THE DIGITAL AGE AND ITS IMPACT ON COPYRIGHT PROTECTION LAWS.

Dissertation submitted to National Law University and Judicial Academy, Assam in partial fulfilment for award of the degree of Master of Laws/

ONE-YEAR LL.M. DEGREE PROGRAMME

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June, 2023

SUPERVISOR CERTIFICATE

This is to certify that MISS IRANI GOGOI, has completed her dissertation titled "THE DIGITAL AGE AND ITS IMPACT ON COPYRIGHT PROTECTION LAWS" under my supervision, for the award of the degree of MASTER OF LAWS/ ONE YEAR LL.M. DEGREE PROGRAMME from National Law University and Judicial Academy, Assam.

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DECLARATION

I, IRANI GOGOI, pursuing Masters of Laws (LL.M.) from National Law University and Judicial Academy, Assam, do hereby declare that the present dissertation titled "THE DIGITAL AGE AND ITS IMPACT ON COPYRIGHT PROTECTION LAWS" submitted by me, in partial fulfilment for award of the degree of Master of Laws/ ONE-YEAR LL.M. DEGREE PROGRAMME, is an original research work and has not been submitted, either in part or full anywhere else for any purpose, academic or otherwise.

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At the very outset, I would like to pay my deep and sincere gratitude to my dissertation guide, Dr. Jupi Gogoi, Assistant Professor of Law, National Law University and Judicial Academy, Assam for her constant guidance, co-operation, valuable support, encouragement and motivation in completing my dissertation. This work would not have been possible without her regular consultation and inputs provided by her. It is due to her patience and guidance that I have been able to complete the task within the limited time frame. I am obliged for the valuable advice, directions and kind supervision.

Above all, praises and gratitude to the almighty for the blessings on my hard work. I also want to show my gratitude to other faculty members of the University for giving me the relevant guidance required to complete my dissertation. I would also like to thank the library staff of National Law University and Judicial Academy, Assam for helping me to get the requisite materials. I have duly acknowledged all the sources from which the ideas and extracts have been taken. To the best of my understanding project is free from any plagiarism.

Last, but not the least, I also want to thank my family and friends for being with me and providing support and guidance.

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TABLE OF CASES

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1886 - The Berne Convention for the Protection of Literary and Artistic Works

1949 - The Constitution of India

1957 - The Indian Copyright Act

1964 - The United Nations Conference on Trade and Development (UNCTAD)

1967 - World Intellectual Property Organization (WIPO)

1976 – The Copyright Act of 1976 (United States)

1988 – The Copyright, Designs and Patents Act. (CDPA) (UK)

1994 - The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)

1996 - The World Intellectual Property Organization Copyright Treaty (WCT)

1996 - The WIPO Performances and Phonograms Treaty

1998 - The Digital Millennium Copyright Act (DMCA)

2000 - Information Technology Act, (IT Act)

2005 - The Right to Information Act, (RTI Act)

TABLE OF ABBREVIATIONS

1	AI	Artificial Intelligence
2	AIVA	Artificial Intelligence Virtual Artist
3	ARPA	Advance Research Project Administration (U.S. Department of Defense)
4	CDPA	Copyright, Designs and Patents Act (UK)
5	CERN	European Organization for Nuclear Research
6	DMCA	Digital Millennium Copyright Act
7	DRM	Digital Rights Management
8	EU	European Union
9	GDPR	General Data Protection Regulation
10	HTML	Hypertext Markup Language
11	HTTP	Hypertext Transfer Protocol
12	IoT	Internet of Things
13	IP	Intellectual Property
14	IPR	Intellectual Property Rights
15	ISP	Internet Service Provider
16	IT	Information Technology
17	RTI	Right to Information
18	SACEM	Society of Authors, Composers, and Publishers of Music
19	SC	Supreme Court
20	SCC	Supreme Court Cases
21	TCP/IP	Transmission Control Protocol/ Internet Protocol
22	TRIPS	Trade-Related Aspects of Intellectual Property Rights

23	UGC	User Generated Content
24	URL	Universal Resource Locator
25	U.K.	United Kingdom
26	UNCTAD	United Nations Conference on Trade and Development
27	U.S.A	United States of America
28	WCT	World Intellectual Property Organization Copyright Treaty
29	WIPO	World Intellectual Property Rights
30	WPPT	WIPO Performances and Phonograms Treaty
31	WWW	World Wide Web
32	&	And

CHAPTER 1
INTRODUCTION

1.1 Research Background

The advent of the Digital Age, powered by the cutting edged advanced technologies like Artificial Intelligence (AI), Cloud computing,[1] Internet of Things (IoT)[2] and Big Data, has re-shaped the global Intellectual Property (IP) landscape. Today, the greatest challenge that we face in the digital environment is whether the existing Intellectual Property (IP) Rights provide the incentives required to cater to the innovation in the Digital Age. World Intellectual Property Organization (WIPO), Director General Francis Gurry stated that; "*One of the big questions we face today is whether these existing IP rights provide the incentives required to promote innovation in the digital age*."[3]

Advancement of the digital technologies in tandem with the Internet has enabled every average computer user to turn its basic computer into a powerful global communication tool, which could affect people's behavior living anywhere in the world, to a degree that is previously unheard of. It has revolutionized the way we consume, create, reproduce, distribute and store contents, including works that are copyrighted. The technological revolution is a baffling conundrum for authors and right-holders of creative works. The technological development has helped authors and right-holders to use technologies to disseminate and distribute their works to consumers and users easily and rapidly. However, technology has also abetted unauthorized use of copyrighted materials by infringers.

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[1] Cloud computing: cloud computing is the delivery of computing services including servers, storage, databases, networking, software, analytics, and intelligence over the Internet ("the cloud") to offer faster innovation, flexible resources, and economies of scale – Azure. Microsoft
Cloud computing tend to raise question for those working with IP as cloud computing is the necessary proliferation of data across devices and collaborators, handling confidential product, designs, source codes, patents or trade secrets are vulnerable caused by inadvertent leaks or malicious actors in the cloud. Asaf Cidon, Protecting Intellectual property in the Cloud, 2015, WIPO Magazine.

[2] The Internet of things refers to use of sensors, actuators and communication technology embedded into physical objects that enables such objects to be tracked and controlled over networks like the internet.- Internet of Things: Patent Landscape Analysis, LexInnova, WIPO docs.

[3] World Intellectual Property Organization (WIPO) Magazine, 2019 meetings of the WIPO Assemblies, WIPO Director General Francis Gurry reflects on the implications of big data for intellectual property (IP) policy – Intellectual property in a data- driven world.

Social networking and digital sharing system have become a keystone of information dissemination in the public space, generating tons of data containing information about persons, social interactions and behavior, events and geographical locations. These types of social computing system act as a double edged sword, whereas these information sharing in exceptional circumstances, can be invaluable in times of crisis and emergencies in order to save life, protecting property, or rehabilitating or rescuing people or in wholesale surveillance. As for instance, authorities using social media platforms for seeking information and disseminating information on missing people, twitter holding good as the pioneer first messenger of victims of atrocities, Facebook as the medium to find missing relatives or hospitals seeking blood etc. Whereas, on the other hand abuse of original creative expressions, reproduction, distribution and dissemination of protected works, augmented with transnational overreach, and ubiquity of the cyberspace can facilitate the appropriation of original creative content along with raising jurisdictional and enforcement issues.

Moreover, with the advent of transformative technological development like the Artificial Intelligence (AI), has further complicated the realm of Intellectual Property (IP) rights. As Andres Guadamuz has stated that, "*The rise of the machines is here, but they do not come as conquerors, they come as creators*."[4] It has fundamentally altered the very perception of original creative expressions, authorship and ownership of works and the interface between creative process and computers. It has the ability to imitate the cognitive abilities of a human being, and create works that resembles those of human creators. It has now infiltrated a wide range of industries such as education, entertainment, healthcare, aviation, transportation and many other sectors. The accelerated pace at which the AI is developing, provides a glimpse into a future in which machine plays an important role.

1.2 Statement of the Problem

The onset of advanced digital technology in conjunction with the net has resulted in the belief in 'cyber anarchy'. It has fundamentally altered the understanding of "the established norms of property or copyright laws and protection." The present generation finds it much

[4] Andres Guadamuz, *Artificial Intelligence and Copyright*, 2017, WIPO Magazine.

simpler and easier to encroach on the copyright of others, with the unrestricted overflow of uninterrupted information, alongside the fluid perceptions of copyright protection. The nature of Internet, has altogether altered the discourse of digital copying and sharing, and has persuade a generation into associating 'stealing' with 'sharing'.[5] This perception change can be partially attributable to shifting digital cultural norm of 'sharing' as well as the general myth that exist that everything accessible and available on the Internet is free.

Since the inception of social media, a plethora of platforms emerged such as websites like Facebook, Tik Tok, You Tube, Instagram, Twitter, and others. Today their impact and reach has touched half the world's population. This has led to an increase in Intellectual Property disputes and ownership of content. It has become easier now, to acquire someone else's idea and make it your own, with the help of endless access and display of contents in the social media platforms. The line between ownership of original work, distribution and duplication has been blurred, and it is usually difficult to recognize or catch up with violations and infringements. It is oftentimes difficult to protect intangible assets. However, contrary to popular belief, there are rules, laws and tools (like Intellectual Property Rights) to protect intangible assets from infringements. Hence, it is advisable to be aware, be vigilant and keep track of the changing laws.

Moreover, issues such as banning of *Tiktok* in India and talks of prohibition of such social media platforms in U.S. or other countries have raise the debate of aggravated sort of treats such as National Security, Intelligence Cyberwar, breach of privacy and control of data, economic progress etc. Now anybody (including a Country) could 'weaponize' these platforms to spread misinformation, and manipulate data to spread hysteria.

Integration of digital technology with humankind will be far more intense and far greater in the years to come. With it the Intellectual Property (IP) disputes relating to digital domain will increase along with the issues relating to maintaining 'originality' of creative content, ownership and authorship concerns, as well as promotion of social welfare and creative freedom. Many countries such as the European Union, United States and Germany,

[5] Fredrick Oduol Oduor, *The Internet and Copyright Protection: Are We Producing a Global Generation of Copyright Criminals*, 2011,Villanova University Charles Widger School of Law Digital Repository, Digital commons

to tackle these issues have already initiated implementing regulations, guidelines and rules to protect the interest of their citizens, more particularly their Intellectual Property Rights (IPRs) and privacy rights. By putting certain limitations on the networking platforms as well as giving some powers to the governing authority in case of any infringement, the citizens' interest were sought to be protected. However, India's standing in regard to the matters of social digital content is still not perfectly clear and definite, which require further development. Information Age has blurred the line between original, distribution and duplication. In the face of these massive transformation, it is important to ask whether the need of the hour is to move beyond conventional idea of intellectual property.

Within this context, this paper will try to examine the concept of "originality" of intellectual creation in Copyright in relation to the digital environment. This paper will deal with originality concern in digital era with respect to the challenges faced in the era of Internet, Social media and Artificial Intelligence. As well as the hurdles faced in realizing a parity of rights of creators and users. A suitable fabric to incentivized and protect original creative expression, and to promote social welfare, creativity and innovations, which is the very soul of Copyright objective. A balance has to be maintained so that the exclusive copyright protection does not become a hurdle to creativity.

This paper will further try to analyze the ease of infringement of copyright in the digital domain. It will deal with how the very inception of Internet and social media is deemed to bypass censorship and facilitate the ease of digital norm of sharing.

Further, this paper will deal with how the interface of Copyright laws and Artificial Intelligence (AI) has revolutionized the way we perceive Intellectual creativity and expressions of creations. This paper will try to study the new facet of challenges and concerns such as maintaining originality in the era of non-human author, the issue of digital authorship and personhood of Artificial Intelligence.

Further, this paper will also try to examine the enforcement of copyright protection in the digital domain. It will try to analyze existing legal framework in relation to digital domain, in India as well in International community and also try to examine key landmark cases.

Lastly, the present research paper will try to illustrate some probable suggestions for coping with threat in the digital era.

1.3 Literature Review

1. V. K. Ahuja, *Law of Copyright and Neighbouring Rights: National and International Perspective*. This book provided an overall insight on Copyright Laws, both from the Indian and International perspective.

2. V. K. Ahuja, in the ILI journal *Artificial Intelligence and Copyright: Issues and Challenges* provided an insightful analysis on the inception of Artificial Intelligence and its interface with Intellectual Property Rights specifically Copyright. This paper presented a deep insight into the issues and challenges that has surfaced with the advent of Artificial Intelligence. It covered a wide range of issues such as the originality of AI-generated works, authorship of Intelligence entity, ownership of computer-generated works, personhood of Intelligence entity, data protection and Artificial Intelligence. This paper provided loads of relevant cases and examples to better grasp the understanding of the aspect of non-human entity like the AI.

3. Sik Cheng Peng, in her WIPO-WTO Colloquium paper, *Artificial Intelligence and Copyright: The Authors' Conundrum*, has highlighted the conundrum of the interface of copyright and Artificial Intelligence. The author highlighted the dilemma of considering an intelligent agent as the 'author' in the copyright laws. As well as the author tried to examine whether AI-generated works are eligible for protection under the copyright laws in view of non-human author. Along with these the author also tried to examine other muddled copyright questions relating to Intelligence entity such as question of 'originality', and duration of copyrights in works, relating to AI.

4. Irene Calboli, Maria Lilla Montagnani, in their book *Handbook of Intellectual Property Research: Lenses, Methods, and Perspectives, published in 2021, Oxford University Press*, highlights the importance of identifying the intersections between privacy laws and Intellectual Property (IP) and attempts to emphasize the hurdles faced in realizing an appropriate balance between these fields. The author also tries to highlight the need of

Intellectual Property (IP) policy-makers, scholars etc. to pay a close attention to modern digital developments. The authors also reviews the changing pattern of fields in the present technological-driven digital economy.

5. Khurshid Ahmad, *Social Computing and the Law: Uses and Abuses in Exceptional Circumstances*, Cambridge University Press, published in 2018. This book provided an in-depth analysis of social computing systems and its implications on privacy and legislations and protection laws. It deals with the analysis of the Internet Laws, Copyright Laws, Human rights framework, social computing and ethical considerations.

6. Fredrick Oduol Oduor, in his article, *The Internet and Copyright Protection: Are We Producing a Global Generation of Copyright Criminals*, published in DigitalCommons, Villanova University Charles Widger School of Law Digital Repository, highlighted the impact of the advent of Internet on the present generation and the Copyright. This Article provided a detailed historical perspective of Internet and Copyright protection laws. The author also emphasized on the generation of criminals from the onset of the Internet. The Author talked about shifting cultural norm, aspect of punishment and moralty, major lawsuits confronting digital domain.

7. Audhi Narayana Vavili, *Digital Copyright Infringement Issues*, published by The Icfai University Press, 2008. This book provides an insightful overview of infringement issues in relation to the digital space. It presents a contribution of different scholars in regard to offering some solutions to the emerging disputes and challenges in the cyber world.

8. World Intellectual Property Organization (WIPO), provided a wide range of legal information on overall aspects of Intellectual property laws relating to Digital environment, through its various treaties and specific legislations implemented by countries in conformation with it.

9. Albert Olu. Adetunji, in the journal, *Challenges of Copyright Protection in The Digital Age: The Nigerian Perspective*, published in DigitalCommons, University of Nebraska, provided a well-structured analysis of Copyright protection in the digital age. The author highlighted the impact of digital technology on Copyrighted work, and defenses and

remedies available to copyright infringement in the digital domain. The author accentuated the challenges of copyright protection with respect to Nigeria Digital Space.

10. Marybeth Peters, in the journal, *The challenge of Copyright in the Digital Age*, highlighted the aspects of copyright infringement in the digital domain. The author discussed the evolution of new forms of exploitation and revolution of the technology and its implication.

11. Praveen Dalal, in the Journal of Intellectual Property Rights; *Data Protection Law in India: The TRIPS Perspective*, published in 2006, evaluates the requirements of TRIPS Agreement, as well as data protection requirement in India. The author has also attempted to focus on some concerns relating to data protection in India and has stressed upon current legislation on data protection in India.

1.4 Research Questions

1. What are the challenges in maintaining Originality of Intellectual content and promotion of creativity and innovation?
2. Is ease of infringement, the prominent challenge in digital space?
3. Is 'Digital Authorship', the new challenge in the era of Artificial Intelligence?

1.5 Hypothesis

Inadequacy of administering suitable protection to original creativity and expressions by existing Intellectual Property system lies in the inability to apprehend the subsisting boundary between protection of right holders and promotion of creativity and innovation in an technological-driven digital environment, as well as lack of definite Intellectual Property (IP) legislation with regard to social digital content and public awareness of their individual Intellectual rights.

1.6 Aims and Objectives

1. To try and understand the concept of Originality, Copyright in digital environment, Intellectual freedom and Intellectual Property Rights in the digital space.

2. To explore the challenges and factors affecting the proper implementation of Copyright Protection laws in the era of technological anarchy, especially in relation to Internet, Social Media and Artificial Intelligence.
3. To try and trace the different protection available and legal recognition granted to the digital content, from both National and International perspective.
4. To try and trace the probable suggestions for dealing with the treat pertaining to the intrinsic Intelligence entity like the AI.

1.7 Research Methodology

Doctrinal research methodology has been employed to prepare this dissertation. Essentially, doctrinal research could be understood as library-based research that focuses on analyzing and evaluation of legal sources, and interpreting legal documents. Various books, articles, legal documents, online sources, has contributed remarkably in assortment of adequate information relevant for this present research. Descriptive and analytical research approach has been used in the conduct of this research.

In this research, both primary and secondary sources have been utilized.

i. Primary Sources: Statutes, Case Law, Regulations, Treaties.
ii. Secondary Sources: Books, Journals, Reports, Magazine, Articles.

1.8 Research Design/ Chapterisation

In this research study, an attempt has been made to analyze and examine the impact of digital environment on the Copyright protection laws, notably in relation to Internet, Social Media and Artificial Intelligence. Every chapter in this research paper will try to examine and evaluate the research questions formulated for the research study, bearing in mind the objectives and hypothesis of the research study. The chapterization of the research study are as follows;

CHAPTER 1- INTRODUCTION

This chapter introduces the essence of this study, with overall perspective of copyright in digital environment and the challenges that copyright is encountering in the digital era.

CHAPTER 2- ORIGINALITY CONCERN IN DIGITAL ERA

Chapter 2 deals with the sine qua non of Copyright, that is, the 'originality' aspect of Copyright. This chapter provides the basis and historical perspective of Intellectual Property (IP) Rights and Digital era. The 'originality' aspect is evaluated in relation to Copyright in digital domain, Internet, Social media, Artificial Intelligence and other aspects.

CHAPTER 3- EASE OF INFRINGEMENT OF COPYRIGHT IN DIGITAL SPACE: CHALLENGES

Chapter 3 highlights the challenges of copyright infringement in digital space. The whole chapter is devoted to analyze and examine the mode of infringement of copyright in the digital arena. This chapter try to understand the very basis of ease of infringement in the digital domain in the realm of Internet, Social media and technological advancement.

CHAPTER 4- COPYRIGHT PROTECTION FRAMEWORK IN THE DIGITAL DOMAIN: NATIONAL AND INTERNATIONAL PERSPECTIVE

Chapter 4 deals with relevant legal provisions in relation to digital environment. Various Acts, Regulations, Guidelines and Conventions, both from National and International perspective is dealt with in the chapter.

CHAPTER 5- NEW UPCOMING CHALLENGES OF COPYRIGHT IN DIGITAL ECONOMY: ISSUES OF ARTIFICIAL INTELLIGENCE

This chapter encompasses almost every aspect of Artificial Intelligence in relation to Copyright issue. The chapter deals with new forms of challenges that we are perceiving in the era of non-human Intelligence entity. The issues of digital authorship, personhood of non-human entity like AI, ownership of AI-created works, originality in AI-generated works are analyzed and evaluated in the chapter.

CONCLUSION AND SUGGESTION

Lastly to conclude, some conclusion remarks and suggestions has been advanced to provide an overall perception of the study.

CHAPTER 2

Originality Concern in Digital era

2.1 Background

The Digital Age, or otherwise known as the Information Age, refers to a historical period originating in the twentieth century pertaining to information-driven, technology based economy. It is characterized by rapid transition from conventional industrialized economy, as brought about during the Industrial Revolution to an economy centered on knowledge-based or information technology. With the introduction of personal computer in the 1970s and subsequent technology, the proficiency to transfer information quickly, easily and freely and to have access to information characterized all aspects of human activity, which was impossible in the past. With the conception of www ("World Wide Web") in 1989 by Sir Tim Berners-Lee, the digital Age began in earnest with the widespread use of Internet, which became the driving force of social evolution. From the use of 90s phones to cell phones to present smartphones, it facilitated generational shift in digital economy and society. The Digital Age continued to evolve with new advancement and new kinds of technologies such as the "Artificial Intelligence," "Cloud computing," "Internet of Things (IoT)," "Big Data," Algorithmic decisions, Metaverse usage, smart cities, smart factories etc. Digitizing people things or places to visualize, forecast and analyze provided a platform to optimize management of advancing digital society. Digital technologies in tandem with the Internet has enabled every average computer user to turn its basic computer into a powerful global communication tool, which could affect people's behavior living anywhere in the world, to a degree that is previously unheard of. Although digital technology and information sharing have greatly facilitated progress and enhanced human development, maintaining Fundamental Right to Privacy, individual autonomy and dignity is a formidable threat and challenge in the Information Age, if these advancement is used without proper adequate regulations and protections.

The advent of advanced digital technology in conjunction with the net has resulted in the belief in 'cyber anarchy'. It has fundamentally altered the understanding of "the established norms of property or copyright laws and protection." The present generation finds it much easier to infringe on the copyright of others, with the unrestricted overflow and availability

of information, alongside the fluid perceptions of copyright protection. The nature of Internet, has altogether altered the discourse of digital copying and sharing, and has persuade a generation into associating stealing with sharing.[6] This perception change can be partially attributable to shifting digital cultural norm of sharing as well as the general myth that exist that everything accessible on the Internet is free.

2.2 Digital Environment and Intellectual Property (IP)

The advent of the Digital Age, powered by the cutting edged advanced technology has re-shaped the global IP landscape. Today, the cardinal point of contention is whether the existing Intellectual Property Rights provide the incentives required to cater to the innovation in the Digital Age. World Intellectual Property Organization (WIPO), Director General Francis Gurry stated that; "*One of the big questions we face today is whether these existing IP rights provide the incentives required to promote innovation in the digital age*."[7] It is still unclear as to how effective the existing conventional Intellectual Property (IP) system will be in addressing all of the matters that is arising from the digital environment.

