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Digital Piracy And Unauthorised Content Use: Challenges To Copyright Protection In The Digital Age – A Comparative Study Of The United States And India

NAME: TENDAI PATRICIA TSIKIRA

LLM CORPORATE LAWS

AFFILIATION: GALGOTIAS UNIVERSITY

SUPERVISOR: DR ANUJA MISRA

Abstract

With a focus on the disparate legal systems and enforcement strategies of the US and India this study tackles the pervasive problem of digital piracy and unauthorized content use. The study attempts to determine the most common types of piracy analyse cross-border jurisdictional issues assess the economic and creative effects on rights holders and evaluate technological enablers. In addition to case law official documents and scholarly literature the study uses a comparative doctrinal legal research methodology to analyse key statutes like the US Copyright Act (1976) the Digital Millennium Copyright Act the No Electronic Theft Act and India's Copyright Act (1957). Results show that peer-to-peer networks streaming services and virtual private networks (VPNs) have all contributed to the explosive growth of piracy making enforcement more difficult in both nations. Stronger laws and more lucid court rulings benefit the US and help to ensure comparatively more effective anti-piracy enforcement. Due to a lack of resources, a lack of public awareness and changing digital markets India faces substantial enforcement challenges. Piracy also puts consumer's cyber security at risk and the usual outcomes include financial losses and a reduction in incentives for innovation. Moreover, jurisdictional complications and cross-border violations impede efficient legal responses. To lessen the effects of piracy the study emphasises the necessity of flexible forward-thinking legal frameworks improved international collaboration technological innovation in law enforcement and expanded public awareness campaigns. It ends with policy recommendations that emphasise cooperation between government's industry stakeholders and international actors to protect

intellectual property rights in a globalised world with a focus on bolstering copyright protection in the digital age.

Chapter 1

1.1 Introduction

Creative output, distribution and consumption are being rewired into the digital age. High-speed internet, low-cost digital devices, and global connectivity have made it possible to access music, films/books — even software almost instantly. Why? Because everything seems so simple. Although these advancements have brought about a new level of information transparency and innovation, they have also caused underlying issues such as digital piracy. Digital piracy is an emerging global issue that involves copying, sharing, or downloading material protected by copyrights without permission from creators/businesses or consumers. [a]. Peer-to-peer networks, streaming platforms, and encrypted communication tools have enabled piracy to become more widespread at a faster pace. Currently, it is possible for a single pirated file to reach millions of users worldwide in just ten minutes, leading to the erosion of intellectual property rights and damaging economic interests.

Digital piracy is certainly a complex issue with legal, technological, and socioeconomic challenges that differ between nations such as the United States and India. The United States, home to many global entertainment and software giants, has established aggressive copyright regulations like the Copyright Act of 1976, the Digital Millennium Copyright Act, and the No Electronic Theft Act. These extensive laws strive to safeguard creators' ownership while enabling enforcement manoeuvres. However, technology continues to progress at a blistering pace, constantly evaluating the viability of current copyright protocols. In India, a developing country with high unemployment, some view unauthorized copying as a victimless crime, while others argue it hinders growth. Both nations seek to balance incentives for innovation against broader access and socioeconomic realities through nuanced policy reforms. Digital piracy is certainly a complex issue with legal, technological, and socioeconomic challenges that differ between nations such as the United States and India. The United States, home to many global entertainment and software giants, has established aggressive copyright regulations like the Copyright Act of 1976, the Digital Millennium Copyright Act, and the No Electronic Theft Act. These extensive laws strive to safeguard creators' ownership while enabling enforcement maneuvers. However, technology continues to progress at a blistering pace, constantly evaluating the viability of current copyright protocols. In India, a developing country with high unemployment, some view unauthorized copying as a victimless crime, while others argue it hinders growth. Both nations seek to balance incentives for innovation against broader access and socioeconomic realities through nuanced policy reforms.

The far-reaching consequence of digital piracy is undoubtedly impactful. For those creating and owning the rights to content, it leads to immense financial losses and weaker motivation to birth novel creations. Consumers potentially face inferior or unsafe content through piracy. Governments and the groups enforcing regulations continuously face the difficulty of adjusting policies and tactics to stay abreast technological advances and infringement extending across borders. This research paper undertakes a comparative analysis of approaches taken in the United States and India to tackle challenges posed by digital piracy and unauthorized usage of protected content. A complex examination is made of how laws and strategies in each jurisdiction strive to preserve innovations and fair compensation of creators, while also respecting access and liberties of consumers in an evolving digital domain.

The focus of this study is on the historical evolution of copyright law, the main forms and methods of piracy, and the effectiveness of legal and technological solutions to address pressing issues: How are laws adapting to new technologies? In what ways does digital piracy intersect with current trends? A. What are the outcomes for producers, traders, and consumers? In what ways can we ensure effective copyright compliance with technology? This research seeks to clarify the problems of digital piracy by providing insights and suggestions for policymakers, legal experts, and industry stakeholders in both the United States and India.

1.2 Overview of digital piracy

Digital piracy refers to the unlawful use of copyrighted material in digital formats. How is this practice done? The term "piracy" originally referred to the production of pirated CDs and DVDs, but it has since undergone significant changes due to technological advancements like the internet. The scope of digital piracy today encompasses everything from the illegal downloading and streaming of movies or music to the sharing of e-books, software, and live broadcasts without authorisation. Modern piracy has evolved far beyond these boundaries, now threatening not only copyright but access to information itself.

