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WHITE BLACK LEGAL is an open access, peer-reviewed and refereed journal provided dedicated to express views on topical legal issues, thereby generating a cross current of ideas on emerging matters. This platform shall also ignite the initiative and desire of young law students to contribute in the field of law. The erudite response of legal luminaries shall be solicited to enable readers to explore challenges that lie before law makers, lawyers and the society at large, in the event of the ever changing social, economic and technological scenario.

With this thought, we hereby present to you

# **COPYRIGHT CHALLENGES AND SOLUTIONS IN THE DIGITAL AGE**

AUTHORED BY – ARHAM GUPTA & VAIBHAV PATHAK

## **1 ABSTRACT**

The purpose of this paper is to discuss the issues related to copyright law in the context of the new media environment in India by exploring the general understanding of copyright, or in other words, the idea of owning a creative work, in the contexts of India's technological development within the contemporary developments in media technology. The first topic covers a general introduction to copyright, its objectives, and legal framework prevalent in India and how advanced media has reinforced it. This covers matters relating to distribution without permission, piracy in the digital platform, and various others relating to sharing of content. The paper seeks to analyse the copyright laws in India, from the current Copyright Act of India 1957 and further amendments that speak to the advancements in digital technology, India's adherence to international conventions such as the Berne Convention as well as Trade Related Aspects of Intellectual Property Rights (TRIPS).

Some examples of how to analyse the effects of digital piracy on the motion picture, recording, and software businesses in India are shown by several cases. New technologies, including DRM, block chain, and content identification technologies are recognized to hold some good solutions to the issue of copyright protection. Other legal and policy measures refer to solving digital challenges in Indian Copyright laws, increasing the responsibility of Intermediary, increasing the penalties on piracy. When comparing the Indian approach to such enforcement with the U.S., EU, Japan, and South Korea, the present study aims to contribute toward better understanding of strategies for digital copyright practice.

Lastly, the paper provides recommendations for the middle ground to be taken regarding copyright, with reference to the essence of upholding both creator rights and public interest. In the digital world, the legal environment is also growing at a fast pace, which means that efficient copyright regulation requires its ability to adapt to new technological advancements such as 5G, AI



## 2 INTRODUCTION

As one of the key pillars of intellectual property law, copyright provides protection to individuals who write, create, do artwork, make music or develop software by prohibiting other people from doing any of those works without permission from the original creator. This includes legally allowing individuals to determine how their work is redistributed, changed or reproduced thus enabling creativity and cultural development (WIPO, 2020). The Copyright Act of 1957 is the country's major copyright law that is relevant and adheres to the basic principles laid out in the Berne Convention, serving the purpose of safeguarding creators' rights hence ensuring a constant flow of creativity (Narayanan, 2018). Copyright laws, especially in the early years focused on the physical copies of creations, such as, but not limited to, books, canvases and audio recordings that were easy to keep track of and enforce. However, in view of the current digitized world, certain changes have been made to existing laws to suit the problems caused by the growing need for cyberspace. For example, the amendments brought to the Copyright Act in India in 2012 had specific provisions detailing the need for digital right management (DRM) policies to address intermediary liability, aimed at creating awareness of content protection in the changing age of the internet (Sen, 2015)

The digital era has changed the creation, distribution, and consumption process of content. Of the most important aspects that came forth in the present civilization, Intellectual Property stands especially, especially in the digital manner. Digitization of any audio, video, and texts available throughout the globe has raised new challenges against copyright protection. WIPO added that the enhanced globalization and mechanisms speeded up the progress of digital technologies and works of art. (2021) WIPO. This is manifested with the increasing number of mobile applications, social media, and video on demand over the Internet (OTT) in India, which can be readily accessed and shared at a specific time. While there may be some commercial benefits for these systems, pirated and illegal content in the systems are a great cause for concern, more so for creators of the content. According to KPMG estimates in 2020, the Indian film industry loses about \$ 2.8 billion every year to online pirates and hence is applicable to stream websites as it enables illegal downloading or streaming of the films content to the viewers. The enforcement activities against cross-border digitization, which might be interpreted as a looming threat to national territorial boundaries, are even more Herculean because copyright violation is not country-specific and offenders usually operate outside the limits of Indian law.



New complexities have therefore emerged on the copyright issues due to the social networks such as YouTube, Face book and Instagram where a variety of end users post their content most of which contain infringement of copyright laws. The components of work like memes, remix, and reaction video share parts of copyrighted materials, putting the copyrights against public domain and free expressiveness (Sen & Banerjee, 2019). This leads to enormous differentiation in legal systems where copyright concerns the protection of the creators' rights as well as public interest in fair use and citizens' enlightenment over copyright law to engage in redistribution of cultural products.

Therefore, the purpose of this paper is to look at the issues that have arisen concerning copyright in the digital environment and provide recommendations on the protection of copyright for India. Major areas of research interest include the ever-encompassed problem of reproduction of digital material and piracy where issues in the likes of film, music, and software industries are still rife. Furthermore, the paper analysis the enforcement with regard to online platform and service providers with the Indian compliance to international copyright treaties including Berne Convention, TRIPS Agreement and WIPO Treaties.