Intellectual Property, is a blanket term for an array of intangible assets. It is a creation of human intellect. World Intellectual Property Organization defines Intellectual Property as "*creations of the mind, such as inventions, literary and artistic works, designs, and symbols, names and images used in commerce*."

A comprehensive analysis of Intellectual Property and Digital environment shows that both these fields are different yet both aims to regulate flow of information, to preserve certain interests and values. Digital environment prioritizes maximum dissemination by unbinding the access and management of information, whereas Intellectual Property establish temporary exclusives about intellectual assets created, in exchange for their dissemination to the society at large, for stimulating creativity and innovation. However there has been a

[6] Fredrick Oduol Oduor, *The Internet and Copyright Protection: Are We Producing a Global Generation of Copyright Criminals*, 2011,Villanova University Charles Widger School of Law Digital Repository, Digital commons

[7] World Intellectual Property Organization (WIPO) Magazine, 2019 meetings of the WIPO Assemblies, WIPO Director General Francis Gurry reflects on the implications of big data for intellectual property (IP) policy – Intellectual property in a data- driven world.

change in roles in recent years, with Intellectual Property becoming more and more restrictive, while digitalization standards increasingly focus on transparency.

It should be noted that the scope of Intellectual Property (IP) continues to include new innovative and creative activities, the scope and meaning of 'privacy' has also changed in the Internet era to a significant different form. Traditionally understood as the enjoyment of private sphere by an individual free from public gaze, has now come to represent new situation where the loss of control over intellectual creation and intrusion on protected contents are seen to undermine liberty and human dignity.

With the invasion of technological transformation, we have social media platform operating on a vast international scale, we have pervasive surveillance technologies including camera phones, sensors, facial recognition system, we have enterprises and business constructing valuable datasets and deploying these for various purposes, for instance from targeted advertising, predictive policing analysis to research on health, monitoring internet users and social behavior and national security, algorithms deployed to collect information, which in turn is used to influence human behavior. Information Age has blurred the line between ownership of original material, distribution and duplication. In the face of these massive transformation, it is important to ask whether the need of the hour is to move beyond conventional idea of protection of Intellectual creation and Intellectual property.

2.2.1 Copyright in the Digital Age

Copyright is fundamentally one of the numerous genre of Intellectual Property (IP) rights that protects original expressions of creative works. It affords protection to literary, artistic, dramatic and musical works, cinematograph films and sound recordings. Copyrights plays an important role in contributing to cultural heritage of a nation as well as in economic development of a country. The primary objective of copyright law is to safeguard the rights of the copyright holders by providing them exclusive rights over their copyrighted works to incentivized or encourage authors to create further original work, as well as it promotes social welfare as after a fixed tenure all Intellectual Property (IP) comes into public domain. The public domain allows individuals and organizations to access and use creative works

freely, providing them with a wealth of information and knowledge. Hence, promotion of creativity with Copyright limitation can help in maintain the balance which promotes cultural and economic development of a country.

2.2.2 Historical perspective of Copyright: The advent of the printing press invented by Johannes Gutenberg in 1436 in Germany prompted the importance of Copyright protection. The invention of printing press accompanied with the ability to produce copies of works in large number, at a cheaper cost. It made duplication of works a very fast and easy process compared to manual writing by authors. It necessitated the granting of certain protection and privileges to printers, publishers and authors. Consequently, Europe witnessed the swift spread of the art of printing. Thereafter many Acts, privileges and restrictions were introduced to regulate printing such as privileges introduced by Henry VIII in 1528 for printing books, granting of Royal Charter in 1556 to the Stationers' Company providing private registration of all published works, Licensing Act of 1662 passed in England prohibiting printing of any books not registered with the Stationers' Company. The Licensing Act of 1662 was repealed in 1679. Though short lived, this Act was considered the first law checking piracy and protecting literary copyright.

In 1709, the famous "Statute of Anne" was passed, in the United Kingdom. It is recognized as the world first copyright law. This Act recognized the author's right as the owner of its copyrighted works and laid down a fixed term for copyright protection. Another provision laid down in the Act is that all copyrighted works has to be entered at the 'Register Book' of the Stationers' Hall. This Act has furnished immense influence on the establishments of Copyright laws in other jurisdiction.

With the introduction of the Berne Convention in 1886, Copyright receive breakthrough in the introduction of international standards pertaining to copyright protection. Though fashioned on the former world necessity, the Berne Convention continue to prevail and remains in force to this day, though with some modification. The Berne Convention still provides foundation for International Copyright law.

In India, the Indian Copyright Act of 1847, which saw its birth during the rule of East India Company is the earliest Act on copyright laws. The current Copyright regime, that is, the Copyright Act, 1957, was enacted replacing the Indian Copyright Act, 1914.

Section 14[8] of the Indian Copyright Act, 1957 provides the meaning of 'Copyright' as the exclusive right to do or authorize in respect of literary, dramatic, musical, computer programme, artistic work, cinematograph films, and sound recording, the doing of any of the acts such as-

i. To Reproduce
ii. To issue copies of work
iii. To Perform
iv. To Translate
v. To make adaptation
vi. To sale or give on commercial rental
vii. To communicate to the public;
viii. Storing of the work in any medium

Section 13 of the "Copyright Act, 1957"[9] read with section 2(y) of the Act, provides the subject matter of copyright, works, that is, "*original literary, dramatic, musical and artistic works*". As well as in cinematograph film and sound recording. The Act recognizes economic rights[10] and moral rights[11] with respect to the works, provides provisions for infringement of the copyright[12] and civil[13] and criminal remedies[14] for the same. The Act

[8] Copyright Act, 1957, Section 14: Meaning of Copyright.
[9] Copyright Act, 1957, Section 13(1): Works in which copyright subsists.- (1) Subject to the provisions of this section and the other provisions of this Act, copyright shall subsists throughout India in the following classes of works, that is to say,- (a) original literary, dramatic, musical and artistic works; (b) cinematograph films; and (c) sound recording.
Section 2(y): "work" means any of the following works, namely:- (i) a literary, dramatic, musical or artistic work; (ii) a cinematograph film; (iii) a sound recording;
[10] Copyright Act, 1957, Section 14: Meaning of copyright
[11] Copyright Act, 1957, Section 57: Author's special rights
[12] Copyright Act, 1957, Section 51: When copyright infringed
[13] Copyright Act, 1957, Section 55: Civil remedies for infringement of copyright.
[14] Copyright Act, 1957, Section 63, section 63A, section 63B

also make provisions for exceptions to copyright infringement[15] in the fair dealing of the work.

To fulfill international obligations and to keep up with the changing scenario of the era and the development in digital technology, the Copyright Act has undergone several amendments. The 2012 Amendment[16] act is celebrated as the most relevant amendment to meet up with the new digital domain challenges in copyright protection aspects.

With the advent of digital technology, copyright is facing unprecedented challenges in the legal front. Since the invention of the printing press, copyright has travelled a structured journey of providing protection to the rights of the authors, withstanding the challenges posed by the advent of new and advanced technologies. However, the present century has witnessed revolutionary development in the technologies such as the Internet, computer programs, Artificial Intelligence (AI), which has changed the very core and perception of copyright protection. The passage of copyright laws, which began at international level, with the Berne Convention for the Protection of Literary and Artistic Works in 1886, where the basis for other regimes were laid down. Berne Convention is keeping its relevance by making revisions and making modification and keeping up with the changing scenarios of changing times. The convention was revised at Paris (1896), Brussels (1948), Stockholm (1967) and in Paris (1971). However, the Convention failed to address infringement of copyright in the digital domain.[17] The advancement of digital technology in tandem with Internet has facilitated widespread infringement of copyright and piracy. Rampant illegal reproduction and dissemination of copyrighted materials without proper authorization and acknowledgement necessitated the amendment of existing framework. Thus, we witnessed the commencement of the two Internet treaties, that is, "the World Intellectual Property Organization Copyright Treaty" (WCT) (1996) and "WIPO Performances and Phonograms Treaty" (WPPT) (1996), which was established with a view to protect the rights of creators in the digital environment. In line with these provisions other enactment such as the

[15] Copyright Act, 1957, Section 52: certain acts not to be infringement of copytright.
[16] Copyright (Amendment) Act, 2012
[17] Albert Olu. Adetunji, *Challenges of Copyright Protection in the Digital Age: The Nigerian Perspective,* (2022) Library Philosophy and Practical (e-journal), DigitalCommons University of Nebraska - Lincoln

"Digital Millennium Copyright Act" (DMCA) (1998) in the United State of America was initiated.

Moreover, incessant growing role of Artificial Intelligence is witnessed in the area of Intellectual Property Rights, penetrating creativity and innovations. Among various types of Intellectual Property Rights (IPRs), Copyright, Designs, Trade Secrets and Patents are specifically stirred by the effect of AI.[18] More notably, AI has prompted serious challenges in the area of Copyright law.

Artificial Intelligence has now infiltrated across a variety of industries, including entertainment, healthcare, education, finance, aviation, space, transportation and many other sectors. Now, AI has the capability to compose music, generate artwork and paintings, write essays and poetry, blogs, novels etc. blurring the line of distinction between human creation and machine-generated works.

The interface of Copyright laws and Artificial Intelligence has revolutionized the way we perceive Intellectual creativity and expressions of creations. We are now faced with new type of challenges and concerns such as maintaining originality in the era of non-human author, the issue of digital authorship and personhood of Artificial Intelligence.

2.3 Aspect of Originality in Digital Space

2.3.1 Concept of Originality

"The sine qua non of copyright is originality."[19]

The conception of originality in Intellectual Property (IP) rights refers to the requisite that a creation must be new and unique, not already in the public domain.

Originality is a fundamental requirement in Copyright law, in order for a work to be granted protection by law. The concept of originality in copyright law means that a work must be created independently by its author without copying from an existing source and should have some creativity involved in it. However, the work created need not have to be entirely

[18] V.K. Ahuja, *Artificial Intelligence and Copyright: Issues and Challenges*, Winter Issue, 2020, ILI LAW REVIEW.

[19] *Feist Publications Inc* v *Rural Telephone Service Company*, 499 U.S. 340, 345 (1991)

new or novel in the sense that the work has to be the product of the author's creativity and labor, and not simply copied from another work. Copyright laws are concerned with the expression of thought and not with the origin of ideas. It has to be sufficiently different and unique from other pre-existing works. In the "*University of London v. University Tutorial Press*"[20] case, the court had the opportunity to deliberate upon whether question papers containing ideas taken from the public domain were original works. The Court stated that: "the word 'original' does not in this connection mean that the work must be the expression of original or inventive thought. Copyright Acts are not concerned with the originality of ideas, but with the expression of thought".[21] The further stated that the expression should originate from the author.

The provision of the Indian Copyright Act, 1957 states that copyright subsists in "original literary, dramatic, musical and artistic works."[22] However Indian Copyright Act does not provide any definition of "original" or "originality", nor does it provide any test to determine originality of a work. The UK Copyright law, 1988 also stipulates that copyright subsists in "original literary, dramatic, musical or artistic works,"[23] Section 17 U.S. Code S 102 of the U.S. Copyright law, 1976, stipulates that copyright protection subsists in "original works of authorship"[24] However, the meaning of the term "original works of authorship" has not been provided in the Act.

The matter as to what these concepts entails and the degree of originality which is required for a work to come under copyright protection has been the subject-matter of judicial interpretation. Presently, what standard of originality is followed in India is still unclear.[25] However, there are few tests of originality which have been developed through different judicial pronouncements in different jurisdictions of law, such as;

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[20] *University of London Press,* Ltd. v. *University Tutorial Press, Ltd*., [1916] 2 Ch. 601 (Eng.)
[21] University of London Press, Ltd. v. University Tutorial Press, Ltd., [1916] 2 Ch. 601 (Eng.) at 608-609
[22] Copyright Act, 1957, Section 13(1)(a).
[23] Copyright, Designs and Patents Act, 1988, Section 1(1)(a): Copyright and copyright works (1) Copyright is a property right which subsists in accordance with this Part in the following descriptions of work- (a) original literary, dramatic, musical or artistic works.
[24] Copyright Law of the United States, 1976, 17 U.S. Code s 102: Subject matter of copyright. Copyright protection subsists in "original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device."
[25] Ranjit Kumar, *Database Protection: The European Way and the Impact on India*, 45 IDEA

i. Sweat of the Brow doctrine
ii. Modicum of Creativity doctrine
iii. Skill and Judgment doctrine

2.3.1.1 Sweat of the Brow Doctrine

This doctrine is conjured up to incentivize the author who expended his sweat and labor during creation of a work. Under this Doctrine of 'Sweat of the Brow', the author gains protection through 'simple diligence', in the creation of a work. The requirement of creativity or how original a work is not required. In "***University of London Press***" case,[26] the court held that expressions need not be novel or in an original form to be protected under copyright. However, the work must originate from the author and not copied from another work. Originality of skill and labor is propounded whereas copyright is conferred merely because time, energy, labor and skill were expended in creation of the work. The Privy Council in "***Macmillan & Company Ltd*. v. *Cooper***",[27] held no one can appropriate or take a gain out of the product of the skill, labor and capital expended by one man. Copyright arises and subsists in a work due to the labor and skill expended on that work, rather than inventive thoughts.[28]

2.3.1.2 Modicum of Creativity Doctrine

The importance of creativity aspect[29] was stipulated by the U.S. Courts in the case of ***Feist*** case.[30] The decision of the Feist case has revolutionized the U.S. Court interpretation of the Originality requirement.[31] In the case, the U.S. Court had the opportunity to deliberate regarding copyright protection over the facts and their compilations. The case considered copyright protection in telephone directory which consisted of data such as phone numbers,

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[26] *University London Press* v. *University Tutorial Press,* [1916] 2 CH 601
[27] *Macmillan & Company Ltd*. v. *Cooper,* (1924) 26 BOMLR 292
[28] The above interpretation is further observed in the case of "*Burlington Home Shopping* v. *Rajnish Chibber*",[28]wherein it was held that compilation may be acknowledged as copyrightable work as a result of the fact that there was devotion of labor, time and skill in such compilation.
[29] The Feist case did not introduced the concept of creativity as a requirement of originality aspect, it has been deliberated previously in other cases also like in *Borrow Giles Lithographic Co*. v. *Sarony,* 111 U.S. 53(1884) where the originality meant *the original intellectual conceptions of the author*.
[30] *Feist Publications Inc*. v. *Rural Telephone Service Co*., 499 U.S. 340 (1991)
[31]"The originality requirement in EU and U.S., different approaches and implementation in practice", ECTA.Org document

names and address. The plaintiff filed a suit alleging infringement purporting to defendant act of copying a section of plaintiff's listing of data in the telephone directory.

The US Court negated that every effort or skill expended in a work results in copyrightable work, and held that in order to qualify for copyright protection, a work must not only have been independently created by the author, but it must also possess a certain degree of creativity.[32] The Court observed that originality subsists in a work involving some degree of intellectual creativity.[33]

The Court further held that facts like names, addresses, and phone numbers cannot be copyrighted and that no one can claim authorship over it, as they do not owe their origin to an act of authorship. However, the Court held that compilations of facts or Factual Compilation possess requisite originality and are copyrightable. The unique way of expression by way of preference of selection and arrangement entails a minimal degree of creativity as long as they are independently compiled by the author. For a work to be original and copyrightable, a minimum degree of creativity is needed, the standard of creativity need not be high.

The Court further stated that "originality does not signify novelty", "as long as similarity is fortuitous and not the result of copying, a work may be original".[34] A work may closely bear a resemblance with another work, as originality does not indicate novelty, as long as it is not copied exactly like the other work.

The creativity requirement of originality is articulated as minimal in counterproductive to contemplation of a very high degree of creativity requirement. The minimal requirement is encouraged bearing in mind incitement of inspiration and encouragement to authors and

[32] *Feist Publications Inc*. v. *Rural Telephone Service Co*., 499 U.S. 340 (1991)
The Court stated that "*Original, as the term used in copyright, means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity*"

[33] Ben Allgrove, *International Copyright Law: A Practical Global Guide* (2013)

[34] "The originality requirement in EU and U.S., different approaches and implementation in practice", ECTA.Org document. Comments: "novelty" criteria in patent law is an essential requirement and hence distinction should be made.

that creativity is not restricted, and that copyright should lead to common benefits and not investments.

2.3.1.3 Skill and Judgment Doctrine

An effort was made to find a mid-way approach between the two doctrines, that is, the Sweat of the Brow doctrine and the Modicum of Creativity Doctrine which was stipulated by the Canadian Supreme Court called the Skill and Judgment Test. The clarity of the equilibrium to be maintained between the rights of the creators and the promotion of the public interest to encourage dissemination of works of arts was held in the case of ***Theberge v Galerie***[35] The interpretation of *Theberge* case was further reiterated in *Desputeaux* v. *Chouette* case[36]. It was further built upon in the case of *CCH Canadian Ltd* v *Law Society of Upper Canada*.[37] In the CCH Canadian case Chief Justice McLachlin, rejected "minimal degree of creativity" test as was held by the Supreme Court of the US in *Feist Publications* case, as well as found the "sweat of the brow" approach to be too low a requirement. Alternately, the Court took a middle ground approach, requiring that an original work must be the product of skill and judgment and not merely labor.[38] The requirement of the exercise of skill and judgment to create the work must not be so trivial that it seems to be mechanical process. The creation must not be an exact copy of another work, however, high level of creativity is not required to make it an original work. The court held that creation of summaries, and headnotes are rendered as original work as they require exertion of sufficient skill and judgment. The court further held that judgments and typographical corrections done by editors are not copyrightable.

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[35] *Theberge* v *Galerie d'Art du Petit Champlain Inc*, [2002] 2 S.C.R. 336 SCC 34, Binnie J. made several statements regarding the purpose and nature of Copyright law, in which he characterized it as a balance between promoting the public interest in the encouragement and dissemination of works of the arts and intellect and obtaining a just reward for the creator, to prevent someone else from appropriate benefits that must go to the creator.

[36] *Desputeaux* v. *Editions Chouette* (1987) inc, 2003 SCC 17 [2003] 1 SCR 178

[37] *CCH Canadian Ltd* v. *Law Society of Upper Canada*, [2004] 1 SCR 339, 2004 SCC 13, 236 DLR

[38] Ibid, Chief Justice McLachlin stated that an original work must be the product of an exercise of skill and judgment where skill is the use of one's knowledge, developed aptitude or practiced ability in producing the work and judgment is the use of one's capacity for discernment or ability to form an opinion or evaluation by comparing different possible options in producing the work. - wikipedia

The Indian Supreme Court in ***D.B. Modak***[39] case departed from the "sweat of the brow" principle, stipulated by the English court, wherein the standard of originality is considered to be expenditure of skill, labour and capital only. This case is a landmark decision on the subject of originality and the extent of copyright on case laws.[40] In the case the appellant, Eastern Book Company, publishes Judgments, orders and record of proceedings of the Supreme Court of India in law report, Supreme Court Cases (SCC). The appellant procures copies of judgments from the office of "the Registrar of the Supreme Court", wherein these copies are edited by inserting different inputs such as paragraph numbering, head notes, text standardization and formatting. The appellant asserted that making of headnotes and laying other inputs requires considerable expertise, skill, labor and capital investment. The report carries appellant's presentation or version of the judgments, hence it is the appellant's original literary work, and the appellant enjoys exclusive right of reproduction. The appellant alleged that the defendant copied their work, ad verbum including every headnotes, cross reference, paragraph numbers, footnote numbers etc.

As per Section 2(k)[41] of the Copyright Act, 1957, Judgment of a court would be a "Government work", wherein the Government is the first owner.[42] Exemptions from copyright infringement under Section 52(1)(q)(iv)[43] provide the reproduction or publication of judgment or order of a court, unless prohibited. Therefore such reproduction or publication would not infringe the copyright of the first owner that is the government. Hence, judicial pronouncement are considered to be in the public domain.

The Court observed that reports of Judgments is a derivative work in the public domain. The publication and reproduction of such derivative work hence, does not amount to

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[39] *Eastern Book Company & Ors* v. *D.B. Modak & Anr*, Appeal (civil) 6472 of 2004 [judgment (with Civil Appeal No. 6905 of 2004 and Contempt Petition (Civil) No. 158 of 2006 in Civil Appeal No. 6472 of 2004]

[40] Zakir Thomas, *IP Case Law Developments, 2008, Journal of Intellectual Property Rights*, Vol 13, pp 245-252

[41] Copyright Act, 1957, Section 2(k): Government work means a work which is made or published by or under thedirection or control of- (iii) any court, tribunal or other judicial authority in India;

[42] Copyright Act, 1957, Section 17(d). The provision provides that in case of a Government work, the Government shall be the first owner of copyright in the absence of any agreement to the contrary

[43] Copyright Act, 1957, Section 52(1)(q)(iv): Certain acts not to be infringement of copyright (q) the reproduction or publication of- (iv) any judgment or order of a court, tribunal or other judicial authority, unless the reproduction or publication of such judgment or order is prohibited by the court, the tribunal or other judicial authority, as the case may be.

copyright infringement. The court further held that, skill, labour and judgment expended should be adequate enough to bestow the edited judgment some character or quality which the raw judgment did not possess and it must distinguish the edited judgment from the original judgment. To attract copyright protection in a compilation, the work should not be merely a product of labour and capital, but a product of judgment and skill. In law reports, the derivative work created must add some distinguishable features to the original text of the judgments. Trivial inputs would not satisfy requirement of copyright. In the present case, the appellant have added inputs and increased the readability of the judgment with the investment of capital, labour and skill. However, it lacked minimum requirement of creativity. Adding of certain facts in its own arrangement and style to make it more user friendly of data already available does not accrues copyright protection.

However, the task of creating paragraphs in a judgment requires careful discernment, choice and consideration and could not be called a mechanical process, and thus, can be called the work of an author. Making of a paragraph require careful and extensive study of the subject and the exercise of sound judgment and skill. This exercise exerts minimum amount of creativity requirement, for a work to be original. The Supreme Court thus, directed that the defendant shall not use the paragraphs created by the appellant in their version of the work. The appeal was thus partially allowed. In this case the notion of "flavour of minimum requirement of creativity" was introduced.

Thus, there is no single unified criteria for originality. It is left to the judicial interpretation on case to case basis, which makes it very hard to conceptualize the notion of originality requirement and its infringement.

