased the number of trademarks that are registered and enforced online. Using social media and other online platforms has also opened up new potential for trademark infringement, such as when a brand's name or emblem is used in an advertisement or social media post without permission.

**Patents** – The patent system has been significantly impacted by digital technology, particularly in the software and technology sectors. The accelerated rate of innovation in various fields has increased the number of patent applications filed and posed difficulties for patent examiners, who must stay abreast of new technological advancements to guarantee that patents are only issued for really unique and non-obvious innovations.

**Trade secrets** – How trade secrets are secured has also been altered by the development of digital technologies. Trade secrets are more likely to be stolen or leaked in the digital era because it's so simple to copy and share information online. Companies must therefore take



extra measures to safeguard their trade secrets, such as putting in place robust security protocols and confidentiality agreements.

### **Ways for Protection of Digital/Intellectual Property**

The impact of digital technology on intellectual property is not only negative but also has some positive influences, as digital technology made invention and creativity easy and efficient and also helps to catch violators quickly. However, the following are some of the ways to protect digital/intellectual property –

#### **Cryptography**

The oldest method of ensuring the security and privacy of data transmitted via networks is cryptography. The information is scrambled (or encrypted) to make it incomprehensible or difficult to understand, and only the authorized user can decode it (or decrypt it). Cryptography, however, only safeguards the work during transmission or distribution.

#### **Technology for Digital Watermarks**

A digital watermark is a signal or pattern that is placed into a digital document. It resembles the electronic on-screen logo that TV broadcasters employ. The work is identified by a special identifier. Information about ownership, sender, recipient, etc., as well as information about copyright permission, may be included in the message. A watermark generator, embedder, and watermark detector decoder make up the system. These watermarks can be removed by the authorized user using a present algorithm. The technology of watermarking is widely utilized to safeguard multimedia productions.

#### **Digital Signature Technology**

A digital signature includes the sender's and/or receiver's identities, as well as the date, the time, and any special codes. Digital goods can include this information. A software product is digitally bound and marked in preparation for distribution to a specific buyer. Digitally signed fingerprints ensure the authenticity of documents and stop unauthorized copying.

#### **Electronic Marking**

Using this method, the system creates a special mark that is automatically linked to each copy

of the document. When documents are printed, copied, or faxed, this technique is employed to safeguard copyright as well as in electronic publishing.

### **Operating System Security Features**

Computer operating systems like Windows 2000 Professional, Windows 2000 Server, and MS-SQL Server include certain specific, one-of-a-kind security and integrity features for protecting files, data, and other types of information.

**Digital Millennium Copyright Act (DMCA):** In 1998 Congress passed and the president signed the digital millennium copyright act, which claims updated copyright laws to address the realities of digital technology. Among other things, it criminalizes the creation, sharing, or selling of any technology that can be used to defeat copy protection technology. The DMCA's principal innovation in the field of copyright is the exemption from direct and indirect liability of Internet service providers and other intermediaries. This exemption was adopted by the European Union in the Electronic Commerce Directive 2000. The Information Society Directive 2001 implemented the 1996 WIPO Copyright Treaty in the European Union.

### **Copyright Issues in Libraries**

**Print copies:** often libraries have to make copies of the documents for their wider use when their reprints are not available. The permission of authors is desired.

**Electronic Copies:** Sometimes users are requesting e-copies of information; there also is a chance of infringement.

**Archiving:** this right is designed to allow librarians to allow libraries to make copies of printed books and out-of-print books, manuscripts, and periodicals.

**Digital Libraries:** Present copyright laws inhibit the complete realization of the idea of digital libraries.

**Multimedia Products:** Sometimes multimedia has been bundled together into a single product, so there are some provisions for the protection of the rights of multimedia products, but no clear-cut policy has been designed yet.