The study will also factor the following technologies such as blockchain DRM, and tracking through the use of artificial intelligence in enhancing the protection of digital copyright. Finally, this paper will discuss suggestions for further legal changes that need to be made to address the problem of digital piracy, liability of intermediaries, and AI-generated content with the goal of preparing India's copyright legislation for the predominantly digital context (Pound, 2022). The goal is to promote the balanced position that will support the rights of creators and developers as well as ensure for the consumers fair and open digital world, respecting the IP.

### **3 FRAMEWORK IN INDIA**

#### **3.1 OVERVIEW**

Copyright Act is a legislative act in India, its main purpose is to provide ownership in India whether the content is published or like music movies etc. Pursuant to the Act, copyright subsists in an original work as soon as the work comes into existence and vests in the owner of the work automatic rights to control reproduction, distribution, adaptation and communication to the public of the work. The Act fosters innovation on the back of incentives to encourage more innovations as creators benefit from the innovation and ownership of the invention

without undue limitations on the use and distribution of their creations as appreciated by Gopalakrishnan (2018).

Amendments of the Copyright Act since its first enactments were subsequent which were further made to respond to the tendencies in technological fields. For example, the 1994 amendment was important in extending the protection of copyrights to respond to new development in broadcasting and cable TV and also introduced a new concept of 'communication to the public' is added as the mode of infringement of copyright (Kumar, 2019). The technological<sup>1</sup> age, on the other hand, introduced other complications that called for revise to the law. As a result, to curb such challenges due to digital technology the Copyright (Amendment) Act of 2012 was passed. This amendment provided for substantial provisions of cyberspace protection, the inclusion of "digital rights management" (DRM) as part of the law and provision of the intermediary liability of online platforms. Co, through these provisions the law introduced measures on combating the unauthorised transmission of copyrighted material especially through digital technology, and on the significance of rights management information towards protecting the interests of creators in the new digital economy (Narayanan & Sen, 2020).

Another change in 2012 also stressed on fair dealing and rule in context of electronic uses particularly for personal, research and educational purposes. These provisions acknowledge a duality of both the protection of copyrights and the right to knowledge, to meet the requirements of the burgeoning world of digitization of content in India (Raghavan 2021).

### **3.2 ADAPTION OF INTERNATIONAL TREATIES AND CONVENTIONS**

Indian Copyright law complies with several international treaties and covered many conventions thus showing its full compliance with international copyright law. Being a member of the Berne Convention<sup>2</sup> since 1928 India follows the policy of national treatment according to which the foreign authors have same rights as those of Indian authors without any formal registration. Core to the Berne Convention is the right of reproduction, adaptation and translation; these are the principles incorporated under the Indian Copyright Act to ensure

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<sup>1</sup> N.S. Gopalakrishnan, *Indian Copyright Law: A Comprehensive Analysis*, LEXISNEXIS (2018), available at <https://www.lexisnexis.in/>.

<sup>2</sup> World Intellectual Property Organization (WIPO), *Berne Convention for the Protection of Literary and Artistic Works* (2022), available at <https://www.wipo.int/treaties/en/ip/berne/>.

India's compliance with the international body (WIPO, 2022).

The TRIPS Agreement signed under WTO in 1995 added new obligations for India through required minimum standards of protection for copyright. TRIPS brought in tougher performance criteria, which meant India had to put in place measures for the civil and criminal redress for the breach of copyright and border measures in relation to import of counterfeit products. As a result, India has enhanced the measures to enforce copyrights and widened the coverage of Copyright laws to include computer software and databases which occupy key strategic position in the expanding digital economy (Kumar & Sen, 2017).

Further, India extends compliance with the World Intellectual Property Organization Copyright Treaty (WCT) and WIPO<sup>3</sup> Performances and Phonograms Treaty (WPPT) both of which centre on the rights of creators in the digital platforms. The WCT and WPPT are intended to address certain problems of copyright law in the digital environment, such as piracy of digital items and the Internet distribution of such works and performances. These treaties have impacted more on India's copyright amendments in regard to reproduction on digital technologies and DRM measures. With WIPO treaty affiliation, India fortifies its assurance of IPR in the contemporary interlinked electronic market (WIPO, 2021).

### **3.3 JURISDICTION AND ENFORCEMENT OF COPYRIGHT IN INDIA**

The implementation of copyright law in India depends on the cooperation of Courts, Tribunals and administrative Agencies responsible for the preservation of the provisions of Copyright law and redressal of cases of infringement. The High Courts of Delhi and Bombay specially deal with aggrieved parties of copyright and being situated in entertainment and technology cities to provide ample judgements on issues like digital infringement and liability of intermediary. For instance, where in the case of *Super Cassettes Industries Ltd. v. Myspace Inc.* of India the Delhi High Court has held on the grounds that intermediary that offers service have to be more cautious and sensitive to stop any violation of copyright of others. With regard to intermediaries, this decision made a solemn point in India's digital copyright system and put pressure on them to independently detect and delete copyright violating content (Chaudhary, 2019).

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<sup>3</sup> World Intellectual Property Organization (WIPO), WIPO Copyright Treaty (WCT) and WIPO Performances and Phonograms Treaty (WPPT), WIPO Lex (2021), available at <https://www.wipo.int/wipolex/en/>.