2.4 Challenges in maintaining originality in digital environment

The requirement of originality applies to an expansive range of creative works such as music, paintings, literary works, films, photographs and software code, among others. The main purpose of originality in copyright law is to ensure that a balance is maintained to protect the rights of the creators while also promoting creativity and innovation.

Challenges in maintaining originality in digital era:

a. The authenticity of digital contents is difficult and hard to maintain and also difficult to establish due to the ease of modifying, copying and distributing them online. It may lead to manipulation of content and may compromise their trustworthiness, integrity and origin.
b. It is often times difficult to catch up on any Intellectual property rights violations or infringements, due to widespread nature of sharing and duplication in the digital space. Users often suffers significant losses because they don't understand how to protect their intangible assets.
c. It is often difficult to track who the original creator of a piece of work is. Content in the digital space is oftentimes shared and reposted multiple times across different platforms making it quite difficult to track the original creator or to determine who owns the rights to it. This can discourage people to obtain proper authorization and permission to use the content and credit the original creator. Without obtaining proper permission to use contents can attract legal issues and consequences for individuals and businesses involved.
d. It is quite difficult to answer the question in this age of digital freedom that is – How free is free? In this age, the general myth is that everything available on the Internet is free, free to use and share. It has been aggravated by the changing perception of digital cultural norm of sharing.
e. The preservation of digital contents is complicated due to the circumstances such as the nature of the contents, the obsolescence of technology, the feebleness of media, and scarcity of expertise. The pressure to fit with the expectations of the audience, high competition and to conform to established conventions lead to manipulation of creation of original contents. Digital domain is overloaded with information, and is increasing continuously day by day, making it quite challenging to maintain originality when there is so much competition.

2.4.1 Originality concern in Social media

Social media has become a breeding ground for infringement of copyright laws. Social media has revolutionized the way people consume and create contents. Since the inception of social media, a plethora of platforms emerged such as websites like Facebook, Tik Tok, You Tube, Instagram, Twitter, and others. Today their impact and reach has touched half

the world's population. This has led to an increase in Intellectual Property disputes and ownership of content. Using social media platforms has made it possible for an average computer user residing in one part of the world to communicate, use, share, reproduce, and disseminate materials circulating over the global communication networks all over the world. The present generation, to a large extend has become dependent on the social media platforms due to its interactive and sharing elements. Though dissemination of information has helped humankind and revolutionized the perception of global communication and inter-relation of human beings, it has also proliferated a dark side of infringement of the rights of original Intellectual creators as well as raiding of originality and privacy.

The ease at which a large volume of contents are published every minute and the speed at which the contents and materials get shared across the globe creates an alarming environment where the rights of original creators and Intellectual Property right holders are under extreme threat.

It has become easier now, to acquire someone else's idea and make it your own, with the help of endless access and display of contents in the social media platforms. The line between ownership of original work, distribution and duplication has been blurred, and it is usually difficult to recognize or catch up with violations and infringements. The ease at which materials can be shared and disseminated rapidly and conceivably free of cost and the digital cultural norm of sharing has stimulated a generation to equate 'stealing' with 'sharing'. Now everything available on the Social Media is considered to be free, as social platforms provides a plethora of materials to post, re-post, view, save and share in the form of images, videos, music, blogs, tweets, articles. Moreover, the social media platforms are providing mechanism to share, re-post, and save contents from other people's content, wherein, the Social media platforms shields themselves by providing certain Terms of Service to the user, who generally overlook such terms. For the purpose of content optimization according to audience's preferences, personalization of social experience, increase reach and sales produce, to capitalize on information, social media platforms have been collecting more data than the users are aware of it.

In the midst of these interaction, the originality aspect of creation gets diminished and further discourage the creators to create original works. Having so much option to obtain materials from other people's original work, at the mere click of a button, makes it easier to disregard and forget about the possible legal consequences of such act.

It is oftentimes difficult to protect intangible assets. However, contrary to popular belief, there are rules, laws and tools (like Intellectual Property Rights) to protect intangible assets from infringements. Hence, it is advisable to be aware, be vigilant and keep track of the changing laws. Along with these, to ensure security of individuals as well as organizations, one can take other measures such as implementing strong passwords, regularly monitoring and auditing data use, limiting sensitive information dissemination and access. Individuals should be more vigilant while sharing personal information online and should be more careful and vigilant while reading and understanding privacy policies and terms of service agreements before agreeing to it.

New aspects of proliferation of social media concerns are emerging in this digital era as they are penetrating every aspects of people's interactive perceptions. Issues such as banning of *Tiktok* in India and talks of prohibition of such social media platforms in U.S. or other countries have raise the debate of aggravated sort of treats such as National Security, Intelligence Cyberwar, breach of privacy and control of data, economic progress etc. Now anybody (including a Country) could 'weaponize' these platforms to spread misinformation, and manipulate contents to spread hysteria.

2.4.2 Aspect of Originality and Internet

Technological advancement and easy access to internet has facilitated easy infringement of copyright holders' rights, due to rapid and easy transmission and free flow of information. Maintaining balance between dissemination of information on the Internet and protection of rights of Copyright-holders has becomes a major challenge in this digitalized era. The distinction between what is original and what is duplicated work has become quite difficult. Content duplication and reproduction on the internet has become fast, cost efficient and hassle free task. It has its advantages and disadvantages. Promoting easier communication and accessibility along with maintaining balance on how much is

free on the Internet has become quite challenging. The general perception that everything available on the internet is free, has manipulated a generation to associate 'stealing' with 'sharing'. However, the reality is that almost everything available on the Internet is protected by Copyright laws. Every original contents including software, emails, images or pictures, graphics, audio, video, links, original texts are copyrighted works on the Internet. Despite legal frameworks and technological measures are taken copyright infringement continues to pose a challenge in the digital domain. Issues such as illegal downloading, uploading and reproducing a replica of the file copied for commercial use has posed a serious challenge to maintaining of originality aspects of Intellectual creations.

In the "***Super Cassettes Industries* v. *Myspace Inc. & Anr***"[44], Myspace a social networking platform was held liable for infringing plaintiff's copyright for allowing uploading and sharing of files to users without the prior authorization of the copyright holder. This case deals with the issue of communication to the public of the work that is copyrighted.

In the landmark case of "***A&M Records* v. *Napster,***"[45] the U.S. Court of Appeal deliberated on the liability for contributory infringement of copyright in relation to peer-to-peer file sharing. In the case Napster provided a platform that allows users to download and share music files specifically MP3s from music libraries hosted in other sites, over the Internet. The Napster website uses "peer-to-peer" technology to act as a medium connecting users. The website actually does not hosts any of the music files, but maintains a central server to coordinate files available and user profiles. The found that Napster website was liable for secondary copyright infringement though it acted merely as a conduit of copyrighted materials. The court further found that Napster has a policy to control the infringing issues such as blocking infringing users or to block transmission of copyrighted material and hence, has a duty to do it.

Thus, the advent of new technology in tandem with Internet has amplified the ease at with the Copyright infringement can occur at a tremendous cost and detriment to original

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[44] *Super Cassettes Industries Ltd.* v. *Myspace Inc. & Another*, IA No. 15781/2008 &IA No. 3085/2009 in CS (OS) No. 2682/2008 [Delhi HC] [Judgment 2011]

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

creators and legitimate right holders. Now an average computer user can easily access loads of copyrighted materials over the Internet and with the advancement of technology can easily bypass copyright laws without detection. Most Internet users remains ignorant of the consequences of such infringement acts, due to different layers of muddled and ambiguous accountability.

2.5 Piracy in the Digital environment and Copyright

The challenges faced by Copyright protection laws have underwent a massive transformation in the digital era because of the emergence of new categories of works such as software, machine generated work, digital music and videos, User generated contents and AI. Copyright Infringement in the digital domain can be carried out quite easily, at a very fast speed and at a very low cost, while maintaining the quality of the work. Copying content, content distribution, illegal downloading of videos and songs, fake websites are some of prominent concern of this era. Easy usage and accessibility of Internet is one of the major reason behind piracy among infringement practice.

2.5.1 Piracy in simple word, means unauthorized use or reproduction of another's work. Piracy is one of the biggest plight in the digital environment. In a country like India, pirated products such as pirated movies, videos, software, books, games, and music are easily available at a much cheaper rate. This availability of the pirated versions of movies, videos, music encourage people to promote piracy, as the original digital works are not easily accessible and are much costlier than pirated versions of work which are pretty much budget friendly. Ease of accessibility of Internet has caused illegal downloading of original content at a click of a button. Copyrighted material beyond geographical boundaries can be easily transmitted and distributed using Internet without authorization of the right holder.

2.5.2 Software piracy has emerged as one of the prominent issue in the digital domain. Software piracy is the unauthorized use, distribution, or sale of software without the permission of the copyright holder. It is the unauthorized duplicating or dissemination of protected software. When software is pirated, the copyright holder losses out on revenue and potential customers.

2.5.3 Software piracy and Originality- Software piracy undermines the originality and creativity of software creators. Original software development requires significant resources, effort, and expertise, and software developers rely on sales of their software to recoup their investment and fund future development. When software piracy occurs, unauthorized users can simply copy and distribute the software without paying for it, which results in lost revenue for the software developer. This can make it difficult for the original developers to fund future development and can discourage innovation in the industry. Furthermore, software piracy can lead to reduced competition and innovation because legitimate software developers may find it difficult to compete with pirated software that is available at a much lower price or for free. Software piracy is harmful for both the industry and originality and creativity of software creators. Respecting copyright laws and paying for software licenses is essential to support the continued development of high-quality and innovation software.

2.5.4 Software Piracy and Copyright Act, 1957- Under section 13(1)(a) of the Copyright Act 1957, copyright protection subsist in original works including literary, dramatic, musical and artistic works. The computer program is included under section 2(o) as original "literary work", and hence, any infringement on computer programs will draw serious consequences. Under section 51(a)(ii)[46] of the Copyright Act, when any person without a license from the right holder or in breach of the conditions of a license permits any place to be used for generating profit for the communication to the public of the work (including copyrighted software), amounts to copyright infringement. "Communication to the public" is defined under Section 2(ff) of the Act brought about by the 2012 Amendment Act, illustrates that any work available for being seen or heard or by display or dispersion or by enjoyed directly, regardless whether the public actually sees, hears, or enjoys the work

[46] Copyright Act, 1957, Section 51(a)(ii): When Copyright infringed.- Copyright in a work shall be deemed to be infringed- (a) when any person, without a licence granted by the owner of the copyright or the Registrar of Copyrights under this Act or in contravention of the conditions of a licence so granted or of any conditions imposed by a competent authority under this Act- (ii) permits for profit any place to be used for the communication of the work to the public where such communication constitutes an infringement of the copyright in the work, unless he was not aware and had no reasonable ground for believing that such communication to the public would be an infringement of copyright;

made available.[47] Section 63B of the Copyright Act, provides for criminal remedies for infringement of copyrighted work. It provides for imprisonment for a minimum of seven days extending up to three years and fine from fifty thousand rupees extending up to two lakh rupees in case any person knowingly use an infringing copy of a computer programme on a computer. The punishment of imprisonment is not attracted in case the computer programme is not used for gain or used in course of business or trade, and may attract only a fine extending to fifty thousand rupees.

Piracy can occur through various methods, such as file-sharing, torrenting, downloading illegal copies from the Internet, downloading of software using peer-to-peer network, and selling counterfeit copies of copyrighted works. Each form of piracy is illegal, and copyright owners have the right to take legal action against those who infringe on their rights. Therefore, it is important to respect copyright laws and obtain proper licenses for software use to support software creators and encourage innovation.

2.6 Liability of Intermediaries (Internet Service Provider) for Online Infringement of Copyright.

The advent of Internet has created a parallel world in cyberspace where there is a whole new world of one big giant community, where people around the globe can share, communicate and relate to one another. In one way Internet has made people's life easy and comfortable to a great extent, but it has its disadvantages too, where malicious people try to find way to disrupt and infringe upon the rights of others in the virtual world just like in the physical world. As digital usages and advancement in technology is seeming to have no end in the coming period of time, we have to learn to adapt with any outlandish development that it may bring in the future. Hence, it has become more crucial to bring in mechanism and framework to check and control authenticity and originality of expression of creations. From piracy to tampering of information, online scams, fake websites, and

[47] Copyright Act, 1957, Section 2(ff): "communication to the public" means making any work or performance available for being seen or heard or otherwise enjoyed by the public directly or by any means of display or diffusion other than by issuing physical copies of it, whether simultaneously or at places and times chosen individually, regardless of whether any member of the public actually sees, hears or otherwise enjoys the work or performance so made available.

data leaks, Internet has become a bane to humankind, as much it has been a blessing in integration people from all across the world.

Internet Service Provider or sometimes referred to as an Internet access provider is an aggregator that provides web access and other related services to people**.** In simple words, it is an intermediary like a channel for passage of any communication or information. Internet Service Provider (ISP) hosts additional services such as email, web hosting and domain registration.[48]They act like an aggregator that gathers materials and contents between those who want to share and generate information and those who wants to consume those information. In a time where inauthentic and misleading information has become a nuisance infiltrating global digital environment, there is a need to check and regulate the circulation of information and such on the Internet. Keeping track of every transgression and infringement of ever individual worldwide is quite difficult, hence it is the source through which connectivity worldwide is aggregated, comes in the limelight that is the Internet Service Providers.

2.6.1 ISP liability and Copyright Infringement- The liability of the Internet Service Provider in relation to copyright infringement on the Internet has become a crucial deliberation in the digital environment. It raises concerns as to what extent are the ISPs are liable for the third party materials of the users using their facilities as a medium. Because of the impediment and restraint on supervising and keeping track of the individuals across the world and the inability of copyright right-holder to seek damages against infringement, the ISPs has become accessible medium to hold liability, especially since the medium enables internet communication and infringement to exists as well as are in control to secure internet services through proper implementation and policy.

In the United States, the **"Digital Millennium Copyright Act**," 1998 provides liability for the Online Service Providers. The "Digital Millennium Copyright Act", is a copyright law that implements the 1996 "**WCT**" and "**WPPT**" (1996) in the Act. The Act criminalizes dissemination and the production of devices, services or technology designed to thwart measures that control access to copyrighted works. The act of circumventing an access

[48] Alexander S. Gillis, *ISP(Internet service provider)*, techtarget.

control is also criminalized under this Act (17 U.S.C. 1201, also known as the DMCA anti-circumvention provisions)[49]. This Act also enhanced the penalties for infringement of copyright on the internet.

The Act's cardinal innovation is the limiting of the liability of the online service providers or other intermediaries for copyright infringement liability by their users provided they adhere to specific requirement ("Title II: Online Copyright Infringement Liability Limitation Act").

The DMC act, furnishes 'safe harbor' provisions for online service providers. It provides safe harbor to four categories of conduct by a service providers. They are;

i. Transitory communications;
ii. Caching services;
iii. Information storage at direction of users; and
iv. Search engines (Information location tools).[50]

Additionally, service provider must implement a system that provides for a policy of termination of accounts and subscribers who are repeat infringers.[51]

A Service provider enjoys safe harbor protection from the liability of Copyright Infringement only when it does have any actual knowledge of infringement, or is not aware of the circumstances or facts where infringing activity is apparent and that it has acted quickly to remove infringement content, once made aware of it. Additionally, a service

[49] The Digital Millennium Copyright Act, 1998, Section 103 of the DMCA adds a new chapter 12 to Title 17 of the U.S. Code. New Section 1201 implements the obligation to provide adequate and effective protection against circumvention of technological measures used by copyright owners to protect their works. Section 1201 prescribes devices or services that fall within any one of the following three categories; (1) they are primarily designed or produced to circumvent; (2) they have only limited commercially significant purpose or use other than to circumvent; or (3) they are marketed for use in circumventing.

[50] The Digital Millennium Copyright Act, 1998, US Copyright, section 512 provides limitations on liability relating to material online (a) Transitory Digital Network Communication. (b) System caching (c) Information Residing on systems or Networks at Direction of users. (d) Information Location Tools.

[51] The Digital Millennium Copyright Act, 1998, US Copyright, section 512(i)(1)(A): Conditions for Eligibility.- (1) Accommodation of Technology.-The limitations on liability established by this section shall apply to a service provider only if the service provider- (A) has adopted and reasonably implemented, and informs subscribers and account holders of the service provider's system or network of, a policy that provides for the termination in appropriate circumstances of subscribers and account holders of the service provider's system or network who are repeat infringers;

provider is removed from such protection if it accrues financial benefits from the activity connected to the infringement.[52] Section 512(d)(1) provides provisions for information location tools, whereas by reason of the service provider linking users to an location online containing infringing activity or material shall be held not liable if the service provider does not have actual knowledge or is unaware of the circumstances and facts of the infringing activity, and has expeditiously removed or disable such infringing material upon obtaining such awareness or knowledge.

2.6.2 ISP under Indian Copyright Act, 1957

Unfortunately, the copyright law regarding liability of Internet Service Provider in India is vague and ambiguous. This issue is dealt with judicial pronouncement. Section 79 of the Information Technology Act, 2000 has significantly clarified the 'safe harbor' provisions available to Internet Service Provider. In "*Super Cassettes* v. *MySpace case*"[53], the High Court of Delhi had the opportunity to examine the liability of a social networking website, *MySpace*, under the course of primary and secondary infringement. Section 51 of the Copyright Act, 1957 provides for two categories of liability for copyright infringement, that is, primary infringement [section 51(a)(i)][54] and secondary infringement [section 51(a)(ii)][55]. In the case, the social media platform *MySpace* allowed users to upload, view

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[52] The Digital Millennium Copyright Act, 1998, US Copyright, section 512(c)(1)(A) and (B): Information Residing on Systems or Networks at Direction of Users.- (1) In General .- A service provider shall not be liable for monetary relief, or, except as provided in subsection (j), for injunctive or other equitable relief, for infringement of copyright by reason of the storage at the direction of a user of material that resides on a system or network controlled or operated by or for the service provider, if the service provider- (A) (i) does not have actual knowledge that the material or an activity using the material on the system or network is infringing; (ii) in the absence of such actual knowledge, is not aware of facts or circumstances from which infringing activity is apparent; or (iii) upon obtaining such knowledge or awareness, acts expeditiously to remove, or disable access to, the material; (B) does not receive a financial benefit directly attributable to the infringing activity, in a case in which the service provider has the right and ability to control such activity;

[53] *Super Cassettes Industries Ltd*. v. *MySpace Inc*., IA No.15781/2008 & IA No. 3085/2009 in CS (OS) No.2682/2008 (Delhi H.C)

[54] Copyright Act, 1957, Section 51(a)(i): When Copyright Infringed.- Copyright in a work shall be deemed to be infringed- (a) when any person, without a licence granted by the owner of the copyright or the Registrar of Copyrights under this Act or in contravention of the conditions of a licence so granted or of any condition imposed by a competent authority under this Act- (i) does anything, the exclusive right to do which is by this Act conferred upon the owner of the copyright, or (ii) permits for profit any place to be used for the communication of the work to the public where such communication constitutes an infringement of the copyright in the work, unless he was not aware and had no reasonable ground for believing that such communication to the public would be an infringement of copyright;

[55] Ibid.

and share User Generated Content (UGC), including music, videos etc. The respondent Super Cassettes Industries Ltd filed a suit against *MySpace* alleging that users were sharing SCIL copyrighted works without authorization, in their website. The judgment passed in 2012 by a single bench of the court held that despite having no knowledge of infringement on the part of *MySpace*, they are still liable for copyright infringement. However, Judgment passed by division bench of the court on December 23, 2016 reversed the earlier judgment and held that in case of internet intermediaries, actual knowledge and not general awareness of the infringement is stipulated under Section 51(a)(ii) of the Copyright Act, 1957. This judgement consolidated the safe harbor immunity provided to intermediaries under Section 79 of the IT Act, 2000.

The Court was also of the view that Section 81 of the Information Technology Act, 2000 does not have overriding effect in respect of immunity provided to intermediaries under Section 79 of the IT Act, 2000, even in matters of copyrights.

Section 81 of the IT Act, 2000, contains overriding effect provision which provided that, "The provisions of this Act shall have effect notwithstanding anything inconsistent therewith contained in any other law for the time being in force."[56]

In *Firos* v. *State of Kerala case*,[57] the Kerala High Court discussed the effect of section 81 of the IT Act on Copyright Act, 1957. The Court held that the effect under the provision of section 81 does not apply to Copyright Act.

The Information Technology (Amendment) Act, 2008 brought amendment to the section 81 and provided that the provisions under the Act shall not restrict any rights conferred by Copyright Act or the Patents Act, 1970.[58]

The essence of copyright infringement is financial or economical gain out of the infringement activity. Internet service provider earn profit through advertisement, even

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[56] The Information Technology Act, 2000 (IT Act), Section 81: Act to have overriding effect.
[57] *Firos* v. *State of Kerala*, AIR 2006 Ker 279, 2006 (3) KLT 210, 2007 (34) PTC 98 Ker.
[58] The Information Technology (Amendment) Act, 2008, Section 81: …..provided that nothing contained in this Act shall restrict any person from exercising any right conferred under the Copyright Act, 1957 or the Patents Act, 1970.

though their services provide copyrighted material. Hence, they can be held liable for transmitting infringed material through their medium. Liability of service providers depends upon the deliberation of the court on case to case basis.

As per provision of section 51(a)(ii) of the Copyright Act, Copyright shall be deemed to be infringed in a work when any person without authorization from the right-holder permits any place to be used for the communication to the public for profit, unless he was not aware.[59] This provision of secondary infringement put some liability on the Internet Service provider.

Section 63 of the Act provides for criminal liability when any person abets or knowingly infringes copyrighted works. It provides for imprisonment of minimum of six months and extending up to three years and with a fine of not less than fifty thousand rupees extending up to three lakhs.

These provisions discusses the liability of Internet Service provider to some extend within the Copyright Act, 1957. Through judicial pronouncement and deliberation the safe harbor provisions of being not having knowledge or awareness of the infringement activity provides exception to the liability.

2.7 Aspect of Ownership of Copyright in Digital Space

2.7.1 Concept of Ownership in Copyright

The concept of ownership in copyright refers to the legal rights granted to the creator or author of an original work of expression such as literary work, artistic, song, photograph, painting, etc. The copyright owner has the exclusive right to use, distribute, reproduce, and display their work and to create derivative works. The creator of the work may also transfer

[59] Copyright Act, 1957, Section 51(a)(ii): When Copyright Infringed.- Copyright in a work shall be deemed to be infringed- (a) when any person, without a licence granted by the owner of the copyright or the Registrar of Copyrights under this Act or in contravention of the conditions of a licence so granted or of any condition imposed by a competent authority under this Act- (ii) permits for profit any place to be used for the communication of the work to the public where such communication constitutes an infringement of the copyright in the work, unless he was not aware and had no reasonable ground for believing that such communication to the public would be an infringement of copyright;

their ownership rights to another person or entity, such as a publisher, producer, or record label.