## **Role of Librarian Towards Copyrights**

The time in which we live is referred to as the Information Age. In this age, information is considered a resource that has no value until extracted, processed, and utilized. Library professionals and Information scientists are the information providers to information seekers or information user communities. In doing so they have various sources of information. They often download required information from online sources. Copyright laws do not provide clear-cut solutions concerning piracy, unauthorized users, etc. A lot of debate has ensued about whether a database of abstracts infringes the copyright of original authors. The issues are of extreme concern to all libraries, especially professional information centers. This is because digital data is easy to capture, store, process, and download. It is just impossible to keep track of copyright infringement in the digital environment because of the facilities like structuring, mixing, remixing of Information with sound waves, etc. Librarians and Information Scientists should be aware of the IPR provisions in the existing laws in their countries and be prepared to make contributions when the laws are revised to ensure that the interests of the users are adequately protected in the digital information environment.

Fair use of print material by allowing reproduction in a reasonable way of private study, research, or education is well understood. But in the context of Digital Information because it is distributed to a larger community, it is difficult to judge, comprehend “Fair Use”, and access and control the infringement of copyright law. It is almost impossible for a copyright owner to know which person used his/her work. It is also impossible for a copyright owner to permit to use and receive remuneration. In this context, it is necessary to modify the copyright law. The librarians in digital environments have the same responsibility to collect information and help the readers by giving it even in the form E- information. The role of the librarian is to be protected and enhanced.

## **Suggestions**

- National institutions dealing with IP rights need to have a continuous service-oriented approach to developing new and specialized services to facilitate the needs of societies that tend to base their competitiveness on the strength of knowledge they possess.
- Copyright laws have to be modified to suit the digital and networked environment in the face of current technological development in information management and to safeguard

intellectual property rights at the national and International levels.

- Considering the issues related to librarianship, and copyrights, it must be concluded that the library authorities should permit minimum photocopying works. This should be done only after judicious thinking on the demand of the user. Further, it should be borne in mind that the circulars issued by the association or UGC will not overrule the provisions of the Copyright Act.
- Some orientation programs can also be organized by the libraries so that the users become more conscious about the use of e-resources much more carefully and lawfully. Librarians should continue to work as a catalyst for the free flow of Information between the owners of copyright and the users of the Information.
- IPRs in the Digital Age are acquiring an inspirable status and there is an urgent need to study the laws related to printing other media at different levels. Therefore, libraries and Librarians should be allowed limited copying by appropriate changes in the copyright act.
- The strict laws of copyright, with a limited set of exceptions, just do not fit the digital era where everything digital transaction results in bytes being copied. We need to take a much more thoughtful approach to rationalize copyright, Introduction of general fair dealing guidelines, reduction of copyright terms, Decriminalization of non-commercial infringement, and other such measures. If we don't take such measures soon, we will all have to be prepared to be treated as criminals for all our lives. Breaking copyright law should not be as easy breathing.

## **Conclusion**

In general, the rise of digital technology has had a profound impact on intellectual property law, bringing with it new difficulties and opportunities for artists, companies, and lawyers. We will probably continue to see discoveries and legal reactions in this area as technology develops. Intellectual property law has been significantly impacted by the digital economy, as seen by cyber squatter legislation and important legal and practical advancements in protection. The acceptance of e-commerce and business process patents would have a tremendous impact on freedom, computers, and privacy. Online copyright infringement will increase in the digital age, and the Copyright Act does not offer sufficient sanctions to address such infringement.

Internet copying is still widely accepted by the public, and privacy interests, and legal restrictions, make it challenging to identify.

Further, The emergence of the information superhighway has wider implications for intellectual property. Digital technology has created very serious problems for intellectual property. An actual intellectual property right is one of the most important barriers to digital library development. IPRs are essential to human creativity, by creators' incentives in the form of recognition and fair economic rewards under the system of rights, creators are assured that their works can be disseminated without fear of unauthorized copying or piracy. As more information becomes available in digital format, care must be taken by the library to ensure that the public can enjoy the same access right as printed information but with utmost care about intellectual property right. Copyrights in the digital age are of major concern and we have to emphasize more on the practicality of there to get additional benefit and prosper. Now we can say that the development of ICT has triggered unprecedented changes in corporate activities IPRs are a need for checking the piracy of computer software and other IT products. Copyright protection should be encouraging the use of information for creativity and not for creating hurdles in the use of Information.

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