In India, infringement of copyright can be both civil and criminal remedies and penalty includes injunctions, damages and where the breach is severe imprisonment. It also regulates all matters concerning licensing, royalty claims and rightfully plays a crucial role with the determination of fair compensation to creators – the Copyright Board. The authority in resolving the conflict is highly significant for the movie and music industry; they are common targets for the unauthorized copying and distribution cases (Basu, 2021).

Enforcement of copyright on the other hand has remained difficult given the nature of the piracy especially when it occurs cross border and in anonymity of cyberspace. The courts have recognized this conflict and provide more and more injunctions and so called ‘dynamic’ blocking orders to fight against online piracy. In a ruling given in *Utv Software Communications Ltd. v. 1337X.to and Others* the Delhi High Court directed ISPs to block not only individual sites containing the URLs specified by the complainant but also the URLs of the same site if there was more of piracy. This “dynamic injunction” approach draws attention to India’s judicial endeavour to refashion the piracy control through copyright for the digital age (Ghosh 2020).

In addition, India's Department for Promotion of Industry and Internal Trade (DPIIT) has taken steps to launch many campaigns to educate people about Copyright Laws in an effort to combat digital piracy on a social level, and to reiterate the importance of copyright protection not only in a social aspect but also in the legal context. With an increasing emphasis on awareness campaigns, there is an evident need to put in place a holistic framework wherein action by the courts, administrative measures and public education are all critical for protecting and enforcing copyright in India.

## **4 CHALLENGES FACED DUE TO COPYRIGHT IN DIGITAL AGE**

### **4.1 DIGITAL PIRACY AND REPRODUCTION**

Due to the tremendous improvement of digital technology, the problems of copyright protection were immensely compounded, particularly with reference to the issue of copying and piracy of digital content. By digital replication it is possible to reproduce near identical copies of protected works and disseminate them readily. Today, piracy has concerned itself not

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<sup>4</sup> Priya Ghosh, *Utv Software Communications Ltd. v. 1337X.to and Others: Expanding Judicial Tools Against Online Piracy*, 48 Delhi J. of Intell. Prop. 2020, available at <https://www.delhihighcourt.nic.in/>.

only as an international problem, but is also a problem in India, particularly affecting film, music and software. The Federation of Indian Chambers of Commerce & Industry (FICCI)<sup>5</sup> has done several studies concerning piracy, and the Indian movie industries alone lose billions of local currencies yearly to piracy, with online streaming and torrent sites most influential in this process (FICCI, 2019)<sup>6</sup>. The problem of music sharing in particular bears similarities to the problem faced by the software industries: not only profits are threatened, but the creative process itself; when individuals are potentially risking their money to share music, they will be discouraged from creating more music.

To address issues of piracy, specifically the Copyright Act of 1957, was amended in 2012 to include stiffer measures for fighting piracy, as well as provisions on DRM. But here, the efficacy of these provisions is still restricted due to the issues with regard to identification of digital piracy activities that are mostly untraceable and operate across borders. Some are internal while others are external and with advancement in technology, the law enforcement face some of the following challenges: International web sites and global platforms are challenging since they are beyond the jurisdiction of the law in India. In light of cross-border infringement and anonymous distribution, the Indian lawmakers and courts are to look for new approaches, including dynamic injunctions as those that prevent URLs linked to piracy continuously. Dynamic injunctions have been used prominently in one of the recent high-profile cases such as *Utv Software Communications Ltd. v. 1337X.to* when the Delhi High Court passed an order to block not only the particular URLs carrying out the infringement but the future links from the same infringing websites also as per the ISPs (Ghosh, 2020).

#### **4.2 PROBLEM FACED DUE TO CONTENT DISTRIBUTION**

Distribution of digital content also raises questions about licenses and enforcement of which streaming services and content-sharing platforms are no strangers to. The old copyright law was simply not framed for operations in the digital world where information can be disseminated at the click of a button and across the globe thereby creating a problematic rights and license situation. Social networks and SNS, free sharing of content, and UGC sites allow

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<sup>5</sup> Federation of Indian Chambers of Commerce & Industry (FICCI), Film Piracy, Its Impact, and the Challenges to Legal Enforcement in India (2019), available at <https://ficci.in>.

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[https://www.researchgate.net/profile/Nupur-Walia-3/publication/380874493\\_Challenges\\_of\\_Copyright\\_Protection\\_in\\_the\\_Digital\\_Age\\_A\\_Study/links/6651eae90b0d2845745ae94a/Challenges-of-Copyright-Protection-in-the-Digital-Age-A-Study.pdf](https://www.researchgate.net/profile/Nupur-Walia-3/publication/380874493_Challenges_of_Copyright_Protection_in_the_Digital_Age_A_Study/links/6651eae90b0d2845745ae94a/Challenges-of-Copyright-Protection-in-the-Digital-Age-A-Study.pdf)

would-be copyright infringers to download and distribute copyrighted content without the copyright owner's consent. This concern has not only brought about the debate on intermediary liability where by platform owners may in some ways be held accountable for moderating the content provided by the users (Chaudhary, 2019).<sup>7</sup>