Pirated content has proliferated across a vast digital landscape, finding refuge in the most obscure corners of the internet. High-speed connectivity, file-sharing protocols, and cloud infrastructure have empowered loose networks of opportunists and ideologues alike to spread purloined wares with abandon. Legions of clandestine sites traffic in expropriated entertainment and knowledge, evading jurisdiction through technical subterfuge.

Meanwhile, communication platforms billion-strong furnish the means for instant, encrypted dissemination of plundered files. All the while, anonymizing tools obscure the identities and locations of perpetrators, letting them pierce the veil of online observation with impunity. As legal frameworks struggle to adapt, the frontiers of the permissible online are ever expanding into territories whose inhabitants recognize no borders but those of bytes and bandwidth and VPNs and proxy servers allow users to conceal their identities or locations, complicating enforcement efforts, no unlawful act can be

considered victimless in the digital realm. Rights holders spanning various creative fields, such as musicians, writers, film directors, software engineers, and publishers, endure massive financial losses each year as a result of online piracy, weakening motivation for novel expression and advancement. This negative consequence ripples widely. Estimates from prominent international trade organizations value the annual worldwide damages of digital theft in the tens of billions, a colossal number that hampers industry progress in multiple sectors. Stricter measures are required to better uphold intellectual property rights online while also balancing user privacy, but no solution will be simple or perfect. Further discussion is necessary from all stakeholders to find an equitable path forward. The intellectual property-reliant industries of music and software development are especially impacted by piracy in the digital realm. Lengthy sentences can vary in nature just as shorter ones do in purpose and construction.

Piracy in the digital sphere bears sizable economic consequence. Downloaded materials of dubious origin are often inferior in quality and pose cyber dangers such as malware and ransom ware or even identity theft for those using pirated content. Furthermore, the proliferation of piracy may undermine acknowledgment of intellectual property and disincentives investing in imaginative industries, eventually obstructing cultural and technological progress.

The U.S. has witnessed headline-grabbing cases that have challenged copyright legislation and its implementation regarding file-sharing platforms like Mega upload, Grokster, and Napster. Piracy remains despite intense legal proceedings and public knowledge initiatives powered by ingredients including the high cost of licensed content, easy access to unlawful substitutes, and the all-encompassing World Wide Web. India faces comparable complications in prohibiting digital piracy particularly with its burgeoning music and film industries coming into full bloom. Multifaceted challenges emerging from lax regulation, inadequate enforcement, and activists arguing for freer circulation of information online muddy already murky waters. While legal victories set precedents and weaken certain avenues for unauthorized distribution, cat-and-mouse legal battles and technological workarounds suggest the dilemma will persist as long as profit motives clash with notions of information availability. Unauthorized content use is more common as a result of the quick growth of internet access as well as a lack of public awareness and enforcement resources. Although the Information Technology Act and the Copyright Act have been amended to try to address these problems enforcement is still a constant challenge. Since digital piracy is a worldwide and borderless issue no one nation can address it alone. In addition to robust legal frameworks and enforcement systems effective solutions also call for public education technological advancement and international collaboration. The methods for safeguarding intellectual property in the digital age must advance along with digital technologies.

1.3 Literature Review

Scholars are studying the legal economic technological and social aspects of digital piracy which has garnered a lot of attention. Early research concentrated on the legal issues that copyright holders faced as a result of the growth of peer-to-peer (P2P) file-sharing websites like Napster (Litman 2001). Later studies examined the effects of the Digital Millennium Copyright Act (DMCA) in the US emphasizing both the acts' advantages in streamlining notice-and-takedown processes and its drawbacks in dealing with technologies that circumvent them (Samuelson 2003 Urban and Quilter 2006). Scholars have examined the development of copyright law in India specifically the Copyright (Amendment) Act 2012 and its applicability in the digital sphere (Ghosh 2013 Bansal 2017). Research has also looked at enforcement issues in India pointing out the difficulties caused by technological advancements and low public awareness as well as the prevalence of piracy in the music and film industries (Kumar 2019). There are few but expanding comparative studies between the US and India. According to Singh and Thomas (2020) some scholars have drawn attention to the disparities in legal frameworks enforcement strategies and the influence of public education on attitudes regarding piracy. Others have brought attention to the issues that both nations face like the necessity of international cooperation and cross-border infringement (Patel 2021). Notwithstanding the depth of research new and comprehensive comparative studies that take into account the changing technological environment and evaluate the practical efficacy of anti-piracy policies in both jurisdictions are still needed.

Research gaps

Despite substantial scholarly attention to digital piracy, significant gaps remain in the current body of research, particularly regarding comparative and up-to-date analyses. Much of the existing literature tends to examine either the United States or India in isolation, with few studies offering a direct, side-by-side comparison that addresses the rapidly evolving technological landscape and its impact on copyright protection. To begin with, there has been little analysis on how legislation nationally complies with innovative methods of infraction facilitated by developing technologies such as streaming services, VPNs, and encrypted networks, despite scrutiny of authorized frameworks like the DMCA in the United States and the Copyright Act in India. Furthermore, the productivity of implementation tactics, specifically regarding transnational infringement and the troubles of intercontinental teamwork, is an additional issue that has not been completely investigated. In supplement, while lawful structures for example the DMCA in the US and the Copyright Act in India have been considered, there is constrained research on how these laws are adjusting to new structures of piracy empowered by arising innovations like spilling stages, VPNs, and encoded systems. The viability of authorization techniques, particularly in the setting of cross-outskirt encroachment and the difficulties of global joint effort, is another zone that has not been completely researched.