2.7.2 Challenges of Ownership of Copyright in Digital Domain

Ownership in copyright has become increasingly challenging in the digital space, mainly because of how easy it can be to reproduce, distribute, and share digital content online. Some of the challenges of ownership in copyright in the digital space include:

a. Piracy: Online piracy is a significant challenge for copyright owners in the digital space. Piracy involves the unauthorized copying and distribution of copyrighted works, which can lead to revenue loss for the owners.
b. Fair Use: Fair Use is a legal doctrine that allows individuals to use copyrighted material for specific purposes such as criticism, commentary, research, news reporting, or teaching. However, in the digital space, it can be challenging to determine what constitutes fair use, and copyright owners may struggle to enforce their rights.
c. Digital Technology: Technology has made it easier for users to manipulate and alter copyrighted works, and this can make it challenging for copyright owners to identify and track ownership rights.
d. Globalization: Digital content is distributed globally, and copyright laws can vary from country to country, making it difficult for copyright owners to enforce their rights in different jurisdictions.

The digital space has made it quite challenging for copyright owners to protect their ownership rights adequately. This has resulted in ongoing debates and legal battles over copyright infringement and the digital rights of creators and users.

2.8 Intellectual Freedom and Copyright Protection

Copyright law plays a pivotal role in balancing intellectual freedom and ownership rights. While copyright law shields the rights of owners to control the use and distribution of their creations, it also provides exceptions and limitations that allow individuals and society to enjoy their intellectual freedom.

Intellectual freedom refers to the freedom of an individual or a community to express as well as access information, ideas and opinions without restriction, fear of reprisal, or censorship. Ability to access information and freedom of expressions are fundamental principles that enable a healthy and democratic society to function properly.

Copyright law supports promotion of creativity and innovations through ways such as:

a. Public Domain: Copyright law uphold the public domain aspect, wherein collection of works are made available to the public that are no longer protected by copyright. It promotes social welfare as after a fixed tenure all Intellectual Property (IP) comes into public domain. The public domain allows individuals and organizations to access and use creative works freely, providing them with a wealth of information and knowledge.
b. Fair Use: Copyright law provides exceptions to ownership rights through the Fair Use doctrine. Fair Use allows individuals to use copyrighted materials without permission for specific purposes such as education, research, commentary, and criticism.
c. Creative Commons: Creative Commons is an organization that provides creators with an alternative licensing system that allows them to grant some rights to the public while retaining others. These licenses promote the sharing and use of creative works while respecting the copyright owner's rights.
d. Access: Copyright law grants libraries and educational institutions the right to make copies of copyrighted materials in certain circumstances. This makes it easy for students, researchers, and others to access and use copyrighted works for educational and research purposes.

Intellectual freedom and copyright in other words, are interrelated and support one another. The whole purpose of copyright law is to provide a balance between the rights of creators and society's right to access and use creative works. It is very important to protect both these rights so that to develop as an individual as well as a community we have access to ideas and information that will help humanity to develop and grow.

However, maintaining persisting balance between intellectual freedom and ownership rights in copyright is quite difficult and these are often in conflict with each other. The challenge arises when these two concepts conflict with each other. Copyright law grants exclusive rights to the creator of an original work to distribute, reproduce and display that work. These exclusive rights can limit intellectual freedom or act as a restriction to promotion of creativity and innovations. Without properly analyzing the fine line between protection of right holders and promotion of creativity and innovation can lead to killing and restriction of creativity as well as failure to grasps the threshold of originality. Unwarranted restrictive copyright protection can hinder promotion of innovation and creativity through Copyright limitation approach. It is important to distinguish between works that are sufficiently original to come under copyright protection and works that are not to warrant copyright protection.

2.9 Digital Economy - Information is power, information is economic growth. Creations of expressions amassed from the digital domain in the form of information is the fuel of Digital economy. It is used to create new outputs and services, make and analyze decisions, target prospects and consumers and much more.

Growth of the web and smart devices have led to an outpouring of intellectual digital content creation in the past decade or so. Intellectual creation has now come to include audio, video, text, images dramatic and artistic works. Social data includes information that users of social media shares publicly, such as name, user's location, gender, language spoken, interests, biographical data or shared links, etc. Every tweets from Twitter, posts on Facebook, contents on YouTube, pins on Pinterest etc., helps companies and advertisers to market, to capitalize on such information and to target users or content optimization.

The "United Nations Conference on Trade and Development" (UNCTAD) in its "Digital Economy Report 2021" stated that it is more important than ever to embark on a new path for digital governance. The current fragmented Intellectual Property (IP) landscape risks

us failing to capture value that could accrue from digital technologies and it may create more space for substantial harms related to breaches, infringements and other risks.[60] Intellectual creations are multidimensional, and their utilization has implication for not only the economic and trade development aspect but also the human rights aspects as well as peace and security. How intellectual creations are managed greatly affect our proficiency to achieve global good and development.

[60] United Nations Conference on Trade and Development, 1964, Digital Economy Report 2021 – the report calls for innovation approaches to governing data and data flows to ensure more equitable distribution of the gains from data flows while addressing risks and concerns. It examines the implications of growing cross-border data flows, especially for developing countries. It proposes to reframe and broaden the international policy debate with a view to building multilateral consensus.

CHAPTER 3

Ease of Infringement of Copyright in Digital Space: Challenges

3.1 Introduction

The ease of infringement of Copyright in digital space is a major concern in the current era of the digital technologies. The technological era has revolutionized the way we consume, create, and distribute contents. With the advancement of technology and the widespread availability of digital devices, it has become extremely easy to copy, to replicate, to manipulate, disseminate and distribute copyrighted material. Due to the relative ease of replication and dissemination of copyrighted works, it has caused strain in copyright protection.

Digital technology has made it possible to easily access and create digital copies of copyrighted works such as music, videos, images, text and books. These digital copies can be easily distributed through the internet which makes it difficult for copyright owners to protect their intellectual property.

Additionally, many internet users are not aware of copyright laws and may unintentionally infringe on copyrighted materials without realizing it. This is especially true with the rise of social media platforms, where users often upload and share copyrighted material without obtaining permission from the copyright owner. Moreover, pirates and copyright infringers have been able to use encrypted channels to distribute copyrighted content, making it difficult for copyright owners to track and take legal action.

This chapter will try to analyze major challenges confronting copyright protection in the digital environment, particularly the ease at which a copyright can be infringed with the advent of mediums such as the Social media platforms and the Internet.

3.2 Aspect of Copyright Infringement in Digital Space

Copyright Infringement in the Digital Domain can be largely attributed to the digital cultural norm of sharing, as well as the myth that follows that everything available on the Internet is free to use and share. The very conception of Internet has been to route around censorship. With the advent of digital social sharing giants such as the Social media

platforms, it has further aggravated the process of social connectivity perception of sharing. Unprecedented surge of new social trends brings along unforeseen legal consequences. This has cause a paradigm shift in the process of lawmaking and the policymaker and governing body need to constantly accommodate the changing trends of digital era.

Some notable challenges in the digital space confronting Copyright protection are as follows:

a) **Ease of reproduction of copyrighted material**

With rapid digitalization almost all forms of works are rendered in digital format. Unlike other formats, digital form of works are very easy to reproduce rapidly, at a very low or no cost. The quality of the work also remains the same. Each copy of the work accordingly can be further reproduced again and again without losing its quality. In this manner, millions of user's demands are met from a single copy of a digital work.[61] We are witnessing a monumental change from compact discs (CDs) in the 80s and 90's to making copies of the original digital contents in the CDs and the distribution of it on the computers to reproduction and distribution in the Internet in this era.[62] We are also witnessing a massive shift in the reproduction aspect of creative content, with the advent of non-human entity like AI.

b) Ease of dissemination; the sharing of copyrighted material

Another noteworthy aspect of digital technology is the manner in which digital form of work are disseminated and distributed rapidly with the emergence of global digital network. Digital networks can cause the dissemination of information from a single point to spread worldwide, further allowing each recipient on the network to partake in dissemination of the information, causing the work to go viral, within few minutes, around the globe.[63] The authenticity of the information disseminated seems menial in the era of global connectivity. This combined with the ease of duplicating a piece of information or reproducing digital work means that a single

[61] Marybeth Peters, *The Challenge of Copyright in the Digital Age*, 2006, Revista La Propiedad Inmaterial, Dialnet.

[62] Ibid,

[63] Albert Olu. Adetunji, Nosakhare Okuonghae Mr., *Challenges of Copyright Protection in the Digital Age: The Nigerian Perspective*, June 2022, DigitalCommons@University of Nebraska-Lincoln, Library Philosophy and Practice(e-journal), Libraries at University of Nebraska-Lincoln.

copy of a digital work can be multiplied millions of times by making copies of it and distributed within minutes across the world.[64] Thus, we are witnessing tremendous growth in the capacity of transmission of works, by the emergence of digital technology.

c) Ease of Storage; availability of compact and cheap device to store digital materials

Along with the accelerated pace at which the quantities of materials are increasing, the Digital storage is also getting denser and denser with each passing year. Now, we have the ability to store large quantity of materials within a small amount of space. The Digital storage devices are also getting cheaper and easily accessible. For instance, an entire collection of books in a library can be stored in a digital format within a personal computer in a folder, easily accessible to be used anytime, anywhere.[65] Now an entire collection of songs or sound recording can be stored in a device the size of a cigarette packet, like the portable IPod.[66]

3.3 Facets of Copyright in Digital era

3.3.1 Ever evolving forms of expression

The digital era has transformed the way we create and consume content, and it has also presented new challenges to traditional copyright laws. As society evolves to embrace new forms of expression, such as digital art, remixes, memes, and other forms of contents, it becomes important to ensure that copyright laws are updated to keep up with the times.

Subject-matter of copyright, has repeatedly incorporated new forms of authorship, over the decades such as electronic databases, cinematography and computer programs.[67] The need to identity the aspect that connects and maintain creative authorship that occupy copyright,

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[64] Marybeth Peters, *The Challenge of Copyright in the Digital Age*, 2006, Revista La Propiedad Inmaterial Dialnet.
[65] Marybeth Peters, *The Challenge of Copyright in the Digital Age*, 2006, Revista La Propiedad Inmaterial Dialnet.
[66] Albert Olu. Adetunji, Nosakhare Okuonghae Mr., *Challenges of Copyright Protection in the Digital Age: The Nigerian Perspective*, June 2022, DigitalCommons@University of Nebraska-Lincoln, Library Philosophy and Practice(e-journal), Libraries at University of Nebraska-Lincoln.
[67] Marybeth Peters, *The Challenge of Copyright in the Digital Age*, 2006, Dialnet

has been the matter of contention for policy-makers in the digital era. It has been aggravated in the age of non-human entity like AI, where the definition of authorship is likely to be much complicated and muddled.

The need of the hour s to understand the transformative nature of new forms and medium of expression, and provide a balance between the rights of creators and users.

Embracing new forms of expression in copyright in the digital era will require a multifaceted approach that takes into account the needs of creators, users, and the broader society. By acknowledging the transformative nature of digital creativity and finding ways to balance the competing interests of all stakeholders, it can be ensured that copyright laws continue to promote creativity and innovation in the digital age.

3.3.2 Maintaining and protecting the fabric of Exclusive Rights

A vital tenet of the Copyright system is the granting of exclusive rights to the authors and right-holders to use, reproduce, and distribute their creative works, allowing them to retain their economic and moral interests in the work. This entitlement of exclusive rights to the authors promotes creativity and incentivizes the authors which in turn encourages them to engage in future endeavor of artistic and literary creativity.

As the mode of copyright violation and exploitation is expanding due to technological advancement in the digital era, the focus is on governing body to reexamine the exclusive rights granted to the right-holders. Along with this, policy-makers also has to take into account of the nature and scope of exemptions from such entitlement of exclusive rights.

3.3.3 Illicit Competition[68]

The advent of advanced technology has revolutionized the way we reproduce, distribute, and store digital materials including works that are copyrighted. The technological revolution is a baffling conundrum for authors and right-holders of creative works. The technological development has helped authors and right-holders to use technologies to disseminate and distribute their works to consumers and users easily and rapidly. However, technology has also abetted unauthorized use of copyrighted materials by infringers. In the

[68] Marybeth Peters, *The Challenge of Copyright in the Digital Age*, 2006, Dialnet.

Digital era, the challenges of Copyright laws is to sustain and encourage the author's impetus to create new creative works and to go hand in hand with ever evolving technological changes. The authors are facing a huge competitive threat from copyright infringers, who make illicit use of technology to disseminate or share copyrighted works without any form of consideration or restraint.[69] Everything in the Internet is free for them to use and distribute.

3.4 Some modes of Copyright violation in the Digital space

a. Unauthorized downloads: We can now download thousands of e-books, songs, pictures, and videos from the Internet. The issue arises when we download without any permission, acknowledgement or license. Downloading and sharing copyrighted movies, music, books, or software, using torrent sites or file-sharing sites that offer access to copyrighted material without the permission of the copyright holder, or through peer-to-peer (P2P) file-sharing networks are examples of unauthorized downloads.

   However, it is pertinent to note that not all downloads are illegal and lead to Copyright infringement. Some content creators may publish their materials for free under a creative commons license, or may make the material available for a fee through legitimate channels. However, it is essential to properly check and verify the legitimacy of a download and make sure that such downloading and sharing is not a violation of copyright beforehand, and hence avoid legal consequences. It is essential to acknowledge and appreciate the value of Intellectual property creations and respect the rights of copyright holders.

b. Plagiarism: The University of Oxford defines Plagiarism as, "Presenting work or ideas from another source as your own, with or without consent of the original author, by incorporating it into your work without full acknowledgement".[70] Plagiarism can occur in any form of content, whether in printed or electronic form

[69] ibid,
[70] University of Oxford, Plagiarism

including articles, books, journals, student's essays, computer code,[71] videos, and images. Re-using our own work without proper citation can also attract Plagiarism.

c. Piracy: This is the unauthorized use, dissemination and reproduction of copyrighted material, including books, videos, music, recordings movies, games and computer software.[72] Online piracy is usually done through peer-to-peer (P2P) networks or torrent sites[73] and this leads to significant financial losses for the original creators.
d. Unauthorized usage and sharing of personal contents in the social digital platform: This can include the unauthorized distribution and sharing of personal photos, blogs, contents or videos and can be a violation of privacy and copyright.
e. Infringement by user-generated content: Many social platforms allow users to create and publish content. User-generated content (UGC) is generally unpaid published information contributed by a user to a website.[74] Users may use copyrighted contents and music in their work and infringe on copyrighted material of others unknowingly or without authorization or permission.
f. Reposting copyrighted works on the internet or the social media.
g. Hot-linking: It allows a user to link to a file that is hosted on another website through previous site. Hosting of contents such as images, files and movies from another site without authorization and for financial gain attract consequences.

3.5 Measures against Copyright Infringement

Some of the technological counter measures to safeguard and ensure that the rights and interest of the authors are protected are;

i. **Blockchain Technology**: It is a distributed ledger technology (DLT) that records digital works unaltered through the use of a decentralized network. Through it a person can trace and verify the history and source of the content.[75]
ii. **Digital Watermarks**: It a kind of preventive mechanism by covertly embedding or engraving digital information such as signature or special mark of the author of the

[71] ibid,
[72] Dictionary.com, Thesaurus.com
[73] Panda Security, What is Software Piracy?, 2019
[74] Kinza Yasar, Rachel Lebeaux, *What is user-generated content and why is it important*, TechTarget
[75] Albert Olu. Adetunji, *Challenges of Copyright Protection in the Digital Age: The Nigerian Perspective*, (2022) Library Philosophy and Practical (e-journal), DigitalCommons University of Nebraska - Lincoln

work, to prevent illegal duplication and to identify the ownership or the copyright, by such mark or sign. It shows the authenticity and identity of the owners. It is a very efficient way to track the work and prevent copyright infringement.

iii. **Access Control**: It is a kind of software that prevents unauthorized or illegal use or access to copyrighted works. Circumventing of this copyright control may attract civil and criminal liability.[76]

iv. **Copy Control**: It is a measure to prevent unauthorized reproduction by controlling acts of illegal copying.

Other measures such as Cryptography, Authentication, digital certificates, digital signatures, and enabling passwords, protects copyrighted content on the digital domain from illegal copying, unauthorized usage and access.

3.6 Internet as a mechanism for easy Infringement of Copyright

The technological evolution in tandem with the Internet has fundamentally altered the understanding of Intellectual Property rights amongst the present generation, who finds it much easier to infringe on iteration of copyright laws. The unregulated and unlimited flow of information and materials over the global network of connectivity results in mutation and misconception of property rights. This has led to correlation of stealing with sharing.[77] The Internet has altogether revolutionized the way we communicate and perceive global connection today, including the way people shop, conduct business or personal dealings, such as booking hotels around the world, buying airline tickets, and obtaining direction of places.[78] Grasps of rules and moral notions that binds human race in the real world is slowly and gradually disintegrating in the virtual world.

3.6.1 Internet

The Internet was visualized out of the ambition to revolutionize communication system that could remain unaffected by a nuclear war.[79] The architecture of the Internet therefore

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[76] Digital Millennium Copyright Act (DMCA) 17 U.S.C. S 1201(a)(1)(A), 1201(a)(2)

[77] Fredrick Oduol Oduor, *The Internet and Copyright Protection: Are We Producing a Global Generation of Copyright Criminals*, 2011, Volume 18, Issue 2, Villanova University Charles Widger School of Law Digital Repository.

[78] ibid.

[79] Cade Metz, *Paul Baran, the link between nuclear war and the internet*, 2012, Wired UK,

relied on distributed and decentralized structure of information flow that can avoid system blockages or failures. The logic behind its conceptualization has been interpreted as to evade censorship and route around it.[80] The present generation is thriving on this perception of global connectivity. This interpretation of Internet has led to a clash with established laws, such as copyright laws.

The ARPnet, the forerunner of Internet debuted in the late 1960s as a project of the ARPA[81]. It was initially designed as a communication network that would provide military researchers and personnel with a decentralized computer network to share information and resources, to withstand a nuclear war.[82]

The ARPANET, came online in 1969. It employed "packet-switching" method of information transmission.[83] "Packet switching" dissemination of information method allowed continued transmission of data even if one computer collapsed on the network, as they would be transmitted through an alternative route.[84]

Its development marked an important step towards a decentralized network where information could flow freely. Throughout the 1970s, the ARPAnet continued to expand, soon favored by more university scientists and government agencies, who understood its relevance and advantage as an efficient communication tool. In 1983, the ARPANET systematically transitioned to using the TCP/IP protocol, which allowed it to communicate with other networks. In 1989, researchers at "European Organization for Nuclear Research" (CERN), Particle Physics Laboratory, introduced HTTP ("Hypertext Transfer Protocol") which enabled varied types of content to be displayed on a single web pages. A significant development occurred with the inception of "Hypertext Markup Language"

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[80] Fredrick Oduol Oduor, *The Internet and Copyright Protection: Are We Producing a Global Generation of Copyright Criminals*, 2011, Volume 18, Issue 2, Villanova University Charles Widger School of Law Digital Repository.

[81] United States Department of Defense's Advance Research Project Administration (ARPA)

[82] A, Terett, *A lawyers Introduction to the Internet online*, University of Edinburgh School Of Law , 2000.

[83] Alex Colangelo, *Copyright Infringement in the Internet Era: The Challenge of MP3s*, -"the network employed a method of information transmission dubbed "packet-switching" that divided transmissions into separate pieces of data called "packets", which were each assigned the address of their final destination. The packets would then be sent independently through the network using the fastest available route and would be reassembled at the final destination. This allowed the transmission of data to continue even if a computer on the network failed, as the packets would simply travel through an alternate path.

[84] Ibid.

("HTML"). It led to the inception of Internet "browsers" capable of surfing and displaying of web pages graphically. The 1990s saw the rise of the World Wide Web, which was developed by Tim Berners-Lee at CERN. The web allowed users to access and share information through a Graphic User Interface, leading to a surge in Internet usage. Since then, the Internet has continued to grow and evolve, with increasing speeds and capabilities. It has become an essential part of modern life, connecting people and businesses from all corners of the world. The Internet has been a double-edged sword for copyright owners, providing them with incredible opportunities to disseminate their works and reach global audiences on an unprecedented scale, while also creating new challenges in terms of piracy and copyright infringement.

The advent of new technologies have made it possible for the ordinary computer user to evade copyright laws easily without being detected. Though piracy in copyrighted works is not a new phenomenon, causing complications in Intellectual Property Protection domain, the advent of new technologies has considerably amplified, the ease with which infringement can occur in the copyright domain. Moreover, the advent of Internet has further intensified the process of copyright infringement.

3.6.2 Modes of Infringement and the Internet

The Internet is perceived as the ultimate threat of Copyright holders and authors, because of the peculiar nature of Internet. Infringement on the Internet is very hard to determine, in contrary to physical medium. Ignorance and intentional infringement conundrum is predominant in the virtual world.it is very hard to determine whether copying of a work available on the Internet is leading to infringement of the original work.
Some aspects of Copyright infringement on the Internet are as follows;

1. Plagiarism

It is an act of appropriating or stealing of Intellectual creative works, of another, and passing it off as one's own. For instance, copying words of another author while writing a research paper, without any acknowledgement or citation. Quoting and giving credit to the original source, or paraphrasing to a limited amount, allows an individual to use other's Intellectual creation in his own work.

2. Linking

Linking is a process whereby, a user from the original site get access to the site of another website by clicking on the link provided in the original site. The user does not have to get separate access by typing URL ("The Universal Resource Locator") of the other website. Linking has been favored historically for research purposes, as it provide ease to the user. Deep linking, in-line linking and Surface linking are types of linking.

Surface linking: In surface linking, a user can access the homepage of another site by clicking the link provided in the original site.

Deep linking: In deep linking, a user can access 'inner pages' of another website by clicking the link provided in the original site without accessing the homepage of the linked website. Bypassing the homepage and accessing inner materials amount to Copyright infringement as was held in "***Shetland* v. *Zet News*** case",[85] Lord Hamilton noted that inner materials of the plantiff which are substantive in nature could only be procured by accessing the plaintiff's website through their homepage.