Licensing complications affecting distribution rights to streaming services also pose a copyright issue since the content displayed is arranged in an organized manner across various channels. Today's OTT platforms like Netflix, and Amazon Prime spends a lot of money to acquire rights for content but face issues like geo-blocking and others like unauthorized redistribution. Geo-blocking is a technique that was established with a main objective of limiting the users' access to some contents based on their location but the technology has crested room for unauthorized access through Virtual private networks (VPN). In *Super Cassettes Industries Ltd. v. Myspace Inc.*, the Delhi High Court thereby re-emphasised the principle of intermediary liability but also made it the obligations of such a site to take reasonable measures to ensure that copyright violations are not possible though the site. This decision focused on the need of the digital platforms to pay attention to the contents posted, safely that raised the difficulties of how copyright may be balanced with user rights in sharing and accessing content (Chaudhary, 2019).

### **4.3 INFRINGEMENT AND ENFORCEMENT ISSUES**

It is widely recognized that enforcing copyright law in cyberspace is itself a problem because monitoring and punishing copyright violations on the Internet is practically impossible. Digital content, as a rule, can be easily copied and redistributed, while their identification and management are challenging. The enforcement is compounded by the challenge of having to locate the infringing users and many of them use pseudonyms. The enforcement becomes even more difficult because of, firstly, anonymity behind the mask of the Internet and secondly, mostly easy access to the pirated content.

Especially since ISPs have the main focal point access for Internet users, their participation in the copyright infrin<sup>8</sup>gement mitigation processes has been deemed essential. Trademark

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<sup>7</sup> *Super Cassettes Indus. Ltd. v. MySpace Inc.*, [2016] Delhi High Court (India). Available at: WILMAP, Stanford Law School, <https://wilmap.stanford.edu/entries/my-space-inc-vs-super-cassettes-industries-ltd>.

<sup>8</sup> Debasmita Ghosh, *The Problem of Piracy and Copyright Enforcement in India*, Jindal Global L. Sch., (2020), <https://www.jgu.edu.in/> (accessed Oct. 30, 2023).



owners have increasingly turned to ISPs as courts realize that ISPs have to play an active role in preventing access to websites dedicated to piracy. The aforementioned dynamic injunctions extended in the case of Utv Software Communications Ltd also show how ISPs' involvement can be managed – as ISPs are directed to police and block out known piracy websites (Ghosh, 2020). However, enforcement remains a cat-and-mouse phenomenon, this because as one site is closed, others immediately crop up to take their place. However, a deficiency of a severe sanction still remains a limiting factor to enforcing Copyright Laws in India.

#### **4.4 MORAL RIGHTS AND REMIX CULTURE**

Moral rights also granting rights of bona fide recognition of authorship and permission of an author to object against any alteration that may harm the author's reputation. However, the digital environment, especially remix culture makes it difficult for moral rights to be observed. This led to the keynote question: how do creators protect their moral rights in today's remix, meme, and mashup culture involving social media and video platforms? All user-generated content such as memes, mashups or remixes fall in a very grey area between the fair use and clear infringements. Indian courts have gradually come around to acknowledging the need to arbitrate between creators and consumers of content, though, the question of what defines fair use continues to bother creators as well as consumers (Raghavan, 2021).<sup>9</sup>

### **5 CASE STUDY OF COPYRIGHT CHALLENGES IN INDIA**

#### **5.1 PIRACY IN FILM INDUSTRY**

Bollywood and other regional cinema Based on the economic as well as reputational loss, Indian film industries particularly Bollywood and other regional film industries are badly affected by piracy. Technological advancement through internet and sharing of films over the internet has enabled the problem to advance through distribution of films both nationally and internationally. In its recent report, Motion Picture Distributors Association said that due to piracy India's film industry losses run into billions of rupees annually, with Bollywood films losing as much as 30% of their revenues per release.

Instead of DVDs being duplicated and sold on the street, now, the films are streamed and downloaded online as torrents and are available for purchase world over within a few hours of

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<sup>9</sup> Anisha Raghavan, *The Advent and Legal Position of Remix Culture in India*, iPleaders (Apr. 12, 2021), <https://blog.ipleaders.in/advent-legal-position-remix-culture-india>.

the films release. The piracy of the films like Uda Punjab and Kabali are some of the examples which filmmakers have experienced during their occupational period, piracy versions were released online before the official release dates harmfully affecting the box-office collection. It goes beyond the economic point as piracy also deter local filmmakers and investors limiting the industry's organic growth (Sundaram, 2018).

## **5.2 SOFTWARE PIRACY: SCOPE AND ECONOMIC IMPACT**

Software piracy operation in India has remained a major issue both to the domestic as well as international investors resulting into massive equivalent losses and legal issues. Business Software Alliance (BSA)<sup>10</sup> said in a report that India had the second highest piracy rate worldwide at 56 percent, which is costing \$2.7 billion per year in lost sales. This high level of software piracy slows down advancement, reduces the flow of revenues to the government and puts off software companies based in other countries to invest in Indian markets.