While financial losses because of unauthorized copying are frequently mentioned, there is a deficiency of thorough analysis of the additional inventive, social, and industry-precise impacts, specifically within the Indian context. Lastly, the function of public cognizance and schooling in moulding buyer attitudes toward unauthorized copying remains under-studied. This undertaking seeks to tackle these gaps by offering a modern-day, relative examination of digital unauthorized copying and copyright defence in America and India, judging both criminal frameworks and useful enforcement. Furthermore, the relationship among general public knowledge, socioeconomic components, and attitudes toward copyright infringement is complex. This research considers those dynamics and their hermetic impact on the evolution of copyright policymaking. Separately, while enforcement actions often receive coverage for capturing headlines, comprehensive evaluation of their deterrence effect is still emerging. This work aims to provide that assessment and inform ongoing reform discussions and give recommendations given by the latest technological and market developments.

1.5 Research Significance, Objectives & Methodology

Research Significance

While digital piracy poses complex challenges, comparing how different societies address this issue can offer valuable lessons. In the United States and India, contrasting laws and enforcement practices toward copyright emerge from distinct priorities and conditions. This research dissects their approaches, considering legal structures, policing of infringement, and piracy's socioeconomic effects. By exploring these diverse yet interlinked realms, we gain a more nuanced understanding of how various factors drive piracy in the digital world. Common challenges exist, yet tailored solutions are needed. With open-minded study of experiences worldwide, progress becomes possible in protecting creative works for current and future generations.

Research Objectives

- To identify and analyse the predominant forms of digital piracy and unauthorised content use in the United States and India.
- To examine the role of technological advancements in enabling piracy and complicating enforcement in both jurisdictions.
- To assess the economic and creative consequences of digital piracy for rights holders and content creators in the US and India.
- To evaluate the impact of cross-border legal and jurisdictional challenges on copyright enforcement in both countries.
- To review and suggest improved legal and technical anti-piracy methods, based on outcomes from comparisons.

Methodology

The study employs a comparative methodology that contrasts various legal rules. It takes into account primary and secondary legal materials relating to copyright protection and online piracy in India and the United States. Key legislation, such as the US Copyright Act of 1976, the Digital Millennium Copyright Act (DMCA), the No Electronic Theft (NET) Act, and India's Copyright Act of 1957 and Information Technology Act, are analyzed in addition to key court cases in order to comprehend the legal systems and the way they operate in practice.

The research also comprises a survey of industry, official, and academic reports to examine the economic and creative impacts of digital piracy. Selected case studies from both areas offer tangible illustrations, demonstrating how legal concepts are applied and where the challenges for enforcement agencies reside. The comparison is made with similarities and differences, with an increased understanding of how effective anti-piracy measures are in varying legal and technical environments.

Chapter 2

2.1 Historical Development

Encouraging creativity while ensuring public access to information has always been challenging in the history of United States copyright protection. The Copyright Act of 1790 was the first federal law on copyright in the United States. The 1790 Act was patterned after the British Statute of Anne and awarded the author exclusive right to print, reprint, or publish his or her books, maps, and charts for fourteen years. In case the author outlived the first term, the right could be renewed for additional fourteen years.¹ Although this early law was short-lived and narrowly focused it set the stage for a distinctively American approach to copyright one that saw intellectual property as a public good as well as a personal right. In the late 19th and early 20th centuries U. S. As technology advanced and new forms of artistic expression emerged copyright laws changed accordingly. The increasing significance of music publishing in American society was reflected in the Copyright Act of 1831 which extended protection to musical compositions.² The Copyright Act of 1909 later expanded the protection to include photographs motion pictures and dramatic works. It also introduced the idea of mandatory licensing for mechanical music reproductions.³ A growing body of case law that elucidated the limits of copyright and creators' rights accompanied these statutory developments. But by the middle of the 20th century, it was evident that the patchwork of judicial interpretations and amendments was insufficient to deal with the realities of a

¹ Copyright ACT of 1790, 1 Stat 124(1790)

² Copyright Act of 1831, 4 Stat.436 (1831)

³ Copyright Act of 1909, Pub. L. No. 60-349, 35 Stat. 1075 (1909)

society that was changing quickly. Radio television photocopying and eventually computers were among the new media that were widely used exposing legal loopholes and inconsistencies. Congress passed the Copyright Act of 1976 after decades of research and discussion and it continues to be the cornerstone of U. S. A. Today copyright protection is in place. A number of revolutionary changes were brought about by the 1976 Act. By incorporating original works of authorship fixed in any tangible medium of expression it expanded the definition of copyrightable subject matter to encompass new forms of creativity. The fair use doctrine was also codified, allowing judges to balance the interests of the public and rights holders in a flexible manner. The Act was significant in that it brought the US closer to compliance with international copyright law, and this set the stage for the country's accession to the Berne Convention in 1989. Over the subsequent decades, there were further laws enacted in response to technological change. For example, the Digital Millennium Copyright Act (DMCA) of 1998 addressed issues of online copyright infringement and digital distribution. These continuing developments illustrate how flexible and responsive U.S. Copyright law is, and also continually seeking to assist creative industries and accommodate emerging technologies and international trade. More recent developments have seen copyright law continue to evolve, with copyright law becoming increasingly technological in nature.

2.2 Current Statutes: Copyright Act, DMCA, and NET Act

The United States has often updated its legal system to fit the new needs of copyright protection in the digital age. The three laws that are the base of modern U.S. copyright law are the Digital Millennium Copyright Act (DMCA), the Copyright Act of 1976, and the No Electronic Theft (NET) Act. Each law was made to address different social and technological changes, and together they create a complete but sometimes debated legal system for protecting artistic work in the digital world.