The revenues and reputation generated by visiting sites and through advertisements is defeated when deep linking allows to bypass homepage of the websites ("*Ticket Master Corporation* v. *Microsoft Corporation*," 1997)[86]

***In-line linking*:** In-line linking is usually an image source links. Here the user can view an image from another website from the original site, provided by the in-line link. In the case of "*Arriba Soft Corp*",[87]the plaintiff, a photographer sued the defendant who operated a visual search engine. The plaintiff's work was used by the defendant without his prior permission and put in the search engine as thumbnails, which could be accessed free of cost by any user. The defendant argued that, putting the photographs in the data base of the search engine operated as visual search engine, and to capitalize on it. The Fair Use defense was upheld in the case.

3. Framing

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[85] *Shetland Times Ltd* v. *Dr Jonathan Wills and Zet News Ltd*, (1997) FSR 604, 1997 SLT 669.
[86] *Ticket Master Corporation* v. *Microsoft Corporation*, (97-3055(DDP) C.D. Cal. 1997).
[87] *Kelly* v.. *Arriba Soft Corp*., No. SA CV 99-560 GLT (JW 1999) US.

The phenomenon of framing is relatively new. Here the framing site can link to another website and display that site's content in the framing site within a frame or window. The user henceforth, can view the contents from both the sites while remaining in the original framing site. Thus, one website incorporates contents from another website as its own within a frame, while users remain ignorant of the incorporation of contents from another website.

A notable case that challenged framing of websites is the case of the ***Washington Post*** case (1997).[88]In this case the defendant framed the content of the plaintiff in such a way that it appeared to be defendant's content. Liability for copyright infringement in case of framing, which is simply deemed to be a method of display, was the matter of contention in the case. However, framing implicate trademark concerns as display of the address of the framing site, confuse users as to the source and origin.[89]

4. Archiving

In the case of archiving, materials of another website are downloaded and stored in the original site. In the above method of framing and linking, materials are accessed from another website through links, creating channel between the two. Materials of the other sites are not stored or downloaded, however, in archiving materials are stored in the website. Archiving of copyrighted materials without the permission of the copyright holders amounts to copyright infringement.

3.6.3 Copyright Protection and Defenses

The rapid spread of digital technologies and the Internet has made it easier to create, copy, and distribute works in ways that infringe on copyright. Digital files can be easily replicated, altered, and shared with minimal cost and effort, and this has made it very challenging for copyright owners to protect their works and enforce their rights.

The ease of infringing copyright on the Internet has led to the growth of piracy and illegal file-sharing, which has significantly affected industries such as music, film, software, and publishing. Pirate sites and networks have made it possible for anyone to access and

[88] *Washington Post Co* v *Total News Inc*, No 97 Civ 1190 (PKL) (SDNY 1997)
[89] Maureen A. O'Rourke, *Fencing Cyberspace: Drawing Borders in a Virtual World*, D-Lib Magazine.

download copyrighted material for free, and this has resulted in significant economic losses for copyright owners.

To tackle the issue of copyright infringement on the Internet, laws and regulations have been introduced around the world, which include legal mechanisms and technical measures to protect works from piracy. These include "Digital Millennium Copyright Act" (DMCA) in the US, the EU's Copyright Directive, and the "Copyright (Online Infringement) Amendment Act", 2015, in Australia. At the same time, technology companies have developed ways to limit piracy, such as DRM systems and watermarking, while also developing legal ways for users to access and use copyrighted material through licensed streaming services and downloads.

Despite these efforts, copyright infringement remains a significant challenge on the Internet, and it requires a concerted effort among all stakeholders to address the issue and create a sustainable and fair digital ecosystem that protects both creators and consumers.

3.7 Social media as a breeding ground for Copyright Infringement

The perception of the world is changing. People are getting more and more invested in the virtual world instead of the real world to escape reality and find human connection and entertainment in the virtual world. Social media has emerged as one of the main medium of communication to the public.

Platforms such as Facebook, Instagram, Youtube, Twitter, WeChat, Linkedln, Pinterest, Tumblr, Tiktok and many others has become a part of people way of life.it has transformed the way people communicate, interact with each other online and share information.
This has impacted immensely on the established laws especially copyright laws. Unprecedented new surge of social trends brings unforeseen legal consequences, which is getting hard to keep up with, without proper analysis of the changing and emerging perception of the digital era.

3.7.1 Social media

'Social media' refers to electronic interactive communication websites and applications that enables users to create and share information, ideas, contents, text, multimedia,

interests and other forms of expressions in virtual networks and communities. Social media is centered on interactive communication, collaboration, content creation and sharing and community-based input.[90]

In the 1960s, the PLATO system[91] offered some early features of social media, with innovations such as online chat room (Talkomatic), instant-messaging (TERM-talk), online newspaper (News Report), blog and Notes. With the coming of ARPANET in 1967, and later evolving into the Internet, further adding of World Wide Web (www) to the Internet (1990s), message forums drifted to the web, becoming Internet forums, commencing modern era of networked communication. With the advent of Web 2.0 online services drifted from networked communication to interactive networked social interaction. In the mid-1990s to early 2000s, Social media platforms started to emerge like SixDegrees.com,[92] GeoCities (personal homepage service), Friendster, MySpace, and Linkedln, with ability to create a profile and connect with other. It was followed in the 2000s by Web 2.0 Social media giants such as Facebook, Youtube, and Twitter that provided users with more functionality, including sharing media, commenting on posts, and the ability to create a wider social network. With the widespread adoption of smartphones, media shifted to mobile. Social media marketing also gained traction as businesses realized the value of engaging with customers on social media. The present era of social media is characterized by integration with other platforms and services and the increasing popularity of live-streaming. Social media has also become an essential part od the news cycle, with social media platforms being the primary source for breaking news and reporting.

India is a lucrative destination for social media with a population of over 1.4 billion[93] and economic growth of above 5 percent. India is considered as one of the fastest growing markets in the world. With more and more access to Internet and mobile devices, India has

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[90] Ben Lutkevich, Ivy Wigmore, *Social Media*, techtarget.

[91] PLATO (Programmed Logic for Automatic Teaching Operations), also known as Project Plato, was the first generalized "computer-assisted instruction system."

[92] sixDegrees.com – it was considered to be the first only service designed for real people to connect using their actual names. It boasted features like profiles, friends lists, and school affiliations, making it "the very first social networking site" according to CBS News. – source wikipedia

[93] 1.4286 billion, Data released by the United Nations Population Fund (UNFPA).

reached amongst the top users of social media. Web-surfing patterns are also changing gradually with the advent of smartphones. Social media has caused a paradigm shift in the marketing tools with avenues and advertisements being no longer limited to TV or in the print media. The brand endorsement patterns are changed to accommodate endorsement by personalities or influencers with most followers in the social media mediums such as Instagram, Twitter etc.

3.7.2 Social media and Intellectual Property(IP)

Enforcement of Intellectual Property (IP) laws in a borderless virtual world is one of the biggest challenges in the Intellectual Property (IP) sphere. Under the Copyright Act, 1957, Copyright infringement in a work occurs when the exclusive rights preserved for the copyright holder is violated.[94] The nature and extend of infringement in the cyberspace is much more intense and different than real world. The role of intermediaries such as internet service providers, search engines, and web-hosts are in the limelight with increased issues of copyright piracy and fake accounts. To establish jurisdiction in a borderless virtual world is the first task. Under Section 62(2) of the Copyright Act,[95] preference of court is usually determined on the premise of where the plaintiff resides and where the plaintiff carries on its business.[96]

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[94] CA Brijesh and Anukriti Pareek, *Social media and IP infringement in India: preparing for action*, World Trademark Review, 2014.

[95] Copyright Act, 1957, Section 62(2): For the purpose of sub-section (1), a "district court having jurisdiction" shall, notwithstanding anything contained in the Code of Civil Procedure, 1908 (5 of 1908) or any other law for the time being in force, include a district court within the local limits of whose jurisdiction, at the time of the institution of the suit or other proceeding, the person instituting the suit or other proceeding or, where there are more than one such persons, any of them actually and voluntarily resides or carries on business or personally works for gain.

[96] Code of Civil Procedure, 1908, section 20: .. every suit shall be instituted in a Court within the local limits of whose jurisdiction

a. The defendant, or each of the defendants where there are more than one, at the time of the commencement of the suit, actually and voluntarily resides, or carries on business, or personally works for gain; or
b. Any of the defendants, where there are more than one, at the time of the commencement of the suit, actually abd voluntarily resides, or carries on business, or personally works for gain, provided that in such case either the leave of the Court is given, or the defendants who do not reside, or carry on business, or personally works for gain, as aforesaid, acquiesce in such institution; or
c. The cause of action, wholly or in part, arises.

In the ***Super Cassettes***[97] case, 2011, the Delhi High Court held that rights of copyright holders and patent holders cannot be override and restricted by any provisions of IT Act (Sections 79 and section 81) as such.

Copyright infringement in social media is a growing issue that has presented several challenges. Some of them are as follows:

Ease of sharing:

One of the predominant challenges of copyright infringement in social media is the ease with which content can be shared. Social media giants in the present era such as Twitter, Facebook, and Instagram make it easy for users to upload and share content, including tweets, images, videos, contents and text, without proper attribution or permission from the copyright holders. One of the biggest myth is that everything available in the social media is free. We usually post and share photos or videos that we find inspirational, educational, funny or beautiful on the Internet without much thought. Whether this sharing and posting of materials on the social media amounts to copyright infringement is plagued with lack of awareness and muddled answers. These issues highlights the interface between Intellectual Property (IP) laws, particularly the Copyright laws and social media in the digital age as well as how these issues has become a prominent concern for not only law and lawmakers but also the consumers, intermediaries and business owners.

Sharing of contents has become more and more eminent, with increasing number of availability of sharing apps and platforms. Let alone these social sharing platforms are providing the faculty to save and share or re-post other people's content. This facilities tend to make people more and more unaware of the possibility of legal implications that might occur while sharing other people's content at the click of a button. Each social media platforms have different sets of rules and terms and conditions which the users usually find it very monotonous and bypass without understanding and reading each platform's Terms of Service.

Content sharing is considered as the lifeline of most of the social media platforms. Over billions of people are using social media and are sharing and posting contents. Therefore it

[97] *Super Cassettes Industries Ltd (SCIL) v MySpace*, 2011.

has become a matter of contention for the courts and lawmakers to determine the fine line between protection of creative contents on the social media while still promoting creativity and innovations. More and more intellectual property holders are realizing the importance of the protection available to them for their creative works and are enforcing their rights. It also raises concerns as to how putting more restrictions and fear of facing legal consequence may lead to restriction of creativity and innovations. The very purpose of Copyright laws is to protect the rights of copyright holders as well as to promote creativity and innovations. Hence the maintaining of the balance between these two has always been the matter of contention for policy makers. We are facing dearth of cases involving social media related copyright, which can provide precedent guidance, in the face of uncertainty we are currently operating.

Instant sharing facility provided by the platforms often discard the contemplating process of pondering and questioning the contents of such materials before it gets posted or shared. The users often forget to review whether such contents are copyrighted or they can share such content under fair use content.

Implications

With the emerging cultural norm of 'sharing' and various social platforms making is much easier to access limitless displays of materials from multimedia to ideas, it has become quite easy to appropriate someone else's work and make it your own. It raises the question as to "how free is free" on the social media. The line between original ownership of creative intellectual creation, distribution and duplication has been blurred. However contrary to popular assumption, one cannot just take someone else's contents from the internet and make it their own, free to use and distribute. It actually lead to copyright abuse, and the infringers may be held liable for damages.

When we sign up in social media platforms by agreeing to the platforms terms and conditions, we give away a worldwide, royalty fee license[98] or legal permission to that site

[98] The Twitter Terms of Service states that: You retain your rights to any Content you submit, post or display on or through the Services. By submitting, posting or displaying Content on or through the Services, you grant us a worldwide, non-exclusive, royalty-free license (with the right to sublicense) to use, copy, reproduce, process, adapt, modify, publish, transmit, display and distribute such content in any and all media or distribution methods (now known or later developed).

to use our work or content. The Facebook terms of service state that the Facebook user retain the rights of all the content and information posted or displayed on Facebook. And contents that are protected by Intellectual Property (IP) rights, by posting and displaying on the site we give away "non-exclusive, transferable, sub-licensable, royalty-free, worldwide license to use any IP content that you post on or in connection with Facebook (IP License)." The site does not get ownership over the content posted in the site, the owner still retain the intellectual property rights. The user holds liability and all intellectual property rights over the content posted. So for any infringement claim the user is held liable, brought by an original author. Though it is not right to say that social media providers are completely off the hook, they are however protecting their interest more and more.

Not all sharing are infringement

Many materials available on the Internet are free to use, explicitly stating they're in the public domain. For example, free stock photo and video libraries, copyright-free images, and some Creative Commons licenses contents.[99]However, they may come with some limitations for commercial gain and such.

Moreover sharing of self- made contents and use of contents falling under fair use does not amount to infringement. The law provide some exceptions to copyright infringement. In the ***DU Photocopy*** case,[100] it was observed that extend of the material used is of no concern if it is for the purpose of supporting education and hence, it does not attract copyright infringement.

Fair Use

Fair dealing is legalized transgression of copyrighted work. It is a limitation on rights of copyright owner. The term fair dealing has not been defined in the Indian Copyright Act, 1957, however the courts have often attempted to shed light on the ambit of fair dealing.

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[99] Deepa Shrivastava, *Issues of Copyright in use of Social Media Tools and Applications: A New Challenge,* Volume 8, Issue 9 September 2020, International Journal of Creative Research Thoughts (IJCRT).

[100] The Chancellor, Masters and Scholars of the University of Oxford and Others v. Rameshwari Photocopy Services and Others, CS(OS) 2439/2012.. the Court stated that "*In the context of teaching and use of copyrighted material, the fairness in the use can be determined on the touchstone of 'extent justified by the purpose'. In other words, the utilization of the copyrighted work would be a fair use to the extent justified for purpose of education*.

The cardinal purpose backing this doctrine of fair dealing is to restrain the stagnation of growth and creativity.

In India, Section 52 of the Copyright Act, 1957 elaborately incorporates the defense of fair dealing, borrowed extensively from UK Copyright Law. Looking at the ever growing need of the Digital Age, India had tried to incorporate the technical electronic process to meet the changing times. Section 52 of The Copyright Act, 1957 lists certain acts which do not constitute as infringement of copyright.

a) For the purpose of review or criticism of work, private or personal use of work including research, and reporting of current events. [section 52(1)(a)][101]
b) Publication of work (published literary or dramatic works) in a collection, composing of non-copyright matter, intended for instruction use. [section 52(1)(h)][102]
c) Storing by a public library (non-commercial) of work in any electronic medium. [section 52(1)(n)][103]
d) Publishing or making a drawing, a painting, or a photograph of a sculpture, if such work is in a public premise. [section 52(1)(t)][104]

[101] Copyright Act, 1957, Section 52(1)(a) :The following acts shall not constitute an infringement of copyright, namely,-
(a) a fair dealing with any work, not being a computer programme, for the purpose of –
(i) private or personal use, including research;
(ii) criticism or review, whether of that work or of any other work;
(iii)the reporting of current events and current affairs, including the reporting of a lecture delivered in public;

[102] Copyright Act, 1957, Section 52(1)(h): the publication in a collection, mainly composed of non-copyright matter, *bona fide* intended for instruction use, and so described in the title and in any advertisement issued by or on behalf of the publisher, of short passages from published literary or dramatic works, not themselves published for such use in which copyright subsists

[103] Copyright Act, 1957, Section 52(1)(n): the storing of a work in any medium by electronic means by a non-commercial public library, for preservation if the library already possesses a non-digital copy of the work;

[104] Copyright Act, 1957, Section 52(1)(t): the making or publishing of a painting, drawing, engraving or photograph of a sculpture, or other artistic work falling under sub-clause (iii) of clause (c) of section 2, if such work is permanently situate in a public place or any premises to which the public has access;

e) Inclusion of artistic work in a cinematograph film, provided such work are situated in public places, or such inclusion is by way of background. [section 52(1)(u)][105] etc[106]

3.8 Difficulty in identifying Copyright Infringement

With the vast amount of content on social media, and the digital cultural norm of sharing, it can be quite challenging for copyright holders to identify and monitor every instances of infringement. This is aggravated by the fact that many users modify and manipulate the content and add their own captions, making it more difficult to detect instances of infringement.

Many original authors or creative content creator may relish their work being posted and shared in hope of getting their work increased exposer and increased sales. They have the convenience to choose when to strike infringement claims. The protection of Intellectual Property (IP) confer upon the holder of the right to file complaint, file lawsuits, seek compensation, or takedown contents etc.

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[105] Copyright Act, 1957, Section 52(1)(u): the inclusion in a cinematograph film of – (i) any artistic work permanently situate in a public place or any premises to which the public has access; or (ii) any other artistic work, if such inclusion is only by way of background or is otherwise incidental to the principal matters represented in the film;

[106] Some other provisions: (1) Temporary storing of work or performance technically required in the process of electronic communication to the public. [Section52 (1) (b)];
(2) Incidental or temporary storing of performance or work for providing electronic links, integration or access, which are not expressly prohibited by the right holder. [section 52(1)(c)];
(3) Section 52(1)(d): the reproduction of any work for the purpose of a judicial proceeding or for the purpose of a report of a judicial proceeding;
(4) Section 52(1)(i): the reproduction of any work- (i) by a teacher or a pupil in the course of instruction; or (ii) as part of the question to be answered in an examination; or (iii) in answers to such questions;
(5) Section 52(1)(j); the performance, in the course of the activities of an educational institution, of a literary, dramatic or musical work by the staff and students of the institution, or of a cinematograph film or a sound recording if the audience is limited to such staff and students, the parents and guardians of the students and persons connected with the activities of the institution or the communication to such an audience of a cinematograph film or sound recording;
(6) Section 52(1)(m): the reproduction in a newspaper, magazine or other periodical of an article on current economic, political, social or religious topics, unless the author of such article has expressly reserved to himself the right of such reproduction;
(7) Section 52(1)(t): the making or publishing of a painting, drawing, engraving or photograph of a sculpture, or other artistic work falling under sub-clause (iii) of clause (c) of section 2, if such work is permanently situate in a public place or any premises to which the public has access.

Some social media platforms use automated content detection systems to detect copyright infringement. However, these systems are not always accurate and can flag content that is not infringing, leading to false positives.

3.8.1 Lack of awareness and knowledge about Copyright laws

Many social media users are not familiar with copyright laws, making them unaware of the legal consequences of sharing copyrighted content without permission. This results in widespread infringement that often goes unreported. Content creators are also unaware of their rights as to their intangible assets, hence suffering significant losses. It becomes very important for original authors and content creators to be vigilant and keep track of any violations or possible infringements and stay updated on Intellectual Property laws changes. This will maintain the balance of protecting the rights of the holders and incentivizing them as well as promoting intellectual creativity and innovations.

3.8.2 Limited enforcement capability

It is quite impossible to monitor each and every infringement on the global digital social platform. While social media companies have policies in place to address copyright infringement, they don't have the adequate resources to monitor every instance of infringement. Additionally, infringing users are scattered all across the globe and may not be located in the same jurisdiction as the copyright owner, making it difficult to enforce copyright laws.

Conclusion

Since the inception of social media, a plethora of web-based social sharing platforms emerged with the digital cultural norm of sharing. Today more than half of the world's population is under its grip. The intensity of social media and humanity integration is likely to further increase in the coming age with the advancement of digital technology. This will further increase and aggravate Intellectual Property (IP) disputes relating to social media. Many countries like Germany, US, and the European Union, have already hitherto started implementing rules and guidelines to safeguard their citizens' interests, particularly their privacy and Intellectual Property Rights (IPRs). But India's standing on social media

disputes issues and the issues of ownership rights is still not clear and is riddled with confusion.

CHAPTER 4

Copyright Protection Framework in the Digital Domain: National and International Perspective

4.1 Legislation scenario in the Digital realm: Introduction

The advent of the Digital Age, powered by the Internet and cutting edged advanced technologies, has re-shaped the global Intellectual Property (IP) landscape. Digitalization of almost all intellectual creations such as music, literary, and artistic works in tandem with Internet networking as well as advent of new medium of computer-generated works like the works generated by AI have amplified and expanded the ease with which infringement can occur in the digital environment. This ease of infringement in the digital domain has been greatly contributed by the general myth that exist that everything available on the Internet is free as well as the digital cultural norm of sharing. New technologies has made it possible to avoid infringement detection and to effortlessly bypass intellectual property rights by an average computer user. This has greatly affected the rights of legitimate right-holders. This calls for stronger legislations to adequately protect right-holders from widespread infringement.

This chapter will try to analyze different legal framework regarding preservation of copyright in the digital sphere, in view of Indian legislation along with the International standpoint and obligations.

4.2 Copyright laws in Digital era: Indian Perspective

There is a stack of Copyright issues in digital era, mostly related to sharing of intellectual content. Digitalization has greatly facilitated free flow and transmission of information, fast and easy way of communication, convenience and accessibility. Access to internet has challenged the rights of copyright owners in protecting their work in a digital platform since infringing copyright holders' rights has become an easy task and rapid. Though the Copyright laws in India has provided some sort of restrictions and protections it is not enough to meet the current ever growing challenges of fast pace digital era. The matter as to how the copyright law can regulate, protect or monitor materials on the internet remains

a point of contention, as the current copyright law lacks the competency to control and restrict the susceptibility of online materials in databases in a number of ways.

The Indian Copyright Act, 1957 as amended by Copyright (Amendment) Act, 2012, to meet national as well as international requirement, try to address and overcome the challenges put forth by the futuristic high-tech and the Internet and to go beyond the challenges to settle the issues concerning copyright infringement in the digital domain. The amendment was effected to make Indian Copyright Law compliant with the WIPO's two "Internet Treaties", that is, WCT[107], and WPPT.[108] The amendment law try to secure a coherence between initiating technological protection initiatives along with ensuring that fair use does not get diminished in the light of digital era by furnishing certain fair use provisions. The 2012 amendment has made many favorable conditions for authors, significant provisions for the disabled, amendments to refine and simplify copyright administration and facilitate avenues to works.[109]

Some of the significant amendments introduced through Copyright Amendment Act, 2012 are:

Exclusive rights in Artistic work, Cinematograph films, and sound recording:

1) Section 14 of the Copyright Act relating to the exclusive right of a copyright holder in respect of a work, has been amended. In the case of a literary, dramatic or musical work, the exclusive right to reproduce the work in any material already includes "the storing of it in any medium by electronic means;"[110] the Amendment Act has now extended this exclusive right in the case of an artistic work,[111] cinematographic

[107] WIPO Copyright Treaty, (WCT), 1996

[108] WIPO Performances and Phonograms Treaty (WPPT), 1996

Abhai Pandey, *Inside Views: Development in Indian IP Law: The Copyright (Amendment) Act 2012*, Intellectual Property Watch.