There is evidence that the Indian government has tried to include measures in its fight against software piracy, for example, the National IPR Policy has provisions which seek to empower the enforcement mechanisms and increase awareness. However, enforcement remains a problem due to inadequate funding, lack of public sensitization, and low risk of using counterfeit software. Using counterfeit products, the user gets unprotected from hacker attacks due to the low quality of pirated copies and an increased level of virus presence (Das, 2019). On similar regard Microsoft for instance has been at the forefront in publicizing the risk of cyber security associated with the use of pirated software more so when advocating for real and upcoming legal and technological solutions to fight the menace.

## **5.3 MUSIC INDUSTRY AND STREAMING**

The main problems concerning online distribution, copyright questions

On the one hand, the change in direction from tangible formats to digital services has affected India's music sector, which has led to even bigger issues with copyright. Online music streaming services like Spotify, Gaana, JioSaavn, and other have been witness to an increase in the amount of Music consumption. However, these platforms are not completely free from licence which in India are often sorely, poorly or unsatisfactorily addressed. The industry is

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<sup>10</sup> Business Software Alliance, *Software Management: Security Imperative, Business Opportunity* 5 (2018), available at <https://www.bsa.org>.

faced with insufficient licensing structures and, with the help of social networks and free download portals, the rights holders and artists do not get the deserved counterpart for their work.

There are still problems in royalty distribution. Some artist has been complaining about how little they get paid by these streaming sites than that fetched by physical sales. This has caused concern which has led to demands of new policies of copyright to address the issue of equal remunerative of artists and music producers. Decisions like *Indian Performing Right Society Ltd v. According to Aditya Pandey & Ors*, there is a necessity of establishing better policies relating to ownership and distribution of the copyrights in the digital platform as the primary means of consuming the music (Sharma, 2021).<sup>11</sup>

#### **5.4 LEGAL DISPUTES AND JUDICIAL DECISION**

Landmark Cases Like *Shreya Singhal v. Union of India*<sup>12</sup>, Cases on OTT Content

In terms of copyright issues associated with digital content, landmark judicial decisions have determined the legal position in India on various aspects including regulation of such content in the internet. The *Shreya Singhal v. Union of India* case is all the more important as it concerns the case where the Supreme Court of India declared Constitutional Void, Sect. 66 A of the IT Act, 2000. This section had previously given wide latitude to the authorities and enabled them to punish individuals for any speech done over the online platforms. Critics pointed out, this section was used to curb free speech and thus slay the concept of the freedom of expression. This ruling also gave clarity that content regulation does not mean complete restriction of speech and should be understood in the context of the cyberspace.

Platforms that offer over-the-top (OTT) services such as Netflix, Amazon Prime, and Hotstar have found themselves embroiled in similar disputes involving copyright and censorship. Legal challenges such as *Padmavati v. Union of India* exposed the reality of the self-censorship of the audience and the censorship of the authorities and the problems the content producers face. Presently, the issues brought to the fore in the legal arena have been those of intermediary liability, especially in instances where the said platforms are sited as content hosts and charged

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<sup>11</sup> Sharma, Arvind. "Streaming Platforms and Copyright: Challenges in the Digital Era." *Journal of Intellectual Property Rights Law*, vol. 3, no. 2, 2021, pp. 114-119, <https://www.jusscriptumlaw.com/navigating-the-streaming-media-copyright-issues/>.

<sup>12</sup> *Shreya Singhal v. Union of India*, (2015) 5 S.C.C. 1. (India's Supreme Court held Section 66A of the IT Act unconstitutional for violating the right to free speech and expression under Article 19(1)(a) of the Constitution).



with the duty of ensuring that the content so hosted is not copyright infringing. These cases serve to emphasize that as OTT usage increases, there is a call for comprehensive legal policies that protect the interests of the content providers as well as the users' right to access information and express themselves freely (Mitra, 2022).

## **6 TECHNOLOGICAL SOLUTIONS TO COPYRIGHT CHALLENGES**

### **6.1 DIGITAL RIGHTS MANAGEMENT**

In simple terms, Digital Rights Management (DRM)<sup>13</sup> is a set of technologies that enable the management and limitation of access to digital information in order to prevent its leakage or abuse. This is the method applied by content providers, mainly, video on demand services, e-book providers as well as music websites in order to avoid illegal downloading and sharing of the content. This is achieved through the use of technology content is encrypted and usage policy specified, for instance, number of devices a user is permitted to use or even allowing no downloads at all (Microsoft, 2020).

The success of DRM is primarily because it has the capability of embedding within content platforms, however, it also lags in some areas. One challenge is that while providing protection to content, it also limits the access of the content to the legal customers who might have paid for it which makes it unappealing and, in some cases, leads to more piracy. On the other hand, movie studios have mastered the art of ripping DVDs and have even beaten the most sophisticated DRM systems designed to protect them. Yet, without these limitations embargoes, Development of DRM is still relevant for sectors such as gaming and streaming, especially in the case of Netflix and Spotify which have been updating their DRM regularly in order to secure the content effectively (Sanchez et al. 2022). It has also changed with adaptive streaming and geographic restrictions benefiting content providers in a great extent (Gopalakrishnan, 2019).