Copyright Act of 1976

The foundation of U. S. law is the Copyright Act of 1976. A. copyright law which offers a comprehensive and adaptable framework that has persisted for almost 50 years. A wide range of intellectual works including literary musical dramatic artistic and some other works are included in the Acts definition of copyrightable works which includes original works of authorship fixed in any tangible medium of expression. . This expansive definition was purposefully created to anticipate technological advancements and allow for new forms of creative expression. The Act gives copyright holders a number of exclusive rights including the ability to reproduce create derivative works distribute copies perform and publicly display the work. This is one of the Acts most important features. The fair use doctrine which is enshrined in Section 107 is one of the significant restrictions and exceptions that apply to these rights which are not unqualified. The fair use clause gives judges the authority to determine using a flexible four-factor test whether specific uses of copyrighted content—such as criticism commentary news reporting teaching

scholarship or research—are acceptable without the owner's consent.⁴ The Act also created the current system of copyright duration which typically lasts for the lifetime of the author plus seventy years for individual works and for works created for hire for ninety-five years after publication or 120 years after creation whichever is shorter. Furthermore, a move toward global harmonization was signalled by the 1976 Act which brought the U. S. S. law with the guidelines established by agreements like the Berne Convention.⁵ The enforcement of rights against foreign infringers and the protection of American works abroad has both benefited greatly from this alignment.

Digital Millennium Copyright Act (DMCA)

Congress realised that new tools were needed to combat online infringement as the internet and digital technology started to change the way that content was created and distributed. These issues were addressed in a historic way in 1998 with the passage of the Digital Millennium Copyright Act (DMCA).⁶ Bypassing technological protection measures (TPMs) that restrict access to copyrighted works is illegal according to the DMCA's anti-circumvention provisions. This was done to provide rights holders with enhanced protection of their works in digital forms. It also raised concerns of how it could stifle innovation and legitimate uses. Section 512's safe harbour provisions for online service providers are arguably the most significant feature of the DMCA. These clauses protect hosting companies' user-generated content websites and internet service providers (ISPs) from being held accountable for infringements committed by their users so long as they follow a notice-and-takedown procedure. In order to maintain safe harbour protection, the service provider must take prompt action to delete or disable access to the content after receiving notification of infringement from a rights holder. Although the notice-and-takedown policy of the DMCA has emerged as a key component of online copyright enforcement it is not without detractors. The systems misuse the strain on service providers and the possible suppression of free expression and fair use has all drawn criticism from academics and professionals. The DMCA is still a key law in the US for combating digital piracy though.

No Electronic Theft (NET) Act

In order to close a significant gap in U. S. law the No Electronic Theft (NET) Act was passed in 1997. S. rise in non-commercial digital piracy exposes copyright laws. Large-scale file sharing without monetary gain could avoid criminal liability prior to the NET Act because criminal copyright infringement required evidence of a direct commercial motive.⁷ Regardless of whether the infringer received any financial gain the NET Act filled this gap by making it a federal crime to wilfully violate copyright by reproducing or distributing works with a total retail value exceeding \$1000 within 180 days. This act gave law

⁴ Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 577-85 (1994)

⁵ Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, 102 Stat 2853(1988)

⁶ Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat 2860 (1998)

⁷ No Electronic Theft (NET) Act, Pub. L. No. 105-147, 111 Stat. 2678 (1997)

enforcement the authority to target not only commercial pirates but also people and organizations involved in the widespread illegal distribution of software music and other digital content. Therefore, the NET Act represented Congress acknowledgement that the negative effects of digital piracy go beyond lost revenue and include wider societal and creative repercussions. In the digital age it continues to be an essential tool for prosecuting widespread copyright infringement.

2.3 Key Legal Principles

In addition to statutory provisions fundamental legal doctrines and enforcement strategies also influence how effective copyright protection is in the US. It is crucial to comprehend these ideas in order to understand how the law aims to balance the interests of consumer's creators and the public in the digital age.

Exclusive Rights and Statutory Limitations

The exclusive rights granted to authors and creators are known as copyright laws. These rights are listed in Section 106 of the Copyright Act and include the capacity to recreate distribute perform exhibit and create derivative works from the original work.⁸ With the help of these rights artists can manage how their creations are used for profit and reap the rewards of their labour. These rights are not unqualified though. To guarantee that copyright does not unnecessarily impede access to knowledge culture or technological advancement the law establishes a number of significant restrictions and exceptions. The fair use theory which is enshrined in Section 107 of the Copyright Act is the most important of these. Fair use allows limited unrestricted use of copyrighted content for teaching research criticism commentary news reporting and scholarship. According to the Supreme Court *Campbell v. Inc. s Acuff-Rose Music*. Highlighted the adaptability and case-specificity of fair use while laying out a four-factor standard that judges must follow.⁹ The first sale doctrine is another important restriction that permits the legitimate owner of a copy of a work protected by copyright to sell or otherwise get rid of the copy without the copyright holder's additional consent. In the digital context this idea has generated discussion especially regarding the resale of digital goods, but it is essential for secondary markets like libraries and used bookshops.¹⁰

Contributory and Vicarious Liability

The United States copyright law acknowledges that infringement is not always the result of a single direct actor. Rather intermediaries—like platform operators internet service providers and technology companies—may enable or benefit from infringement. In reaction to this fact the theories of vicarious and contributory liability have evolved. When a party materially aids or encourages another party's infringement while knowing about the infringement that party is liable. the ruling in *Sony Corp. by the Supreme Court. of America v. Studios Universal City Inc*. It was decided in the *Betamax* case that