[109] ibid

[110] Copyright Act, 1957, Section 14(a)(i): For the purposes of this Act, copyright means the exclusive right subject to the provisions of this Act, to do or authorize the doing of any of the following acts in respect of a work or any substantial part thereof, namely- (a) in the case of a literary, dramatic or musical work, not being a computer programme,- (i) to reproduce the work in any material form including the storing of it in any medium by electronic means.

[111] Copyright Act, 1957. Section 14(c)(i)(A): …in the case of an artistic work,- (i) to reproduce the work in any material form including- (A) the storing of it in any medium by electronic or other means;

film,[112] and sound recording.[113] The provisions for right to store work has significant implications in a digital environment.

2) "Commercial Rental" provisions in cinematograph film [114] and sound recording.[115] In relation to a computer programme, it is provided under section 14(b)(ii)[116] (1999 Amendment Act).

   Article 11 of the "Agreement on Trade-Related Aspects of Intellectual Property Rights" (TRIPS), Article 7 of WCT, Article 9 of WPPT, provides for Rental Rights of Computer programs and Cinematographic works. In compliance with it, under section 14 of the Indian Copyright Act, the "Commercial Rental" was introduced in Cinematograph film and sound recording. The amendment replaced the word 'hire' with 'commercial rental', primarily to curtail the likelihood of including non-commercial hire in the term 'hire'[117]

   Insertion of the definition of the term "commercial rental" provided under Section 2(fa)[118] clarifies the non-applicability of the right to non-commercial activities including the activities of non-profit library or educational institution.

3) Exclusive performer's rights under section 38A has been added in compliance with WPPT (Articles 6 to Article 10). It provides for performers' exclusive right in respect of the performance without prejudice to author's right.[119] This provision

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[112] Copyright Act, 1957, Section 14(d)(i)(B): Copyright means exclusive right … (d)in the case of a cinematograph film,- (i) to make a copy of the film, including- (B) storing of it in any medium by electronic or other means;

[113] Copyright Act, 1957, Section 14(e)(i): in the case of a sound recording,- (i) to make any other sound recording embodying it including storing of it in any medium by electronic or other means;

[114] Copyright Act, 1957, Section 14(d)(ii):.. in the case of a cinematograph film,- (ii) to sell or give on commercial rental or offer for sale or for such rental, any copy of the film;

[115] Copyright Act, 1957, Section 14(e)(ii):..in the case of a sound recording,- (ii) to sell or give on commercial rental or offer for sale or for such rental, any copy of the sound recording;

[116] Copyright Act, 1957, Section 14(b)(ii): Copyright means exclusive right …(b) in the case of a computer programme,- (ii) to sell or give on commercial rental or offer for sale or for commercial rental any copy of the computer programme: Provided that such commercial rental does not apply in respect of computer programmes where the programme itself is not the essential object of the rental.

[117] Abhai Pandey, *Inside Views: Development in Indian IP Law: The Copyright (Amendment) Act 2012*, Intellectual Property Watch.

[118] Copyright Act, 1957, section 2(fa): "commercial rental" does not include the rental, lease or lending of a lawfully acquired copy of a computer programme, sound recording, visual recording or cinematograph film for non-profit purposes by a non-profit library or non-profit educational institution;

[119] Copyright Act, 1957, Section 38A. Exclusive right of performers.- (1) Without prejudice to the rights conferred on authors, the performer's right which is an exclusive right subject to the provisions of this Act to do or authorize for doing any of the following acts in respect of the performance or any substantial part thereof, namely:- (a) to make a sound recording or a visual recording of the performance, including- (i)

entitle performer to royalties in case of commercial use of performances. The definition of "communication to the public" under section 2(ff) extended to performances, which were limited to works under this head. The right of communication to the public is important to safeguard work on the Internet. Moreover, by inserting Section 38B the moral rights has been extended to the performers, in compliance with Article 5 of WPPT. Extending moral rights to performers is significant to curtail digital alteration of performances in a digital space.

4) Section 18(1) of the copyright Act strengthens author's position in assignment of copyright if new medium or mode of exploitation of the work come to exist.[120]
5) Compulsory licenses to facilitate access to works, in relation to works withheld from public (Section31), in published or unpublished works (Section 31A), for benefit of disabled (Section31B). Statutory license provisions under Section 31C for cover versions and under Section 31D for broadcasting of musical works, literary and sound recording facilitates access to work and to streamline copyright administration in the digital era.
6) Fair dealing provisions under Section 52 which provides for acts not amounting to copyright infringement.

4.2.1 Notion of Fair Dealing

Fair dealing is legalized transgression of copyrighted work. It is a limitation on rights of copyright owner. The term fair dealing or fair use has not been precisely defined in the Copyright Act, however the courts have often attempted to shed light on the ambit of fair

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reproduction of it in any material form including the storing of it in any medium by electronic or any other means; (iii) communication of it to the public; (iv) selling or giving it on commercial rental or offer for sale or for commercial rental any copy of the recording; (b) to broadcast or communicate the performance to the public except where the performance is already broadcast. (2)……the performer shall be entitled for royalties in case of making of the performances for commercial use.

[120] Copyright Act, 1957, Section 18(1): Assignment of Copyright- (1) The owner of the copyright in an existing work or the prospective owner of the copyright in a future work may assign to any person the copyright either wholly or partially and either generally or subject to limitations and either for the whole term of the copyright or any part thereof; Provided that in the case of the assignment of copyright in any future work, the assignment shall take effect only when the work comes into existence. Provided further that no such assignment shall be applied to any medium or mode of exploitation of the work which did not exist or was not in commercial use at the time when the assignment was made, unless the assignment specifically referred to such medium or mode of exploitation of the work.
Also see section 19 and section 19A of Copyright Act, 1957

dealing. The cardinal purpose backing this doctrine of fair dealing is to restrain the stagnation of growth and creativity.

In India, Sect. 52 of the Copyright Act, 1957 intricately provides a detailed and elaborated provisions of the defense of fair dealing, borrowed extensively from UK Copyright Law. Looking at the ever growing need of the Digital Age, India had tried to incorporate the technical electronic process to meet the changing times. Section 52 of The Copyright Act, 1957 lists certain acts which shall not constitute as infringement of copyright. Such as;

a. Any work[121] for the purpose of review or criticism of work, private or personal use of work including research, and reporting of current events. [Section 52(1)(a)]
b. Explanation to Section 52(1)(a) provides that the storing of any work in any electronic medium for purposes such as private or personal use, criticism or review of work or reporting of current event, or a fair dealing with any work shall not constitute infringement.
c. Section 52(1)(aa) provides that a lawful possessor of a computer programme copy has the right to make copies or adaptation of such computer programme, for the purpose of utilizing it for which it was supplied or as a back-up copies or temporary security, against damage or loss.
d. Any act necessary to obtain essential information for operation of a computer programme not available otherwise [Article 52(1)(ab)].[122]
e. For test, study or observation of the computer programme functioning in order to ascertain the principles and ideas of the programme [Article 52(1)(ac)].[123]
f. Making of copies or adaptation of legally personally obtained copy of the computer programme for personal use, non-commercial use [Article 52(1)(ad)].
g. Temporary storing of work or performance technically required in the process of electronic communication or transmission to the public.[section52(1)(b)]

[121] Copyright Act, 1957, Section 52(1)(a): Fair dealing in any work (not being a computer programme)…
[122] Copyright Act, 1957, Section 52(1)(ab): the doing of any act necessary to obtain information essential for operating inter-operability of an independently created computer programme with other programmes by a lawful possessor of a computer programme provided that such information is not otherwise readily available; Inserted by 1999 amendment.
[123] Copyright Act, 1957, Section 52(1)(ac): the observation, study or test of functioning of the computer programme in order to determine the ideas and principles which underline any elements of the programme while performing such acts necessary for the functions for which the computer programme was supplied; (inserted by 1999 amendment).

h. Incidental or temporary storing of performance or work for providing electronic links, integration or access, which are not expressly prohibited by the right holder. [section 52(1)(c)] [124]

i. Reproduction for judicial proceeding or report of a judicial proceeding purpose. [section 52(1)(d)]

j. Publication of work (published literary or dramatic works) in a collection, composing of non-copyright matter, intended for instruction use. [section 52(1)(h)][125]

k. Reproduction by a teacher or a student in the course of instruction. [section 52(1)(i)]

l. The performance (of dramatic, literary, musical works or of a sound recording or cinematograph film) by students and staff in course of activities of an educational institution. [section 52(1)(j)][126]

m. Reproduction of articles on current issues or religious topics in a magazine, newspaper, and the like, unless reproduction rights are expressly reserved in the author. [section 52(1)(m)]

n. Storing by a public library (non-commercial) of work in any electronic medium. [section 52(1)(n)] [127]

o. Publishing or making a drawing, a painting, or a photograph of a sculpture, if such work is in a public premise. [section 52(1)(t)]

p. Inclusion of artistic work in a cinematograph film, provided such work are situated in public places, or such inclusion is by way of background. [section 52(1)(u)]

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[124] Copyright Act, 1957, Section 52(1)(c): transient or incidental storage of a work or performance for the purpose of providing electronic links, access or integration, where such links, access or integration has not been expressely prohibited by the right holder, unless the person responsible is aware or has reasonable grounds for believing that such storage is of an infringing copy; (2012 amendment)

[125] Copyright Act, 1957, Section 52(1)(h): the publication in a collection, mainly composed of non-copyright matter, bona fide intented for instructional use, and so described in the title and in any advertisement issued by or on behalf of the publisher, of short passages from published literary or dramatic works, not themselves published for such use in which copyright subsists; Provided that not more than two such passages from works by the same author are published by the same publisher during any period of five years.

[126] Copyright Act, 1957, Section 52(1)(j): the performance, in the course of the activities of an educational institution, of a literary, dramatic or musical work by the staff and students of the institution, or of a cinematograph film or a sound recording if the audience is limited to such staff and students, the parents and guardians of the students and persons connected with the activities of the institution or the communication of such an audience of a cinematograph film or sound recording;

[127] Copyright Act, 1957, Section 52(1)(n): the storing of a work in any medium by electronic means by a non-commercial public library, for preservation if the library already possesses a non-digital copy of the work; (2012 amendment)

q. To facilitate access to works to disable persons in accessible formats. [Section 52(1)(zb)][128]

US Copyright Act of 1976 under Section 107 provides a list of four factors of determining Fair Use such as;

a) The character and purpose of the use.
b) The nature of the work that is copyrighted.
c) The amount and substantiality of the segment used as a whole in connection to the copyrighted work.
d) The consequence of such use upon the prospective market for copyrighted work or the value of the copyrighted work.

The line between infringement and "fair dealing" is a very thin one. What would constitute 'fair' in use of copyrighted material depends upon the circumstances and facts of the said case.

4.3 "Information Technology Act," 2000 (IT Act)

The "Information Technology Act," does not directly address any issue relating to Intellectual Property Rights (IPRs) but certain provisions of the Act has impact on the Intellectual Property (IP) rights scenario in the digital space.

The Act was enacted to give a boost to the advancement and expansion of usage of the Internet, technology, computer and software as well as to regulate e-commerce.

4.3.1 Provisions for Internet Intermediary

[128] Copyright Act, 1957, Section 52 (1)(zb): the adaption, reproduction, issue of copies or communication to the public of any work in any accessible format, by (i) any person to facilitate persons with disability to access to works including sharing with any person with disability of such accessible format for private or personal use, educational purpose or research; or (ii) ny organization working for the benefit of the persons with disabilities in case the normal format prevents the enjoyment of such works by such persons: Provided that the copies of the works in such accessible format are made available to the persons with disabilities on a non-profit basis but to recover only the cost of production: Provided further that the organization shall ensure that the copies of works in such accessible format are used only by persons with disabilities and take reasonable steps to prevent its entry into ordinary channels of business.

The Act provide for defense of infringement of data from computer, computer system[129] computer network or computer resource[130] and to restrict unauthorized use of files, information and other resources. It takes into account personal responsibilities for unlawful or unauthorized usage of stored information and of computer systems, however it does not provide for account of responsibility of network service providers or operators, or companies handling data. Hence, transmission agencies such as the outsourcing service providers or network service provider and manufacturers of services are outside its ambit. **Section 79**[131], of the Act undermine the responsibility of the organizations, by exempting the liability of intermediary for any third party data, information or communication link made available by him because of his limited function as a access provider to a communication system, and that the intermediary has exercised due diligence and observed such other guidelines while discharging his duties.

Amendment of the IT Act in 2008, provides the definition of 'intermediary' under section 2(1)(w) as including network service providers, telecom service providers, internet service providers, search-engines, web-hosting service providers and the like.[132]

In "*Super Cassettes* v. *MySpace* case"[133], the High Court of Delhi had the opportunity to examine the liability of a social networking website, *MySpace*, under the course of primary and secondary infringement under Section 51 of the Copyright Act, 1957 which provides for two categories of liability for copyright infringement, that is, primary infringement[134]

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[129] The Information Technology Act, 2000 (IT Act), Section 2(1)(l) "computer system" means a device or collection of devices, including input and output support devices and excluding calculators which are not programmable and capable of being used in conjunction with external files, which contain computer programmes, electronic instructions, input data and output data, that performs logic, arithmetic, data storage and retrieval, communication control and other functions.

[130] The Information Technology Act, 2000 (IT Act), Section 2(1)(k) "computer resource" means computer, computer system, computer network, data, computer data base or software;

[131] The Information Technology Act, 2000 (IT Act), Section 79. Exemption from liability of intermediary in certain cases.

[132] The Information Technology (Amendment) Act, 2008 (IT Act), Section 2(1)(w): "intermediary", with respect to any particular electronic records, means any person who on behalf of another person receives, stores or transmits that record or provides any service with respect to that record and includes telecom service providers, network service providers, internet service providers, web-hosting service providers, search engines, online payment sites, online- auction sites, online-market places and cyber cafes;

[133] *Super Cassettes Industries Ltd*. v. *MySpace Inc*., CS (OS) No.2682/2008 (Delhi H.C)

[134] Copyright Act, 1957, Section 51(a)(i): When Copyright Infringed.- Copyright in a work shall be deemed to be infringed- (a) when any person, without a licence granted by the owner of the copyright or the Registrar of Copyrights under this Act or in contravention of the conditions of a licence so granted or of any condition

and secondary infringement.[135] The social media platform *MySpace* allowed users to upload, view and share User Generated Content (UGC), including music, videos etc. The respondent *Super Cassettes Industries Ltd* filed a suit against *MySpace* alleging that users were sharing SCIL copyrighted works without authorization, in their website. The judgment passed in 2012 by a single bench of the court held that despite having no knowledge of infringement on the part of *MySpace*, they are still liable for copyright infringement. However, Judgment passed by division bench of the court on December 23, 2016 reversed the earlier judgment and held that in case of internet intermediaries, actual knowledge and not general awareness of the infringement is stipulated under Section 51(a)(ii) of the Copyright Act, 1957. This judgement consolidated the "safe harbor" immunity provided to intermediaries under Section 79 of the IT Act, 2000. Hence, the Judgement relieved the liability of the *MySpace* from pre-screening user-generated content, and execute take down approach or content removal requests.[136]

The Court was also of the view that Section 81 of the Information Technology Act, 2000 does not have overriding effect in respect of immunity provided to "intermediaries" under Section 79 of the IT Act, 2000, even in matters of copyrights.

Section 81 of the IT Act, 2000, contains overriding effect provision which provided that "The provisions of this Act shall have effect notwithstanding anything inconsistent therewith contained in any other law for the time being in force."[137]

In "*Firos* v. *State of Kerala* case",[138] the Kerala High Court discussed the effect of section 81 of the IT Act on Copyright Act, 1957. The court was dealing in relation to a right claimed in respect of a computer program under the Copyright Act, 1957. The Court held that the effect under the provision of section 81 does not apply to Copyright Act. The

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imposed by a competent authority under this Act- (i) does anything, the exclusive right to do which is by this Act conferred upon the owner of the copyright, or (ii) permits for profit any place to be used for the communication of the work to the public where such communication constitutes an infringement of the copyright in the work, unless he was not aware and had no reasonable ground for believing that such communication to the public would be an infringement of copyright;

[135] Ibid.

[136] The centre for Internet Society, India.org

[137] The Information Technology Act, 2000 (IT Act), Section 81: Act to have overriding effect.

[138] *Firos* v. *State of Kerala*, AIR 2006 Ker 279, 2006 (3) KLT 210, 2007 (34) PTC 98 Ker

Copyright Act being a special Act, will deal with all the matters connected with the copyrights, and the Information Technology being a special Act, will deal with all the matters regarding Information Technology.

The Information Technology (Amendment) Act, 2008 brought amendment to the section 81 and provided that the provisions under the Act shall not restrict any rights conferred by Copyright Act or the Patents Act, 1970.[139]

Under section 2(o) of the Indian Copyright Act, 1957, "Databases" are protected as "Literary Works". Section 2(1)(k) 0f the IT Act defines computer database as "computer resource."[140]

The Information Technology Act, 2000 under Section 2(1)(o) defines "data" as representation of facts, concepts, information, knowledge or instructions in a formalized manner processed in a computer system or network or stored in the memory of the computer and includes computer printouts, punched cards or tapes.[141]

Section 43[142] provides for penalty and compensation provision for damage to computer, computer system or computer network or computer resources. It provides for liability of any person who without the permission of the owner or any other person so affected infringes upon his rights as to unauthorized access, downloading, copying or extracting any data or information, damages or disrupts, destroys or alters any such data or information etc.,

Section 66 of the 2009 "Information Technology Amendment Act", provides for criminal penalties in respect of computer related offences.

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[139] The Information Technology (Amendment) Act, 2008, Section 81: …..provided that nothing contained in this Act shall restrict any person from exercising any right conferred under the Copyright Act, 1957 or the Patents Act, 1970.

[140] The Information Technology Act, 2000 (IT Act), Section 2(1)(k): "computer resource" means computer, computer system, computer network, data, computer database or software;

[141] The Information Technology Act, 2000 (IT Act), Section 2(1)(o) "data" means a representation of information, knowledge, facts, concepts or instructions which are being prepared or have been prepared in a formalized manner, and is intended to be processed, is being processed or has been processed in a computer system or computer network, and may be in any form (including computer printouts magnetic or optical storage media, punched cards, punched tapes) or stored internally in the memory of the computer;

[142] The Information Technology Act, 2000 (IT Act), Section 43. Penalty and compensation for damage to computer, computer system, etc.

Whereas, Section 72A provides for punishment with imprisonment[143] in case where any person or intermediary providing services under lawful contract has discloses personal information material without the consent of the person concerned to any other person, knowing that or with the intent that such action would cause wrongful loss or gain.[144]

4.4 Right to Information Act, 2005

The RTI Act, 2005 was enacted to upgrade the accountability of government authorities by ensuring better and efficient access to information to the public.[145]

Under Section 6(2) of the RTI Act provides that an applicant does not need to give any reason for requesting information or personal information. It raises question as to whether requesting information under the RTI Act can be denied on grounds that it belongs to copyright of a third person ("*Ferani Hotels* v. *The State Information Commission, Mumbai*")[146]. Section 8(1)(d) of the Act allows for exemption of disclosure of information if it includes trade secrets, intellectual property or commercial confidence, unless such disclosure is justified by larger public interest. Section 8(1)(j) provides that there shall be no obligation for disclosure of personal information having no relationship to any public interest unless the disclosure of such information is justified by larger public interest. [147]

Similarly Section 9 allows a competing authority to deny a request for information where such request involves an infringement of copyright.[148] Section 2(f) of the Right to Information Act, 2005 signifies "information" as any material in any form, including data

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[143] Section 72A provides for punishment with imprisonment extending up to 3 years or with fine extending to 5 lakhs or with both.

[144] The Information Technology Act, 2000, Section 72A. Punishment for disclosure of information in breach of lawful contract. Inserted by 2009 IT Amendment Act.

[145] The Information Technology Act, 2000 was also enacted to consolidate the fundamental right of the Right to Freedom of Speech and Expression under Article 19 of the Indian Constitution.

[146] *Ferani Hotels Pvt. Ltd*. vs *The State Information Commission, Greater Mumbai*, 2018.

[147] The Right to Information Act,2005, Section 8(1)(j)there shall be no obligation to give any citizen.. information which relates to personal information the disclosure of which has no relationship to any public activity or interest, or which would cause unwarranted invasion of the privacy of the individual unless the Central Public Information Officer or the State Public Information Officer or the appellate authority, as the case may be, is satisfied that the larger public interest justifies the disclosure of such information;

[148] The Right to Information Act,2005, Section 9: Grounds for rejection to access in certain cases.- Without prejudice to the provisions of section 8, a Central Public Information Officer or a State Public Information Officer, may reject a request for information where such a request for providing access would involve an infringement of copyright subsisting in a person other than the State.

material held in any electronic form[149]. "Right to Information" under Section 2(j) of the act signifies the right to information held by or under the control of any public authority which includes obtaining information in any electronic mode such as floppies, tapes, etc. or through printouts where such information is stored in a computer or other devices.

In the digital era, the magnitude of the ease of infringement of intellectual property is the digital domain has multiplied and has become more intense. This raises the concern as to whether the protection available for Intellectual Property is enough to meet the requirement of protecting intellectual creation and privacy protection in the age of digital technology, where everything available in the digital environment is seen as free, free to use and share. In the past decade, the notion of privacy rights has gain substantial momentous in India. Mostly focused on privacy as a result of wrong prompted by information breaches. Indian courts have recognized the "right to privacy" as an indispensable part to the" Right to Life" and "Personal Liberty," guaranteed as a fundamental right under the Constitution of India to every citizen. In 2017 the Supreme Court in *Justice K. S. Puttaswamy (Retd.)* case[150] held that the Right to Privacy is a fundamental right of every individual under Article 21 of the Constitution and as a part of the freedoms guaranteed under Part III of the constitution.[151] The court also held that similar to the Right to Life and Personal Liberty, the right to privacy may be limited by a procedure established by law. The invasion of privacy must be through a fair, reasonable and just procedure.[152]

Moreover, India is a signatory to the "International Covenant on Civil and Political Rights", 1966 and "The Universal Declaration of Human Rights", 1948 which provides for Right to Privacy under Article 17 of the ICCPR and Article 12 of the UDHR respectively.