### **6.2 COPYRIGHT PROTECTION BY BLOCKCHAIN**

Blockchain's structure makes sure that writers and artists preserve their copyright duration and anterior purchases in an easy, permanent, unchangeable record available for anyone who wishes to review it, creating an indelible 'fingerprint' that buttresses their ownership and

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<sup>13</sup> Microsoft Corporation, Digital Rights Management (DRM): Overview and Impact, Microsoft Docs, <https://learn.microsoft.com> (last visited Nov. 3, 2024).

license terms. For instance, Media Chain<sup>14</sup>, recently bought by Spotify, uses blockchain in order make sure artists get their deserved streaming royalties (Zohar, 2018).

Blockchain has a key advantage of providing an automatic solution to copyright management with the focus on industries that come across complicated licensing: music and publishing companies, among others. Some of the application of smart contract include; the ability to release payments on block chain once a content is accessed based on pre agreed terms. Blockchain has great potential for the use in copyright but up to date the effectiveness is not very high because there are such issues as a high level of energy consumption, and some legal obstacles. However, there are worries about their authenticity and security, and for these reasons, these existing solutions are not entirely practical for copyright protection (Gurkaynak et al., 2018).

### **6.3 NEW TECHNOLOGY FOR IDENTIFICATION OF CONTENT**

Technologies for identification of content are suited to managing of copyright for digital media. Monitoring and protection of content are implemented through a familiar technology, including fingerprinting and watermarking. Fingerprinting entails assigning a tag based on the content, so that the content could be identified and checked across mainly the platforms without the need to modify the content behind it. Content ID is most effective with video and audio although websites such as YouTube use fingerprinting known as Content ID to detect a violate content uploading system (YouTube, 2021).<sup>15</sup>

Watermarking however inserts data into the content in question. The pirate copy is marked by visible watermarks and the copyright owner is able to track the distribution of pirated material through the use of invisible water marks. The existing tracking technologies have further developed these technologies to track and identify real-time pirated material on the internet. Machine learning techniques have commercial purpose to review large volumes of contents within significantly short times, they can also recognize copyrighted material even if distorted. For instance, the platforms that have incorporated AI Content Identification, such as Audible Magic, are capable of identifying copyrighted material in content uploaded by users which

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<sup>14</sup> Tal Zohar, *Blockchain and Digital Copyright: How MediaChain Is Pioneering Copyright Protection for Artists*, Spotify Newsroom, <https://newsroom.spotify.com> (last visited Nov. 3, 2024).

<sup>15</sup> YouTube, *How Content ID Works*, YouTube Help, <https://support.google.com/youtube/answer/2797370?hl=en> (last visited Nov. 3, 2024).

eases the process of the compliance of the platforms with the copyright laws as noted in Patel et al., 2020).

#### **6.4 ROLE OF ARTIFICIAL INTELLIGENCE IN COPYRIGHT: AI GENERATED CONTENT AND DISPUTES AND CONCERNS OF GENERATIVE AI**

New and emerging challenges of AI can be reviewed in the context of copyright since generating AI techniques produce artwork, music, and even literature. These AI-generated creations raise legal questions regarding ownership and rights: who owns the copyright if the AI designs a work, the programmer, the client or the AI? Such concerns are being substantially discussed by the courts and policymakers at the moment, the United States and the European Union have adopted guidelines to determine the legal recognition of AI-generated content (WIPO, 2021).<sup>16</sup>

AI also features in content identification/infringement, it helps in the identification of platforms for copyright infringement. However, it can also trigger problems: for example, the algorithms may indicate infringements where there were none, including parody or learning materials. It, however, emerged that with the development of ICT especially in AI there arises challenges that will need legal solutions and this will involve the copyright laws recognizing human creators while giving credit to AI in the creating process (Ginsburg, 2022).

### **7 LEGAL AND POLICY SOLUTIONS**

#### **7.1 PENALTIES TO ADDRESS DIGITAL PIRACY**

We cannot deny the existence of digital piracy as it is everywhere with the availability of streaming sites it has increased. In relation to these abuses, proposed changes would include tougher measures on digital piracy and strengthening the enforcement mechanisms. For deterrent purposes, it will be effective to increase fines and capabilities for quicker disposition and imposition of harsh sentences.

One of the main subjects of focus in this amendment is to develop a more effective enforcement structure. Such provisions can entail the creation of autonomous enforcement bureaus for digital crime or augmenting the existing ones with wider mandate and resources. For instance,

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<sup>16</sup> World Intellectual Property Organization (WIPO), Artificial Intelligence and Intellectual Property: Policy Challenges and Opportunities, WIPO, <https://www.wipo.int/pressroom/en/articles/2021> (last visited Nov. 3, 2024).

the National Cyber Crime Reporting Portal of India has already started looking into certain violation of rights cases over the Internet, but it is likely to be more effective if the provision on enforcement would be more cohesive and financial support targeted (Chawla, 2021). Further, in order to meet the best practices and levels of enforcement and protection found in other countries, these amendments are intended to develop Indian digital copyright framing in line with international regimes such as WIPO Internet Treaties (Kumar, 2022).