⁸ 17 U.S.C 106

⁹ *Campbell v. Acuff Rose Music Inc.*, 510 U.S. 569, 577-85(1994)

¹⁰ *Capitol Records, LLC v. ReDigi Inc.*, 910 F. 3d 649 (2d Cir. 2019)

offering a technology with significant non-infringing applications does not amount to contributory infringement. That being said MGM Studios Inc. V. Grokster Ltd. The Court made it clear that service providers might face legal action if they purposefully caused or promoted user infringement. Vicarious liability on the other hand arises when one party directly benefits financially from the infringement and has the authority and capacity to oversee it. These theories have shaped the obligations of online platforms in the battle against digital piracy and have been at the heart of legal actions against file-sharing services peer-to-peer networks and other digital middlemen.

Enforcement and Remedies

A key component of successful copyright protection is enforcement. Rights holders have access to a variety of civil remedies under the Copyright Act such as statutory damages actual damages and profits injunctions to stop future infringement and attorney's fees. Since they enable courts to impose damages even in cases where actual losses are hard to measure statutory damages are especially important in the digital context. Instances of deliberate violation may also result in criminal penalties such as fines and jail time. Recognising the serious harm caused by widespread digital piracy Congress extended the reach of criminal liability to include non-commercial infringement in the NET Act. U. S. Additionally the law facilitates enforcement by enabling authorities to confiscate illegally entered goods through border and customs protection measures. Treaties like the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the Berne Convention which help address cross-border infringement and harmonize enforcement standards facilitate international cooperation. In the digital age enforcement is still difficult despite these strong remedies. Infringers can operate in secret avoid detection by using advanced technological tools and take advantage of jurisdictional gaps. For the integrity of copyright protection in the US to be maintained enforcement tactics must be continuously adjusted and stakeholders must work together more closely.¹¹

Chapter 3

Forms and Methods of Digital Piracy

Unauthorized reproduction dissemination or utilisation of copyrighted content via digital channels mainly the internet is referred to as digital piracy. The use of pirated software or media illegal downloading streaming file sharing and other activities are all included in this broad category. These practices seriously impair the creative and economic well-being of a number of creative industries including publishing software gaming music and film. With the development of technology piracy techniques have changed moving from torrenting and peer-to-peer networks to illegal streaming services cyber lockers and piracy through encrypted messaging apps and social media platforms. To fully appreciate the scope and intricacy of digital piracy as well as the difficulties faced by rights holders and law enforcement organizations around the globe it is imperative to comprehend these various forms.

¹¹ Peter S, Menell, "The Challenges of Reforming Copyright Law in the Digital Age," 61 J. Copyright Soc'y U.S.A. 1, 22-25 (2014)

In the United States

Alongside the development of technology digital piracy has changed significantly in the United States. Peer-to-peer (P2P) file-sharing networks like Napster and LimeWire initially transformed piracy by allowing millions of users to disseminate music and movies without going through conventional distribution channels.¹² Napster was shut down as a result of the historic lawsuit against it, but the underlying technology continued to exist in decentralized forms making enforcement more difficult. As technology advanced illicit streaming services became the most common way that people pirated content. Frequently hosted outside of the U. S. A. jurisdiction offers illegal access to movies TV series and live sports usually via free or ad-supported subscription models.¹³ The spread of pirated content has been further facilitated by the emergence of illicit streaming devices (ISDs) such as modified set-top boxes loaded with piracy apps. Recognising their pivotal role in enabling mass infringement courts have increasingly targeted ISD distributors. Furthermore, private organizations are sharing links to illegal content on social media sites and encrypted messaging apps like Telegram and Discord which frequently circumvent conventional enforcement measures. The adaptability of piracy in the digital age and the continuous difficulties faced by law enforcement and rights holders are demonstrated by these various approaches.

In India

Due to the country's varied linguistic markets fast internet penetration and disparate enforcement capabilities digital piracy in India is a complicated and dynamic problem. In contrast to the early domination of peer-to-peer networks in the US illegal streaming platforms cyber lockers and the extensive sharing of content via social media and encrypted messaging apps like Telegram and WhatsApp are the main causes of piracy in India. These platforms make it easier for Bollywood regional and television content to be quickly distributed frequently just minutes after their theatrical debut. Coexisting with digital piracy and making enforcement efforts more difficult physical piracy—including the sale of pirated DVDs and CDs—remains common in many parts of India especially in smaller cities and rural areas.¹⁴ Provisions addressing digital infringement and intermediary liability were added to the Indian Copyright Act which was significantly amended in 2012. However judicial delays a lack of funding and uneven application of the law make enforcement difficult.¹⁵ India's content consumption is heavily influenced by streaming piracy estimates suggest that illegal streaming services and apps provide more than 60% of the pirated content that Indian consumers access. People are still not well-informed about the moral and legal ramifications of piracy and concerns about cost frequently lead them to turn to unapproved sources.

¹² A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004 (9th Cir.2001)

¹³ U.S. Copyright Office, "Section 512 Study: Report" (2020), at 35-38.