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[149] The Right to Information Act, 2005, Section 2(f) "information" means any material in any form, including records, documents, memos, e-mails, opinions, advices, press releases, circulars, orders, logbooks, contracts, reports, papers, samples, models, data material held in any electronic form and information relating to any private body which can be accessed by a public authority under any other law for the time being in force;

[150] *Justice K.S. Puttaswamy (Retd) and Anr.* v. *Union of India And Ors*, 2017, Writ Petition (Civil) No 494 of 2012; (2017) 10 SCC 1;AIR 2017 SC 4161

[151] It explicitly overrules previous judgements of the Supreme Court in "*Kharak Singh* vs. *State of UP*" and "*M.P. Sharma vs. Satish Chandra*. See for reference *kharak Singh* v *State of Uttar Pradesh* (1962) and *MP Sharma* v *Satish Chandra* (1954)- in these cases it was held that there is no fundamental right to privacy under the Indian Constitution.

[152] The right to furnish and obtain information is a sort of right to freedom of speech and expression granted by the Constitution under Article 19(1)(a) with reasonable restrictions under Article 19(2).

4.5 Databases and Copyright

The storage and production of data in the digital domain has increased at a lightning speed in the digital era. As the appropriate approach to the operation of computer related databases, analysis of the parity between 'intellectual property law' and 'data protection' is needed. The Indian courts recognize copyright in data. Copyright Act, 1957, covers 'databases' as 'literary works' under Section 2(o) of the Copyright Act.[153]
The Act therefore, provides for the protection of data content.

Section 63B of the Act provides for imprisonment[154]term in case anyone intentionally make use of an infringing copy of a computer programme on a computer. Provided that if such computer programme has been used in course of business or trade, or not used for gain, the court may not impose any sentence and may impose a fine instead.[155]

The introduction of Personal Data Protection Bill, 2019 by the Government of India, aimed at first data protection legal structure mechanisms for protection of personal data, providing for extensive provisions relating to flow and usage of personal information, laying down norms for social media intermediary, transfer of personal data, collection of consent, assessment of data, including cross-border transfer of data to third countries, accountability of entities and remedies. This Bill was criticized on the ground that the Government on grounds of public order or sovereignty can access private data or government agency data any time. The Bill inclined to expanding government's position in the data economy, increasing the state surveillance powers and diluting data property rights, with no proper checks and balances, moreover the current system is inadequate in protecting privacy.

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[153] The Copyright Act, 1957, Section 2(o), substituted "data basis" for "databases" by the Copyright Amendment Act, 2000.
Section 2(o) of The Copyright Act, 1957, specifies that "literary work includes computer programmes, tables and compilations including computer databases." The Act therefore, provides for the protection of data content. The concept of 'literary works' is 'inclusive' in nature and can include more categories. The Copyright Act, 1957, provides for prosecution for the infringement of intellectual content with regard to seriousness of the offense.
[154] **Section 63B** of the Act provides for imprisonment for a term of not less than 7 days but may extending to three years and fine of not less than fifty thousand rupees but may extending to two lakh rupees.
[155] The Copyright Act, 1957, Section 63B. Knowing use of infringing copy of computer programme to be an offence.

Though this Data Protection Bill was withdrawn it came with reports that a more comprehensive version may be introduced.

It is evident from analyzing the above provisions that the need of the hour is detailed legislation dictating and administering the distribution, dissemination and reproduction of intellectual content in the cyber domain.

4.6 International Intellectual Property (IP) Rights legislations and Digital era

4.6.1 "Agreement on Trade-Related Aspects of Intellectual Property Rights" (TRIPS)

The TRIPS Agreement is one of all-encompassing and elaborate provision in nature as these covers all aspects of Intellectual Property Rights collectively. Part II, Section 1 of the TRIPS Agreement which provides for "*Copyright and Related Rights*" addresses various protection aspect of Intellectual Property.

Article 9(1) of the TRIPS Agreement provides compliance of the members in relation to the Berne Convention.[156] Thus, Berne Convention is utilized as the minimum standard, however, with limitation in respect of rights conferred under Article 6*bis*[157] of the Berne Convention. Article 9(2)[158] establishes that copyright protection extends to expressions not to ideas. The TRIPS Agreement deviates from Berne Convention as it protects 'software and databases'. The TRIPS Agreement provides protection of "computer programs and

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[156] Agreement on Trade-Related Aspects of Intellectual Property Rights, 1994, Section 1: Copyright and Related Rights. Article 9(1). Members shall comply with Articles 1 through 21 of the Berne Convention (1971) and the Appendix thereto. However, Members shall not have rights or obligations under this Agreement in respect of the rights conferred under Article 6bis of that Convention or of the rights derived therefrom.

[157] Berne Convention for the Protection of Literary and Artistic Works, 1886. Article 6bis (1) Independently of the author's economic rights, and even after the transfer of the said rights, the author shall have the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honour or reputation. (2) The rights granted to the author in accordance with the preceding paragraph shall, after his death, be maintained, at least until the expiry of the economic rights, and shall be exercisable by the persons or institutions authorized by the legislation of the country where protection is claimed. However, those countries whose legislation, at the moment of their ratification of or accession to this Act, does not provide for the protection after the death of the author of all the rights set out in the preceding paragraph may provide that some of these rights may, after his death, cease to be maintained. (3) The means of redress for safeguarding the rights granted by this Article shall be governed by the legislation of the country where protection is claimed.

[158] Agreement on Trade-Related Aspects of Intellectual Property Rights, 1994, Section 1: Copyright and Related Rights. Article 9(2): Copyright protection shall extend to expressions and not to ideas, procedures, methods of operation or mathematical concepts as such.

Compilations of Data" in Article **10 of the Agreement**. Article 10(1)[159] provides for protection of computer programs as literary work. Hence, rights and limitations that are applicable to literary work may apply to the computer programs.[160] Article 10(2) of the Agreement provides that Compilations of data or other material, whether in machine readable or other form, which by reason of the selection or arrangement of their contents constitute intellectual creations shall be protected as such. Such protection, which shall not extend to the data or material itself, shall be without prejudice to any copyright subsisting in the data or material itself.

Thus, following facts could be revealed by a closer perusal of the Article:

- Compilations of data is protected, which means data compiled in a particular manner cannot be used in similar manner. Moreover, the words 'other material' used in the Article have extended the ambit of this Article to even non-data materials.
- The form of the compilation may be either in machine-readable or other form.
- Data protection emanates only by reason of the selection or arrangement of the contents constituting intellectual creations.
- Data protection extends to databases which is available in the intellectual creation and in the very data or material itself, available in the form of copyright.

Rental Rights- Article 11 of the Agreement provides for rental rights in respect of computer programs and cinematograph films. It entitles authors with the exclusive right to prohibit or authorize the commercial rental of their copyrighted work in originals or copies to the public.[161]

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[159] Agreement on Trade-Related Aspects of Intellectual Property Rights, 1994, Section 1: Copyright and Related Rights. Article 10(1): Computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention (1971).

[160] World Trade Organization, Overview: the TRIPS Agreement

[161] Agreement on Trade-Related Aspects of Intellectual Property Rights, 1994, Section 1: Copyright and Related Rights. Article 11: … A member is excepted from the obligation in respect of Cinematographic works unless such rental has led to widespread copying of such works which is materially impairing the exclusive right of reproduction conferred in that Member on authors and their successors in title. In respect of computer programs, this obligation does not apply to rentals where the program itself is not the essential object of the rental.

Article 13 of the Agreement requires the members to restrict the exceptions and limitations to exclusive rights to particular distinct case which do not collide with usual exploitation of the work and that do not detriment the interest of the right holder.[162]

Article 14 of the TRIPS Agreement, provides provisions for the protection of performers, Broadcasting Organizations, and producers of Phonograms. The article enables the performers to prevent reproduction of their performances as well as communication of their live performance to the public and broadcast of their performance by wireless means, if it is undertaken without their permission or authorization [Article 14(1)]. Clause 2 of Article 14 entitles right holders in phonograms (sound recordings) to restrict or authorize reproduction, whether direct or indirect, of their phonograms [Article 14(2)]. Computer programs (in relation to Article 11) apply to producers of phonograms [Article 14(4)].

Clause 3 enables the Broadcasting organizations to prohibit reproduction, rebroadcasting by wireless means, communication of television broadcast to the public, if undertaken without their authorization [Article 14(3)].

The very purpose (Article 7 "Objectives") of the TRIPS Agreement is to promote technological innovation and advancement, and contribute to the dissemination and transfer of technology. The main objective is to maintain a conducive balance between protections of rights of right holders and to promote social and economic welfare.[163]
The obligation for the Developed country members to provide incentives to institutions for promoting technological dissemination and transfer to least-developed country member to enable them to create viable technological base [Article 66(2)].[164]

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[162] Agreement on Trade-Related Aspects of Intellectual Property Rights, 1994, Section 1: Copyright and Related Rights. Article 13: Limitations and Exceptions: Members shall confine limitations or exceptions to exclusive rights to certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right holder.

[163] Agreement on Trade-Related Aspects of Intellectual Property Rights, 1994, Section 1: Copyright and Related Rights. Article 7: Objectives: The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to balance of rights and obligations. [Part I General provisions and basic Principles]

[164] Agreement on Trade-Related Aspects of Intellectual Property Rights, 1994, Section 1: Copyright and Related Rights. Article 66(2): Developed country members shall provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country members in order to enable them to create a sound and viable technological base.

4.6.2 World Intellectual Property Organization (WIPO)

Global Intellectual landscape is reshaping in tune with the digital transformation that is occurring fueled by dramatic advancement in technologies such as the Artificial Intelligence (AI). Digital economy has led to new mode of policy formulation among the International community. World Intellectual Property Organization (WIPO), as a multilateral organization, has also addressed the implications of the preeminence of the digital technologies in the Digital Age. The "World Intellectual Property Organization Copyright Treaty" (WIPO Copyright Treaty or WCT)**,** was adopted in 1996 by the member states of the "World Intellectual Property Organization" (WIPO). It is an international treaty on copyright, under the Berne Convention, pertaining to the authors' rights and the protection of works in the digital age. The preamble of the WIPO Copyright Treaty envisages the need for drafting new rules and to clarify interpretation of existing rules to deal with the issues raised by the emerging digital environment. It also envisages the reverberation of the technological development and confluence of communication and information technologies on creation and use of artistic and literary works. The preamble also asserts the need to maintain a balance between the rights of authors and the promotion of public welfare and interest, as contemplated in the Berne Convention.

Two subject matters are protected under this treaty, they are;

1. Computer programs, and
2. Compilations of data or other material ("databases")

Computer programs, may be in any form or mode of their expression. The treaty assures that computer programs are protected as literary works under Article 4[165] of the treaty, and under Article 5[166] of the treaty it ensures that the compilations of data or databases in any form are protected, which by reason of selection and arrangement of material constitute

[165] WIPO Copyright Treaty, 1996, Article 4 Computer Programs – Computer programs are protected as literary works within the meaning of Article 2 of the Berne Convention. Such protection applies to computer programs, whatever may be the mode or form of their expression.

[166] WIPO Copyright Treaty, 1996, Article 5 Compilations of Data (Databases) – Compilations of data or other material, in any form, which by reason of the selection or arrangement of their contents constitute intellectual creations, are protected as such. This protection does not extend to the data or the material itself and is without prejudice to any copyright subsisting in the data or material contained in the compilation.

Intellectual creation. The Copyright protection however does not extend to the data itself.[167]

The treaty provides that reproduction rights (as provided in Article 9 of the Berne Convention) available to an author apply in the digital environment.[168] Reproduction constitutes use and storage of copyrighted work in digital form in an electronic medium (as per Article 9 of the Berne Convention).

Article 7 of the treaty discusses the rental rights of the authors of computer programs, cinematographic works, and phonograms, providing them with the exclusive right to authorize commercial renting of their works, either original or copies of the work to the public.[169] Article 8 of the Treaty provides for author's exclusive right of communication to the public of their copyrighted works, by wire or wireless means, without prejudice to the provision of the Berne Convention. This should be effected in such a way that the works is available to the public "from a place and at a time individually chosen by them."[170] This provision reflects interactive communication and readily available communication using Internet.

By the Limitations and exceptions provisions under Article 10 of the Treaty, the treaty facilitates flexibility to the contracting parties to introduce limitations or exceptions to authors rights (literary and artistic works), in special cases, in their domestic legislation. This flexibility should not come in conflict with the intellectual property protection available to the authors. This provision provides flexibility to introduce digital copyright laws, and to deter technology that unreasonably infringe upon the fair use of copyrighted works in the digital domain.

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[167] ibid

[168] WIPO, Copyright Treaty, 1996, Agreed statement regarding Article 1(4).

[169] WIPO, Copyright Treaty, 1996,… the exclusive right to authorize commercial rental is excluded in case of a computer programs where the program itself is not the essential object of the rental. In the case of cinematograph works, it is excluded where such commercial rental has led to widespread copying of such works materially impairing the exclusive right of reproduction. In case of phonograms, provided that the commercial rental of works embodied in phonograms is not giving rise to the material impairment of the exclusive right of reproduction of authors.

[170] WIPO, Copyright Treaty, 1996, Article 8 …it can be analyzed that mere physical facilities to enable communication is not communication to the public under this Article.

Article 11 of the Treaty provides for obligation of the member parties to introduce adequate legal measures concerning technological issues.

4.6.3 "WIPO Performances and Phonograms Treaty," 1996

The Treaty entered into force on 20th May, 2002. India is not yet a party to the Treaty.
It envisages to protect the rights of performers such as actors, musicians and the like and producers of Phonograms (sound recordings). The preamble of the Treaty similar to the WIPO Copyright Treaty envisages introducing new rules to provide solutions to the emerging issues of digital environment as well as to maintain a balance between public interests and rights of performers and the like.

The treaty provides for moral rights and economic rights of performers. The performers have moral rights to be identified as the performer of his performances, and to object to any modification that is detriment of his reputation (Article 5). Economic rights of performers includes the exclusive right to authorize the broadcasting and the right to communicate the performance to the public (Article 6), right of reproduction (direct or indirect) fixed in phonograms (Article 7), right of distribution to the public (original or copies of their performances) through sale or other mode of transfer, rights of commercial rental (Article 9). Article 10 of the Treaty provides for exclusive right to make available of their performance to the public fixed in phonograms, by wire or wireless means.

Regarding rights of producers of Phonograms, it grants rights of reproduction (Article 11), right of distribution (Article 12), Right of commercial rental (Article 13), right to make available of phonograms (Article 14).

Under Article 15 of the Treaty, remuneration provisions for Broadcasting and Communication to the public for commercial purpose is provided. Clause 4 of Article 15 provides that phonograms which are made accessible to the public by wireless or wire means must be in a way readily available on on-demand method shall be deemed as published for commercial purposes.

Limitations and exceptions provided under Article 16 exerts for same kind of limitations for protection of performers and producers of phonograms as is provided for protection of

copyright in literary and artistic works, without prejudice to the normal exploitation and interest of performers and producers (phonograms).

The Treaty introduce enough flexibility for member states to create new laws and set restrictions and exceptions for the digital environment. The treaty also obligates to create its enforcement team to properly implement and execute the objectives of the Treaty.

4.6.4 "**The Digital Millennium Copyright Act**", implemented by United States in 1998 is a copyright law that implements the 1996 "WIPO Copyright Treaty" and "WIPO Performances and Phonograms Treaty" (1996). The Act criminalizes dissemination and the production of devices, services or technology designed to thwart measures that control access to copyrighted works. The act of circumventing an access control is also criminalized under this Act (17 U.S.C. 1201, also known as the DMCA anti-circumvention provisions)[171]. This Act also enhanced the penalties for infringement of copyright on the internet.

The Act's cardinal innovation is the limiting of the liability of the online service providers or other intermediaries for copyright infringement liability by their users provided they adhere to specific requirement ("Title II: Online Copyright Infringement Liability Limitation Act").

Section 512 of the Digital Millennium Copyright act, provides 'safe harbor' provisions for online service providers. It provides safe harbor to four categories of conduct by a service providers. They are;

i. Transitory communications;
ii. Caching services;
iii. Information storage at direction of users; and

[171] The Digital Millennium Copyright Act, 1998, Section 103 of the DMCA adds a new chapter 12 to Title 17 of the U.S. Code. New Section 1201 implements the obligation to provide adequate and effective protection against circumvention of technological measures used by copyright owners to protect their works. Section 1201 prescribes devices or services that fall within any one of the following three categories; (1) they are primarily designed or produced to circumvent; (2) they have only limited commercially significant purpose or use other than to circumvent; or (3) they are marketed for use in circumventing.

iv. Search engines (Information location tools).[172]

Additionally, service provider must implement a system that provides for a policy of termination of accounts and subscribers who are repeat infringers.[173]

A Service provider enjoys safe harbor protection from the liability of Copyright Infringement only when it does have any actual knowledge of infringement. Additionally, a service provider is removed from such protection if it accrues financial benefits from the activity connected to the infringement.[174] Section 512(d)(1) provides provisions for information location tools, whereas by reason of the service provider linking users to an location online containing infringing activity or material shall be held not liable if the service provider does not have actual knowledge or is unaware of the circumstances and facts of the infringing activity, and has expeditiously removed or disable such infringing material upon obtaining such awareness or knowledge.

4.7 Critical Analysis

The line between private use and public use of data and infringement and "fair dealing" is a very thin line. The point of contention arise in what would constitute 'fair' in use of copyrighted material depends upon the circumstances and facts of the said case.

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[172] The Digital Millennium Copyright Act, 1998, US Copyright, section 512 provides limitations on liability relating to material online (a) Transitory Digital Network Communication. (b) System caching (c) Information Residing on systems or Networks at Direction of users. (d) Information Location Tools.

[173] The Digital Millennium Copyright Act, 1998, US Copyright, section 512(i)(1)(A): Conditions for Eligibility.- (1) Accommodation of Technology.- The limitations on liability established by this section shall apply to a service provider only if the service provider- (A) has adopted and reasonably implemented, and informs subscribers and account holders of the service provider's system or network of, a policy that provides for the termination in appropriate circumstances of subscribers and account holders of the service provider's system or network who are repeat infringers;

[174] The Digital Millennium Copyright Act, 1998, US Copyright, section 512(c)(1)(A) and (B): Information Residing on Systems or Networks at Direction of Users.- (1) In General .- A service provider shall not be liable for monetary relief, or, except as provided in subsection (j), for injunctive or other equitable relief, for infringement of copyright by reason of the storage at the direction of a user of material that resides on a system or network controlled or operated by or for the service provider, if the service provider- (A) (i) does not have actual knowledge that the material or an activity using the material on the system or network is infringing; (ii) in the absence of such actual knowledge, is not aware of facts or circumstances from which infringing activity is apparent; or (iii) upon obtaining such knowledge or awareness, acts expeditiously to remove, or disable access to, the material; (B) does not receive a financial benefit directly attributable to the infringing activity, in a case in which the service provider has the right and ability to control such activity;

It is evident from analyzing the above provisions that the need of the hour is detailed legislation governing the distribution, processing and dissemination of digital material. How the copyright protection laws apply in exceptional situations in areas where information might be considered as a resort to public welfare, whereas the ethical and factual derivation of digital economy is concerned is still needs evaluation.

Internet laws particularly relates to analyzing, harvesting and disseminating data, turning our deliberation towards social computing which is the intersection of social behavior and interactions through use of technology and computational devices.

Within this context, the point of contention arises as to who holds the Intellectual Property rights as to works, which according to creators principle appears to belong to the social media content creator generally, however on the premise of general contractual terms and conditions, the operators of the social media also claim transferred ownership. The legislations and tools in regards to digital content specific legislation is still lacking in India and the International community needs to contemplate on an overall cross-border regulation formulation.

CHAPTER 5

New Upcoming Challenge of Copyright in Digital Space: Issues of Artificial Intelligence

"The rise of the machines is here, but they do not come as conquerors, they come as creators."[175]

Andres Guadamuz

5.1 Introduction

Artificial Intelligence, or AI, has swiftly become one of the most fascinating and transformative technological developments of the era. In simple understanding, it refers to the ability of machines and computer programs to execute tasks that would normally require human intelligence, such as problem-solving, learning, language processing, and perception. The aim of AI is to imitate the cognitive abilities of a human being.[176] Increasing availability of large quantity of data and the development of powerful computational tools, such as deep learning algorithms and neutral networks acts as the fuel of Artificial Intelligence. Artificial Intelligence has now infiltrated across a variety of industries, including entertainment, healthcare, education, finance, aviation, space, transportation and many other sectors. Though Artificial Intelligence furnish considerable potential benefits, such as improved efficiency, accuracy, and personalized experiences, it also carries certain challenges such as ethical concerns around privacy, bias and security. The accelerated pace at which the AI is developing, provides a glimpse into a future in which machines will play an increasingly important role.

Incessant growing role of Artificial Intelligence is witnessed in the area of Intellectual Property Rights, penetrating creativity and innovations. Among various types of Intellectual Property Rights (IPRs), copyright, designs, trade secrets and patents are specifically stirred by the effect of AI.[177] More notably, AI has prompted serious challenges in the area of copyright law. Now, AI has the capability to compose music, generate

[175] Andres Guadamuz, *Artificial Intelligence and Copyright*, 2017, WIPO Magazine.
[176] Council of Europe Portal, *Artificial Intelligence*.
[177] V.K. Ahuja, *Artificial Intelligence and Copyright: Issues and Challenges, Winter Issue*, 2020, ILI LAW REVIEW.

artwork and paintings, write essays and poetry, blogs, novels etc. blurring the line of distinction between human creation and machine-generated works. It is therefore important to make a distinction between AI-assisted works, that is, works which are produced by an individual with the help of AI and AI-generated works, that is, works generated without any human intervention, by the AI itself.[178]

This present chapter will discuss the interface of copyright laws and Artificial Intelligence in the era of digital evolution. The chapter also discusses the challenges in maintaining originality in the era of non-human author, the issue of digital authorship and personhood of Artificial Intelligence.