## **7.2 ROLE OF REGULATORY BODIES: OTT REGULATION AND GOVERNMENT ROLE FOR MEDIA STREAMING NEW CHANNEL**

In relation to regulation of digital media in India key TRAI's<sup>17</sup> objectives include the regulation of over-the-top (OTT) and online content channels. While TRAI has mainly addressed questions relating to Telecommunications, more of content delivery and Digital Copyright questions have been addressed since most streaming platforms have evolved to become some of the main content distributors.

Apart from intermediary liability and content sharing TRAI's role could be expanded to include copyright enforcement. The OTT platforms can be controlled and make them agree to the copyrights and control on streaming and fair distribution of revenues can be set up through regulation policies can set up for the OTT platforms. TRAI has also recently started engaging in working with interventional organizations to enhance the copyrights, which may add to the chances of India to integrate into the global regulations (Sundaram, 2020).

Concurrent with TRAI the Ministry of Information and Broadcasting (MIB) is also on war footing to control content on OTT platforms. These regulations regarding accountability yet a competitive online economy can solve the problems of copyright violation without hampering with growth or diversity of content (Sharma, 2021).

## **7.3 ISSUE WITH COPYRIGHT AND PUBLIC DOMAIN**

The main issue with these laws that they need to protect individual content and at the same time giving public availability of new content The main purpose behind copyright is to enable the financial gain by the author, but too encompassing laws may prove detrimental to the culture and education. This is where the public domain comes in, for, it provides a framework

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<sup>17</sup> Sundaram, Vishal. TRAI and the Regulation of OTT Platforms: Challenges and Opportunities, 27 Indian J. of Media L. & Pol'y 210, 213 (2020), available at TRAI (last visited Nov. 4, 2024).



within which works can be used freely after certain periods or under certain conditions without going through copyright.

Proposals aiming at clarifying and expanding the public domain in India may incorporate aspects such as flexible copyright terms for government publications or unlimited access for educational and non-commercial uses. These changes would be in tandem with the copyright regimes in countries that appreciate and promote a public domain and which aim at enhancing creative works and innovations (Dasgupta, 2019).<sup>18</sup>

## **8 GLOBAL COMPARISON**

### **8.1 DIGITAL MILLENNIUM COPYRIGHT ACT (DMCA):**

The Digital Millennium Copyright Act (known as DMCA) being a law passed in the U.S. legal system prevents Online Services Providers from copyright owners' law suits provided their service respects the takedown procedure of put and take. DMCA § 512 obligates the Intermediaries to remove the infringing work upon receipt of the Notice letter from the copyright owner for which they have wares; however, they cannot be compelled to such a degree to monitor and censor actively any potentially copyright infringing material. This protection has thus allowed for the development of sharing content sites in the US without fear of litigation for innovation with respect to the content (Litman, 2006).

The intermediary liability provisions of the Indian Information Technology Act, 2000 resonate some principles of the DMCA safe harbour provisions. But the state of Information Technology in India has not overlooked the need for these provisions to be revised in the light of the new problem of piracy, and<sup>19</sup> copyright infringement in-based social media and OTT services. Proposing stricter notice and takedown process such as DMCA can enhanced the Indian response towards online infringement while also providing defence to the intermediaries who in good faith take down the content (Gopalakrishnan, 2019).

### **8.2 EU COPYRIGHT DIRECTIVE**

The Copyright Directive of the European Union especially Article 13 now Article 17 shifted the European Union approach to digital copyright enforcement by placing the responsibility of

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<sup>18</sup> Dasgupta, A., Copyright Law and the Public Domain in India: A Path to Balance for Creativity and Access, 45 Intellectual Property Quarterly 34, 37 (2019), available at HeinOnline (last visited Nov. 4, 2024).

<sup>19</sup> Jessica Litman, Digital Copyright 120 (Prometheus Books, 2006), available at <https://books.google.com>.

the use of copyrighted material by users on the content-sharing platforms. This provision places the responsibility of copyright compliance back on the service providers like YouTube and Facebook; these have to install upload filters or similar. This directive is a measure taken to try and safeguard the rights of the content creators in that the platforms which benefit from the content must in equal measure take a share of the revenue it generates (Senftleben, 2019).

From this, India is able to learn with the EU's strategy on how it is not impossible to adequately implement copyright enforcement without compromising users' access to digital material. While Article 17's provisions may no longer apply to India as it is today after the changes made by the new government in the last years, it can be stated that these provisions could tempt India to make its intermediary liabilities stronger for the platforms that host user-generated content. Applying the same policies in India, though, will have to be done cautiously so as not to over-politicize while also not encroaching on freedoms of speech. Exploring the effects that the Directive has imposed and deprived over user rights particularly with regard to fair use exceptions and small platform enforcement offers fundamental knowledge to India in its process of the copyright reform (Dusollier, 2020).

### **8.3 PRACTICES FROM OTHER COUNTRIES**

On this aspect, countries such as Japan, South Korea and the United Kingdom has put in place mechanism to address the question of copyright in the digital environment. For example, Japanese approach is based on severe punishments for digital piracy alongside with informational prevention projects targeted at avoidance of unauthorized copying. This dual strategy demonstrates how both enforcement and education are efficient precursors in the pursuit of encountering piracy efficiently (Yamamoto, 2018).