¹⁴ IJNRD, "Copyright in Film Industry in United States and India" (2024)

¹⁵ Ministry of Information and Broadcasting, India, "Report on Copyright Enforcement" (2023)

3.2 Technological Enablers

United States

Both the legal distribution of digital content and new forms of piracy have been made possible in the United States by technological advancements. By enabling users to conceal their geographic location tools like Virtual Private Networks (VPNs) help get around geo-restrictions and make enforcement more difficult. Infringing files can be safely shared and stored thanks to encryption technologies and cloud storage services which are frequently inaccessible by conventional takedown methods. The piracy of content has extended to social media and encrypted messaging services. On social media platforms such as Facebook, Discord, and Telegram, private and semi-private groups usually exchange links to pirated computer programs, music, and film while evading law enforcement and rights holders. The rapid development of these technologies is a perpetual challenge to existing laws and enforcement practices, necessitating frequent updates.

India

In India, users can easily hide their identity and view blocked content due to services such as VPNs and anonymizing tools. Pirated content is normally distributed in bulk via encrypted messaging apps such as Telegram and WhatsApp, which are usually under little surveillance. Piracy websites remain undetected due to anonymous domain registration, offshore hosting, and speedy server switching. Despite uses of anti-piracy technologies such as forensic watermarking and Digital Rights Management (DRM), the pirates still find ways to evade security by using methods such as token duplication, screen capture, and camcorder recording in cinemas. The uncontrolled growth of digital piracy in India has its origins in a combination of advanced technology and enforcement issues.

3.3 Economic and Creative Impacts

Digital piracy has more far-reaching economic and creative consequences, aside from the direct money losses for creators and sellers of content. Economically, piracy results in colossal sales tax revenue loss and employment loss across the publishing, software, music, and film industries. Creatively, it diminishes the incentive for creators, producers, and innovators to spend time and effort on new work, potentially slowing down cultural and technological development. Piracy also creates security threats for users and lowers the quality of digital content markets overall. Grasping these complex effects is critical in the development of effective policies and enforcement measures that can accommodate the unique needs of various countries.

United States

Every creative industry such as publishing, software, music, and movie loses a significant amount of money due to digital piracy in the US. According to studies piracy causes yearly revenue losses of between \$292 billion and \$71 billion along with detrimental effects on employment and government tax collections.¹⁶ Due to widespread unauthorized distribution the music and film industries are especially impacted seeing drops in box office receipts streaming subscriptions and legitimate sales.¹⁷ In addition to causing immediate financial losses piracy damages the creative ecosystem by decreasing the incentives for developers' producers and artists to fund new initiatives. The resources available for innovation and cultural production decline when artists are unable to support themselves financially. Due to their inability to adequately defend against infringement legally and financially independent artists and small businesses are frequently the ones who suffer the most from piracy. Customers who access pirated content also run the risk of being exposed to malware falling for phishing scams and receiving subpar or incomplete work all of which can damage confidence in online marketplaces. These combined negative effects on the economy and the arts emphasise how crucial it is to have strong enforcement and public awareness campaigns to safeguard intellectual property rights in the digital age.

India

The growing entertainment and creative industries in India face serious economic challenges as a result of digital piracy. According to estimates from the Federation of Indian Chambers of Commerce and Industry (FICCI) piracy costs the Indian media and entertainment sector about INR 224 billion (about \$2.07 billion USD) a year including significant losses in Goods and Services Tax (GST) revenues.¹⁸ More than 60% of pirated content is consumed through streaming piracy which seriously jeopardises the earnings from movie theatres and legal subscription services. Piracy has a huge creative impact in India. Small production companies' independent filmmakers and regional content producers are particularly vulnerable as pirated content floods the market making it harder for them to recover their investments and finance new initiatives. Affordability the scarcity of legal content in regional languages and a lack of knowledge about the moral and legal ramifications of piracy—which is more common in Tier II and Tier III cities—all have an impact on consumer behaviour in India. Additionally, users of pirated content may be exposed to malware and fraudulent schemes which can undermine their trust in digital platforms. Effective enforcement is still hampered by issues like judicial delays resource shortages and the sizeable informal market despite notable progress in the fight against piracy thanks to government and private sector initiatives like specialized police units and public awareness campaigns.¹⁹

¹⁶ David Price, "Net Losses: Estimating the Global Economic Impact of Digital Piracy", Frontier Economics (2019), at 15

¹⁷ U.S Chamber of Commerce, "Impacts of Digital Piracy on the U.S. Economy" (2021), at 2-4

¹⁸ FICCI-EY Report, "India's Media and Entertainment Industry: Growth and Challenges" (2023)

¹⁹ WIPO, "Copyright Piracy and Cybercrime: Enforcement Challenges in India" (2022)

3.4 Case Studies and Enforcement Examples

Effective enforcement against digital piracy is critical to protecting intellectual property rights and sustaining creative industries. This section examines landmark cases and enforcement initiatives in the United States and India, illustrating the evolving legal and operational responses to digital piracy.

United States

When it comes to copyright litigation and enforcement in the digital sphere the US has led the way. The A and M Records Inc. case is a landmark case. v. The company Napster Inc. wherein the innovative peer-to-peer file-sharing website Napster was shut down after the Ninth Circuit found the company accountable for contributory and vicarious infringement. Holding middlemen responsible for aiding piracy was established by this case. Afterward MGM Studios Inc. V. Grokster Inc. explained that even in cases where a company's technology had significant non-infringing applications they could still be held accountable if they purposefully caused infringement. This decision has influenced the liability requirements for online service providers and platforms. Recognising their role in mass piracy courts have recently targeted illicit streaming devices (ISDs). For instance, in DISH Nation L. L. C. v. Furniture by Dima Inc. distributors of streaming boxes with anti-piracy features were given a permanent injunction by the court. Regarding enforcement the Department of Justice (DOJ) has carried out well-publicised operations to break up piracy networks. The DOJ showed its commitment to fighting widespread piracy in 2020 by taking down the Stream Dream network which unlawfully streamed thousands of live channels and films. Additionally, platforms and rights holders have embraced technological advancements. Forensic watermarking digital rights management (DRM) and AI-powered content recognition tools such as Content ID allow for the proactive detection and elimination of pirated content.

India

Although the scope of the infringement and resource limitations still pose problems India has taken important legislative and enforcement actions to combat digital piracy. With the authority granted by changes to the Copyright Act that impose severe penalties such as jail time and fines for violators the Ministry of Information and Broadcasting has appointed officers tasked with preventing online piracy. An important part has been played by judicial activism. In Ors vs Universal City Studios LLC. Movies. Baby and Ors. Rogue websites from streaming and disseminating copyrighted content without permission after the Delhi High Court issued a dynamic injunction. In Neetu Singh v. The court ordered Telegram to reveal information about users who upload pirated material. This is proof that the court is willing to enforce cyber law. The Maharashtra Intellectual Property Crime Unit (MIPCU) is a public-private partnership that works together to fight online piracy, which is in India's interest. International cooperation has increased, and major operations against piracy have been initiated from India's membership in INTERPOL's Stop Online Piracy Project (I-SOP). A demonstration of how piracy enforcement knows no boundaries is the

takedown of the EVO Release Group, which involved cooperation from Portugal, Korea, and INTERPOL. Besides enforcement, public campaigns inform consumers about the risks of piracy, such as malware and cyber security threats.

International Cooperation and Emerging Strategies

The worldwide and transnational character of digital piracy calls for concerted international responses. Project I-SOP which was initiated by INTERPOL in 2021 and will run until 2029 is an example of such initiatives. It supports enforcement actions capacity building intelligence sharing and public awareness campaigns across the globe.²⁰ This effort has resulted in the disruption of significant piracy networks the dismantling of illegal IPTV services and the arrest of important piracy operators. Technological advancements like forensic watermarking to identify the sources of piracy block chain for tracking content ownership and AI-powered monitoring systems are being incorporated into anti-piracy tactics more and more. Once detected content delivery networks (CDNs) are also used to quickly remove pirated streams reducing unwanted access. By encouraging ethical consumption and emphasizing legal alternatives consumer awareness campaigns continue to be essential in lowering the demand for pirated content.

Chapter 4

Comparative Analysis, Challenges, and Enforcement of Digital Piracy

4.1 Comparative Analysis

Though it poses a serious threat on a global scale digital piracy manifests itself and is addressed very differently in the US and India. With historic court rulings like A and M Records Inc. the US enjoys the advantages of a developed legal and technological infrastructure. v. Napster Inc. as well as MGM Studios Inc. the v. Grokster Ltd. which have influenced the parameters of digital intermediaries' liability. The U. A. also uses industry alliances like the Alliance for Creativity and Entertainment (ACE) and sophisticated AI-powered detection systems to coordinate anti-piracy initiatives.²¹ Even though its digital economy is growing quickly India still faces difficulties because of its varied linguistic markets financial constraints and inadequate infrastructure. Although there have been attempts to improve enforcement through the 2012 amendments to the Indian Copyright Act and the creation of specialized units like the Maharashtra Intellectual Property Crime Unit (MIPCU) resource constraints and judicial delays still exist. Moreover, such factors as the quantity of people who embrace a particular product, and the problem of cheap legal content not being easily accessible, are likely to be connected to piracy in India. Notwithstanding these distinctions both nations place a strong emphasis on a multi-pronged approach that incorporates public

²⁰ INTERPOL, "Project I – SOP: Stop Online Piracy"

²¹ Alliance for Creativity and Entertainment, <https://www.creativityalliance.org>

education technology legal reform and enforcement. Given the intrinsically cross-border nature of piracy international cooperation is acknowledged as being crucial.

4.2 Challenges and Responses

Challenges

Global detection and enforcement are made more difficult by the quick development of piracy tactics such as the use of VPNs encryption and anonymizing software. As pirates take advantage of nations with lax copyright enforcement or inconsistent legal frameworks jurisdictional ambiguities occur. Traditional enforcement mechanisms are frequently overwhelmed by the volume and speed of the circulation of infringing content. Additional challenges for India include the coexistence of digital and physical piracy low consumer awareness and inadequate infrastructure. The U. S. fights in spite of strong legal frameworks against sophisticated piracy networks and the spread of illicit streaming devices (ISDs).

Responses

Both countries have implemented legal innovations and legislative changes such as dynamic injunctions which give judges the authority to proactively block pirated websites. Enforcement capabilities are improved by investments in block chain technology AI detection and forensic watermarking. These public-private partnerships include ACE in the United States and MIPCU in India. S. encourage the sharing of resources and concerted action.²² By emphasizing moral and legal issues consumer awareness campaigns seek to lower the demand for pirated content.

4.3 Technology, Enforcement, and Cross-Border Issues

Technology is a vital tool for law enforcement as well as a facilitator of piracy. Identification and prevention of unauthorized distribution are aided by digital rights management (DRM) systems block chain-based rights management and AI-driven content recognition. With the help of content delivery networks (CDNs) pirated streams can be quickly taken down preventing unwanted access. The fact that pirated content frequently comes from several nations with different legal systems presents jurisdictional difficulties for enforcement. Although they offer a basis for collaboration international agreements like the TRIPS and Berne Convention are not consistently applied. Project I-SOP by INTERPOL is a prime example of cross-border cooperation facilitating intelligence exchange and concerted law enforcement efforts.²³ But effective cooperation is hampered by linguistic hurdles legal system differences and geopolitical tensions. Law harmonization and enforcement process simplification are still important objectives.