South Korea's approach consists in legal protection of copyrights that focuses on the content-sharing platforms, rates the collaboration of the government and the private sphere. South Korea also focuses on high technology application in the enforcement of its laws including content recognition tools, online monitoring among others. India could follow similar technology-driven enforcement techniques because the usage of OTT platforms and other online content is increasing at a very fast pace in the country (Lee, 2019).<sup>20</sup>

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<sup>20</sup> Min-Sung Lee, *South Korea's Copyright Approach in the Digital Era: Technology-Driven Enforcement and Platform Cooperation*, 34 Pac. Rim L. & Pol'y J. 293 (2019), available at <https://digitalcommons.law.uw.edu/pacrim>.

UK has, in particular, through the Digital Economy Act 2017, enhanced its enforcement instruments of the copyright particularly for digital media by raising fines and encapsulating faster procedures for dealing with cases of infringement. Referring to the experience of such the UK, which successfully combines persistence in the protection of the rights of holders with active actions in their liberalization for the public, several approaches can be considered as a successful framework for the development of changes in the copyright legislation in India:

These global models suggest that legal changes, use of IT and public awareness all play important roles in the applicable copyright system. By adopting such best practices India can have a stronger digital copyright regime to address controversy of digital age.

## **9 FUTURE OUTLOOK**

### **9.1 EVOLVING NATURE OF COPYRIGHT IN A DIGITAL WORLD**

In relation to this topic, I came across the following and found the points relevant for the next decade:

It is predicted that, within the coming ten years, copyright law will experience drastic changes because of increasing digital content production and distribution. As new forms of user-creation continue to flourish and generate new content, these policy makers will inevitably further refine these structures to address the rights of these creators whilst envisaging how to best protect the rights of users while still admitting fair use. The scope of copyright law will also keep on evolving because AI content creates ambiguity in defining the author (Litman, 2021). New approaches to licensing likely to use blockchain technology will help promote more efficient ways of compensating digital rights holders, improving rights management. More to the point, as creative industries adopt new technologies, copyright laws should be subjected to constant updates, given the direction of the growth of innovative production and distribution platforms (Hughes & Dinwoodie, 2020).

### **9.2 NEW TECHNOLOGIES IMPACT ON COPYRIGHT**

5G and AI will transform copyright enforcement in near future; 5G will enable faster sharing and downloading of high-quality digital content which may lead to heights of piracy (Sundararajan & Shoor, 2020). While being beneficial for the analysis of infringements and their monitoring, AI tools create new ownership and copyrights problems due to generated Deep Generative models. Furthermore, IoT growth will open new opportunities for content

consumption in smart devices and thus extend the existing concern about the need for efficient and safe licensing solutions. These technologies will demand better copyright system and the manners to behave ethically by making the content more accessible to wider public at the same time preventing the work of designers and creators of these technologies from being stolen, Also the producers will still be able to make their profit out of the created products depends on the improvements in the DRM and the content recognition technologies in future.

### **9.3 RECOMMENDATIONS**

Suggestion on How the Laws relating to Copyrights May Be Changed to Effect the Technological Changes Flexibility and non specificity should therefore, be embraced in the legal reforms so that structures created to support the new media may be taken by the copyright statute. The policies that have to be recommended will be the creation of clear guidelines regarding ownership of the content generated by artificial intelligence, international cooperation between countries concerning cross-border piracy, and inclusion of intelligent enforcement measures (World Intellectual Property Organization, 2021).<sup>21</sup> Moreover, extending domestic legislation consistent with such global conventions as the WIPO Internet Treaties might also foster the competitiveness and safeguard the rights amidst continuously progressing digitalized market environment (Ginsburg, 2022).

## **10 CONCLUSION**

The amusing fact is that digital technology developed at a very fast pace and put a severe strain on the copyright law trying to protect people's creativity and creations on the one hand and providing equal public access and free usage for the development on the other. Regulatory matters like piracy, sharing, and intermediary measures were closely looked at, potential remedies included, regulation enhancement, reviewing and updating copyright laws, and international cooperation. Solving these problems involves incorporating the best content identification technologies, enhancing penalties for the violation, and prima facie being keen on establishing a new benchmark that considers the application of AI in content generation (Litman, 2021; World Intellectual Property Organization, 2021).

There is also need to strike a balance between the makers and the users/ consumers of the

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<sup>21</sup> World Intellectual Property Organization. Artificial Intelligence and Intellectual Property: A WIPO Conversation, WIPO, 2021. Available at [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_1055.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1055.pdf).



cultural assets. Cultural production requires protection of copyrights in order to motivate more creation but exclusive rights are detrimental to cultural development and the public. India can learn lessons from countries such as Japan and South Korea where educational programs accompanied with digital enforcement measures can drastically cut piracy while not overburdening the legal market, for usage in future reform.

Finally, copyright law has to shift towards the requirements of the new millennium. An open, implemental- techno-agnostic approach will enable law to develop adaptively, staying in sync with advanced technologies also AI, 5G and the Internet of Things, providing adequate means for the fair protection of copyrights. International integration, and the compliance with international standards will remain critical in managing this increasingly rich and complex web of law (Ginsburg 2022; Hughes & Dinwoodie 2020).