²² PallyCon, Content Piracy in 2025: Prediction, Threats & Strategies (2025)

²³ INTERPOL supra note 6.

4.4 Discussion of Enforcement Difficulties, Technological Challenges, and Jurisdictional Issues

Enforcement Difficulties

Because the internet is anonymous and decentralized pirates can avoid detection by using proxy server's encryption and frequent domain changes. Particularly in developing nations like India judicial hold-ups and a lack of enforcement resources make legal remedies less effective. Promising innovation dynamic injunctions prevent future infringement of domains, but they need constant technological and regulatory assistance.

Technological Challenges

By using encrypted messaging apps screen recording and camcorder captures in theatres pirates are constantly evolving their methods of content distribution. Because technology is changing so quickly anti-piracy tools must constantly be innovated. Strong DRM safeguards must be balanced with consumer privacy and usability which is still a difficult task.

Jurisdictional Issues

When pirated content crosses national borders jurisdictional disputes occur. Because deciding which nation has the power to prosecute is difficult pirates take advantage of these loopholes. The inefficiency of traditional border enforcement for digital goods calls for increased international cooperation however smooth cooperation is hampered by operational challenges political concerns and legal discrepancies.

Chapter 5

Summary, Recommendations, and Conclusion.

5.1 Summary of Findings

This research cites that internet piracy is a multifaceted issue confronting creative industries globally. While there are serious piracy concerns in the US and India too, it is apparent that they are vastly different in comparison. The U.S. has a robust legal system, well-evolved technology, and collective industry efforts that have driven enforcement in general.

India is experiencing certain challenges as it undergoes its rapid digital expansion. These challenges are limited resources, slowdowns in the legal system, and most consumers embracing piracy because it is less expensive and more convenient.

Jurisdictional gaps allow pirates to take advantage of poor enforcement provisions and technologies such as VPNs, encryption, and anonymizing software complicate the enforcement of laws globally. Both nations proposed innovative legal provisions, including contributory liability rules and dynamic injunctions, and technical innovations such as forensic watermarking and AI-driven detection. International coordination and public-private collaborations have hardened cross-border enforcement, as

exemplified in efforts such as INTERPOL's Project ISOP. Enforcement is still challenging despite such innovations due to the decentralized structure of the internet, pirates' rapid adoption of new technology, and jurisdictional complexities. Consumer demand fuelled by the unaffordability of legal alternatives remains a strong driver of piracy, especially in the emerging markets.

5.2 Recommendations

A functional and flexible plan is required to sufficiently combat digital piracy like:

- **Enhancing International Cooperation:** To bridge legal control gaps, inter-state agreements and treaties can be employed to harmonize the law of copyright and how it is enforced. New technology can be employed to balance law enforcement and user privacy and usability through the further development of the application of DRM systems, forensic watermarking, block chain for open rights management, and AI-based content identification.
- **Enhance Judicial Capacity:** Provide expeditious procedures and specialist courts for intellectual property. This will decrease delays and enhance the effectiveness of enforcement, particularly in developing nations.
- **Promote Public Awareness:** Organize mass education programs to educate the public on the ethical and economic implications of piracy and to promote easily available legal alternatives.
- **Improve Access to Content:** To reduce piracy incentives especially in high-piracy markets encourage low-cost diverse and regionally suitable legal content alternatives.
- **Encourage Industry Collaboration:** To exchange resources information and best practices fortify partnerships between digital platforms law enforcement and content producers.

Conclusion

Digital piracy is the twenty-first century's biggest challenge to the global creative economy. Complexity in piracy and how money, laws, enforcement capacity, and technology play out to determine its prevalence and effect in India and the US is the result of this study. India presents peculiar challenges due to its digital landscape developing at a rapid rate, requiring solutions that are custom-fit. The United States, however, offers a robust legal framework, technological innovation, and centralized law enforcement. The perennial challenge of piracy indicates that there is no single solution that will work. Pirates continue evolving by exploiting loopholes in legislation and sophisticated technologies such as VPNs, encryption, and pirate streaming devices to remain ahead of countermeasures. An effective counter to the challenge

entails the adoption of advanced technology, robust legislation, and active law enforcement in an integrated and responsive manner.

Understanding the impact of consumer behaviour on such aspects as access, price, and cultural attitude is very essential. To prevent piracy, we need to address the demand for affordable, high-quality legal content first and raise awareness about it. Successful anti-piracy efforts depend on countries collaborating. As the internet is global, piracy is global, and therefore people must work together as one with common information and analogous laws. International cooperation allows us to dismantle piracy structures and safeguard intellectual property rights, as demonstrated by initiatives such as INTERPOL's Project I-SOP. To safeguard the creative economy, we need an approach that takes the digital world, what consumers desire, and creators' rights into account. For creativity and innovation to flourish without being undermined by piracy, governments, businesses, technology firms, and community organizations must collaborate. This necessitates sustained support for public awareness, law reforms, capability building, and technology solutions. How well society can anticipate new threats, adapt our approach, and construct respect for intellectual property will determine the future of digital content. On these principles, the US, India, and the rest of the world can build a fair, vibrant, and sustainable digital creative economy

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