5.2 Artificial Intelligence: Brief Historical perspective

Since 1970's computers have been used for producing crude creative works. Computer-generated works is considerably dependent on the programmer's input. The computers, that is, the machine were considered merely tools or instruments to support the creative process of work, similar to requirement of pen and paper and human involvement in the creation of work. But currently, we are living in the midst of technological innovation transformation that made us to re-evaluate the interface between creative process and computers.[179] Machine learning software with built-in algorithm fuel by data input which allow it to further evolve and generate works independently by taking their own decision.[180] The origin of Artificial Intelligence is still disputed. It cannot be term as a new prodigy, as it may date back from 1950, [181] when a project was undertaken by some researchers to create machines that can perform different tasks including problem solving and language learning. Over the period of time, subset of AI such as machine learning[182] and deep

[178] Ibid

[179] Andres Guadamuz, *Artificial Intelligence and Copyright*. WIPO Magazine, 2017

[180] ibid

[181] See Herbert Bruderer *"The Birth of Artificial Intelligence : First Conference on Artificial Intelligence in Paris in 1951?"* in International Communities of Invention and Innovation (IFIP Advances in Information and Communication Technology, vol 491, Arthur Tatnall & Christopher Leslie, Springer International Publishing, 2016.

[182] Sik Cheng Peng, *Artificial Intelligence and Copyright: The Authors Conundrum*, WIPO-WTO Colloquium Papers, 2018, machine learning – 'the science based on the idea that systems can learn from data, identify patterns and make decisions with minimal human intervention'. It involves setting rules into a system to imitate human behavior. It has inbuilt algorithm in the computer program. It means it learn from the programmer's provided inputs to generate new by making its own decision.

learning[183] was developed. AI is considered as a field rather than one technology, consisting of many subfields.[184]

The conjunction of technological developments and the ambition to harmonize the functioning of machines and organic beings, in the period between 1940 and 1960, has led to the development of AI. John Von Neumann and Alan Turing, though did not coined the phrase AI, were considered to be the architecture of technology behind it. The term "AI" could be credited to John McCarthy, coined in 1956. As of now, there is no legal definition of "AI." "Artificial Intelligence" may be stated to be the ability of machines and computer programs to execute cognitive tasks that would normally require human intelligence, such as problem-solving, learning, language processing, decision-making and perception.[185] The aim of AI is to imitate the cognitive abilities of a human being. "Artificial neutral networks" is the bedrock of Artificial Intelligence. An "Artificial neural network" is a computational network inspired by the biological neural networks (network of neurons that construct the brain structure). An "Artificial Neural Network" attempts to imitate the network of neurons that model the biological brain and attempts to recognize and comprehend things and fabricate decisions in a human-like manner. It is programmed to behave like interconnected brain cells.[186]

The future we are stepping into seems to be much more complex and dependent on machines and computers, which can be demonstrated by ever-increasing autonomy of computers or machines, demonstrated by developments such as the Google's self-driving car, humanoid robot like Sophia, Google's AlphaGo Zero, Open AI's Chat GPT (AI Chatbot) and the like, which programs itself to perform tasks similar to an intelligent being

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[183] Sik Cheng Peng, *Artificial Intelligence and Copyright: The Authors Conundrum*, WIPO-WTO Colloquium Papers, 2018, deep learning, a subset of machine learning, supplies data into a model based on a human brain and trains the computer to learn on its own from the data. Examples of human-like tasks enabled by deep learning include speech recognition and image processing.

[184] Sejal Chandak, *"Artificial Intelligence and Policing: A Human Rights Perspective*", NLUJ Law Review, 2020, subfields "such as machine learning, robotics, language processing and deep learning."

[185] Sanjivini Rina, *"Artificial Intelligence through the Prism of Intellectual Property Laws"* in V.K. Ahuja and Archa Vashishtha, Intellectual Property Rights: Contemporary Developments 133-41 (Thomson Reuters, 2020).

[186] WIPO, *"WIPO Worldwide Symposium on the Intellectual Property Aspects of Artificial Intelligence*", WIPO, 1991, WIPO identifies three categories of AI systems. They are- (i) perception systems (ii) expert (or knowledge-base) systems (iii) natural language systems.

without human intervention. The autonomy element differentiate AI-produced works from computer-assisted works.[187] Autonomous Intelligence provide the Intelligence agent the ability to learn, to reason, to compute and compile information, without human intervention or minimal human intervention.

5.3 Artificial Intelligence and Copyright

Since the 1970s, computer programs has been used for generating copyrighted works. As Computer programs were contemplated as device to assist the creation of creative works, just like pen and paper, which require human intervention to create works, it did not prompted much problems with copyright laws. However, with the advent of technologies like AI, computer programs has become much more autonomous and not just mere tools, with the ability to generate works independently and take decisions on its own.

Artificial Intelligence and Copyright can be a complicated matter, as AI technologies can be used to create original works that resemble those of human creators such as generating artwork, images, photographs, music, writing essays, text, and designing websites. It can be quite problematic and difficult to determine who owns the intellectual property rights to these AI generated works.

AI-generated works can be categorized under-

i. "AI-generated" work, that is, work created without human intervention, and
ii. "AI-assisted" work, that is work created with significant human intervention.[188]

One of the main challenges is determining who should be recognized as the creator of an AI-generated work. In general, copyright law grants the creator of an original work exclusive rights to use and distribute that work. However, when AI is used to create a work, it can be challenging to determine who the "creator" of that work is. In some cases, the person who programmed the AI may own the Copyright. In other cases, the Copyright may belong to the individual or organization that funded the creation of the AI.

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[187] Sik Cheng Peng, *Artificial Intelligence and Copyright: The Authors Conundrum*, WIPO-WTO Colloquium Papers, 2018,
[188] WIPO Secretariat, *Revised Issues Paper on Intellectual Property Policy and Artificial Intelligence*, 2020, para 12.

To address these issues, some legal experts have proposed creating a new category of rights for AI-generated works, often referred to as "machine rights." This would allow AI systems to hold legal rights to their creations, similar to how human creators hold copyright. However, there is still much debate about how such rights would be defined and enforced, and whether they would be beneficial for the AI industry as a whole. Others argue that this would create significant practical and ethical issues.

Another aspect to consider is the use of copyrighted materials in AI applications. For example, using copyright images to train an object recognition algorithm or incorporating copyrighted music into a machine-generated soundtrack. In these cases, it is important to ensure that appropriate licenses and permissions have been obtained.

Overall, the intersection of AI and Copyright presents complex legal and ethical questions that require careful consideration. As the development and use of AI technologies continue to grow, it is critical to ensure that intellectual property rights and protections remain up-to-date and relevant.

5.4 Authorship and Artificial Intelligence

Development of technologies capable of autonomous creation has brought about perplexing copyright questions. It bring fort certain issues such as -

a. Whether a machine, may be recognized as an 'author' of creative works, in the eyes of copyright laws.
b. Issue concerning duration of copyright in the machine-generated works. The time period of copyright in case of original literary works, musical, dramatic and artistic works in India is during the lifespan of author plus sixty years after the death of the author. If a machine with Artificial Intelligence is considered as the author of the literary, artistic or musical works produced, then it will be considered as a copyrighted work. This view in turn bring fort the question as to how long copyright subsists in the AI-produced works as robot does not 'die' and hence, the copyright remains in perpetuity as long as the robot does not die.
c. Along with this, issue concerning 'Personhood of Artificial Intelligence' arises. It centers on whether or not AI should be considered as having a similar status to that

of a human being, with corresponding rights and responsibilities. In the absence of personhood of AI the civil and criminal liability of the AI is still muddled. Moreover, if the AI is considered as an author, in the absence of personhood, it will not be authorized to transfer ownership in the work.

d. Integrity issues- since AI produce works based on enormous available inputs, it may use biased and harmful language, resulting in defamation, incite violence or obscenity. It may produce undesired results. It may respond to unanticipated information or events and produce undesired work.

Currently, copyright laws in most countries apply to works created by human beings, and do not recognize AI as copyright holders, however, as AI technology continues to advance, the question of whether AI-generated content should be considered for copyright becomes more relevant.

Certain broad possibilities regarding Authorship of AI works are debated such as-

a. Recognition of authorship for AI in Copyright system.
b. No Authorship in AI-generated work and that AI-generated work should fall into the public domain.
c. Sui-generis law to protect AI-generated works rather than copyright law.

5.4.1 Arguments in favor of Authorship to AI-generated works

It is argued that denying copyright in AI-generated works will discourage further dissemination and creation of works. With no protection everyone may make use of such work without any authorization or paying any fee, which will be detrimental to companies investing huge amount in the AI system to generate works. They will suffer a great extent. Such AI-generated works can be commercialized in various ways by smart people without much effort and without incurring any cost, detrimental to the investing companies.[189] Therefore, to encourage and boost the morale of the AI programmers and investing companies to further their research and development in AI related works, some form of legal protection may be needed.

[189] V.k. Ahuja, *Artificial Intelligence and Copyright: Issues and Challenges*, ILI Law Review, Winter Issue 2020.

Some argue that since some AI systems are capable of generating content that is highly creative, developing new and unique ideas based on existing content, the AI system should be granted authorship.

Regarding originality of AI-generated works, it is argued that some AI systems use machine learning algorithms to generate entirely novel content that is unique in its own right. Since this content would not have existed without the input of the AI system, it is argued that the AI system should be granted authorship.

5.4.2 Argument against Authorship to AI-generated works

It is argued that AI-generated work should fall into the "public domain" freely available and accessible to the public. This is justified on the basis that, AI generate any number of iterations of work, incurring no extra resources or cost. Moreover, providing incentive, in the form of copyright protection to author of the work motivate him to create more creative works for advancement of the society. Motivation aspect is not required for creation of work by the Intelligence non-human entity like AI.

The Copyright protection incentivize and encourage authors by providing them economic rights and moral rights. It motivates them to produce more creative works using his skills, judgment and labor. However, AI, being non-human does not require any such incentives or motivation to produce works. For no extra cost or resources, AI can create any number of replicas of work produce by it. A human author being mortal along with human capabilities may also experience creative exhaustion or weariness or even writer's block, resulting in limited creation of creative works during his or her lifetime. Non-human entity like AI being immortal, does not get tired or exhausted, and hence, can create unlimited quantity of creative works. In this scenario, basis of copyright protection in AI-produced works is muddled and debatable.

Lack of Creativity is another factor which is viewed as unfavorable for granting of authorship to AI system. It is argued that AI system lack creativity though they have the ability to create original content. It is argued that if same inputs and same model is used, it may generate same output every time. AI systems are programmed to recognize patterns and make predictions based on them, while human creativity is driven by intuition,

emotions and experiences. Therefore, it cannot be said that AI-generated works are unique and creative.

Accountability issue also arises if authorship is granted to AI system. It raises the question of who is accountable for the content it produces. Being fed with large quantity of available data, it produce outputs on the basis of available inputs. Sometimes they may use defamatory and biased language which could produce undesired result. In such cases, it is difficult to fix liability of AI as personhood of AI is still not settled. As AI generate works based on available data, it may produce similar content as to that of an existing copyrighted work. In such case it is difficult to determine as to how the AI be held as an infringer.

Ownership issue regarding who owns the rights to the work produce is still unclear. Transfer of ownership in the AI-generated works, in the absence of being recognized as a person, is also difficult. It is argued that granting ownership to a machine raises ethical concerns.

There are also concerns around the potential for AI systems to replace human authors and artists. It may lead to replacement of human creativity. If granted authorship, it may replace human creativity in the creative industries, leading to loss of jobs and a lack of diversity in the content produced. It may lead to a dangerous environment, with people becoming lethargic. Granting authorship to AI, would put machine creativity and human creativity on the same level, which could kill human creativity in the long run.

5.4.3 Sui generis law- It is argued that AI-specific law will provide significantly less interference with existing copyright laws. With new advanced technology, conventional protection laws relating to creative works seems to be inadequate.

1. Unique nature of AI: AI systems are unlike any other technology that has been created in the human history. They have the unique ability to make decisions, ability to learn, and produce works on their own capacity. Therefore it is argued that the AI system require their own specifically designed laws to protect their rights and govern their use.

2. Liability and Responsibility: Sui generis laws could also help to address issues around liability and responsibility for the actions of AI systems. It is currently unclear as to who

should be held liable for any damages caused, Sui generis laws could provide a direction for determining the liability in these cases.

3. Ethical considerations: Sui generis laws could also be help in ensuring that AI systems are used ethically. It could be programmed with the requirement of law, not to harm but to prioritize human safety and well-being.

However, it is argued that implementation of sui generis laws for AI system could stifle innovation and creativity. It is also noted that it is highly difficult to regulate such rapidly-evolving technology. It could also lead to issues around intellectual property rights, licensing and contract disputes.

5.4.4 The dilemma of authorship of AI-generated works

The matter of contention arises in the issue pertaining to:

a. Whether an Intelligent entity, under copyright law, be treated as the 'author'.
b. Whether a non-human agent can be an 'author'.

To better understand, we have to devolve into the questions of source of AI-produced works, originality and authorship connected with it.[190]

Originality conundrum

Works which are created independently by an author, having some creativity involved in it, are termed as original. Under Indian Copyright Act, Copyright subsists in "original literary, dramatic, musical and artistic works."[191] An essential requirement for Copyright protection to subsist in literary, artistic, dramatic and musical works is originality. It means that the creative work produced must not be copied from another work and that it must originate from the author.[192] Accordingly, it is viewed that the origin or source of an

[190] Sik Cheng Peng, *Artificial Intelligence and Copyright: The Authors' Conundrum*, WIPO-WTO Colloquium Papers, 2018

[191] Indian Copyright Act, 1957, section 13(1)(a)- subject to the provisions of this section and the other provisions of this Act, copyright shall subsist throughout India in the following classes of works, that is to say,- (a) original literary, dramatic, musical and artistic works.

[192] University of London Press Ltd v University Tutorial Press Ltd (1916) 2 Ch 601, 608.

intellectual or creative work is the author, who materializes a work out of nothing.[193] Typically, an author is defined as the one who writes or creates a work.

The source of the AI-generated works has always been the point of contention. It reflects the questions as to whether sufficient labor disbursed or the 'originality' aspect in the creation of an AI-generated work, originates from the intelligent entity.

Being fed with enormous amount of data, the intelligent entity is open to produce work copied from other works. However, Copying per se does not negate copyright protection. Originality under Copyright does not reside in originality of thought or idea. In fact, by its very nature creative works is by-product of many resources, provided that the work is not blatantly copied from others. Derivative works are also protected under Copyright law, such as adaptations, or translations. Therefore, to envisage that the 'author' should be the only source of every aspect of works created is impractical and therefore unnecessary.

AI algorithms can generate highly complex and original outputs that can be viewed as creative works in their own right. On the other hand, AI systems are created and controlled by human beings, and it can be argued that humans should retain ownership over their creations.

The deciding aspect comes down to whether the expressions of ideas originates from human intervention or inputs from the programmers or researchers developing the Intelligent entity or that it originates from the intelligent entity autonomously. If the AI-generated work is produced independently by the Intelligence entity with sufficient effort, it could be considered original work and that the machine is the 'author' of the work. If there is sufficient human intervention, or sufficient input from programmers and researchers, then the team of researchers are apt to be regarded as the authors.

5.4.5 Authorship to a Non-human entity

[193] Sik Cheng Peng, *Artificial Intelligence and Copyright: The Authors' Conundrum*, WIPO-WTO Colloquium Papers, 2018… prior to the emergence of the Romantic theory of authorship, 'author' was perceived as a mere craftsman or a vehicle of muse or God. The Romantic theory of authorship departed from this by holding 'author' as the source of inspiration for a work.

Issue of authorship in relation to a non-human entity like Artificial Intelligence is a complex and multifaceted conundrum that requires ongoing discussion and consideration as technology continues to evolve.

It is considered that authorship implies a certain level of intentionality on the part of the creator, as they are consciously producing a creative work. Non- human entity like AI lacks self-awareness, even if AI algorithms can produce outputs that appear to be intentional. Therefore, they may not qualify as authors in the traditional sense.

It is considered that choices made by the author while creating work reflect the personality of the author. If autonomous decisions is taken by intelligent agent while generating works, it may establish its personality. However, for the subsistent of copyright protection, 'personality' is not a prescribed requirement. The U.S Supreme Court in *Feist Publications* case[194]observed that to be original manifestly personal input is not required from the author. A work closely resembling other works may be considered original so long as the work is not the result of copying exactly alike.

"The Copyright, Designs and Patents Act," 1988 ('the CDPA') of the United Kingdom specifically provides provisions for "computer-generated" works.[195] Under Section 9(3) of the CDPA, "In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken." Hence, creation of copyrightable expressions has magnified from conventional persons who creates "to persons who originate the process of creating copyrightable expression."[196] This has enlarged the concept of 'authorship.'

The CDPA under Section 178 defines 'computer-generated' as work produced by computer with no human author.[197] The definition of 'computer-generated' in the CDPA brings AI-

[194] *Feist Publications Inc* v. *Rural Telephone Service Co*., 499 US 340, 111 S. Ct. 1282 (1991).
[195] The Copyright, Designs and Patents Act, CDPA, 1988, United Kingdom, Section 9(3)
[196] Robert C Denicola, *'Ex Machima: Copyright Protection for Computer-Generated Works'*, 2016
[197] The Copyright, Designs and Patents Act, CDPA, 1988, United Kingdom, Section 178- "computer-generated", in relation to a work, means that the work is generated by computer in circunstances such that there is no human author of the work.

generated works within its ambit, and create an exception to the requisite of human authorship.

One approach deliberated to addressing this conundrum is to consider a hybrid model of authorship that recognizes both the role of the AI algorithm in producing the output and the role of the human creators in designing and operating the algorithm. In this model, the AI system could be viewed as a co-author of the output, with the human creators retaining ultimate ownership but acknowledging the contributions of the AI system.

5.4.6 Who should be vested with the copyright protection of the output of generative A.I.?

The question as to who should be vested with the copyright protection in relation to AI-generated works bring fort the following contender-

i. The investing company or the programmer of the AI;
ii. The intelligent entity;
iii. Public Domain

Currently, in most jurisdictions, copyright protection is granted to human creators of an original work. However, there is a growing debate surrounding whether the output of Artificial Intelligence should be eligible for copyright protection.

1. Protection to the programmer

One argument is that since the AI is a tool created by humans, that is, the programmer of Intelligence entity, the copyright should be granted to the human creator of the AI. Since, the Intelligence entity would not have come into existence without the intervention of the programmer's creativity, authorship should be granted to the programmer itself. This view is usually observed in countries like India, UK and Hong Kong. In the United Kingdom Copyright law, under Section 9(3), the author of a computer-generated work is taken "to be the person by whom the arrangements necessary for the creation of the work are undertaken."[198]

[198] The Copyright, Designs and Patents Act, CDPA, 1988, United Kingdom, Section 9(3), "In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken.

In ***Nova* v. *Mazooma Games***"[199] case, the UK Court of Appeal had the opportunity to determine authorship of a computer game. The Court stated that the player's input while playing a game determine the appearance of the display to some extent, however, a player's input "is not artistic in nature and he has contributed no skill or labour of an artistic kind." And hence, no ownership of Copyright can be extended to the player in the case. Hence, the authorship goes to the programmer and not to the user. The conundrum of authorship has been deliberated on a cases to case basis. In ***Liverpool Daily case***,[200]the court regarded the computer as a tool to create a work in the same degree as a pen is considered as a tool. The court further stated that it would be unrealistic to consider a pen to be an author of a work rather than the person who steer the pen. In *Monkey Selfie*[201] case, the U.S. Court stated that Copyright subsists in a human author and not on animals and machines in the U.S. The selfies taken by a monkey by itself does not make him the author of such selfies.

2. Rights to the Intelligent Agent itself

Another argument is that since the AI is generating a novel work using its own 'computational intellect'[202] independently, it should qualify as a creator and therefore be eligible for copyright protection.

Granting rights to an Intelligence entity would confer a legal personality. The issue of 'Personhood' of AI is still a muddled affair. The United States' copyright office has downright stated that it will "register an original work of authorship, provided that the work was created by a human being."

3. No owner or Public Domain

Another leading viewpoint regarding who should be vested with the rights relating to the AI-generated works is that it should fall into the public domain that is it should be free to use by anyone, like creative commons.

This predicament however, is adversarial to companies investing capital, effort and resources to develop a sophisticated Intelligence entity, in hope of making profit out of the

[199] *Nova Productions Ltd* v. *Mazooma Games Ltd and Ors.* [2007] EWCA Civ 219 [2006] EWCA Civ 1044
[200] *Express Newspapers Plc* v. *Liverpool Daily Post & Echo PLc* [1985] 3 All ER 680
[201] *Naruto* v. *Slater*, 888 F.3d 418 (9th Cir. 2018)
[202] Sainee Abhishek, *Artificial Intelligence and Copyright Issues*, Legal Service India E-Journal.

works. Without incentives, the tech companies may become demoralize to further invest into research and development of their project. Economic reward often always fosters innovation. With no economic reward in view, it may hinder innovation.
It is likely that this area of law will continue to evolve as AI becomes more advanced and prevalent in creative industries. It remains largely unsettled in many jurisdictions.

5.5 The issue of 'Personhood' of Artificial Intelligence

The issue of whether a non-human entity like AI should be granted an identity as a person is still vague and disputable. Conferring rights to AI would grant a legal personality. Many countries, which advocate that creative work should bear the "imprint of the author's personality"[203]are not in favor of granting legal status to AI, as AI does not possess personality. Liability for its act, accountability, capacity to enter into contract, capacity to sue and be sued, performing duties under the law, are some of the issues we are faced with pertaining to granting of legal status to AI.

It is important to mention that, "Artificial Intelligence Virtual Artist" (AIVA), an AI-based emotional music composing technology developed by Luxembourg-based startup, founded in February 2016, becomes the first ever AI to receive the status of a composer. In early 2021, the French "Society of Authors, Composers, and Publishers of Music" (SACEM) granted AIVA the status of a composer. This is a significant achievement, as it recognizes AIVA's ability to create original musical compositions to a level that is on par with human composers. Using advanced algorithms and based on technique of deep learning, AIVA is capable of generating original musical pieces, which it can tailor to match a specific style or mood.

The SACEM's decision considers AIVA as an "active member" of the organization and allows the AI to release its musical works, own the copyright, collect royalties, and have its music performed in public under the name AIVA.[204] With this recognition, AIVA become the first-ever AI-based composer to receive such a status from a professional music society. AIVA's status as a composer further emphasizes the increasing role of AI in

[203] V.K. Ahuja, *Artificial Intelligence and Copyright: Issues and Challenges*, ILI Law Review, Winter Issue 2020.
[204] Ibid.

creative industries and highlights the potential for this technology to revolutionize music production in the future.

Furthermore, in 2017, an AI humanoid robot named Sophia developed by Hanson Robotics, was granted citizenship by Saudi Arabia. The move was highly controversial, as it raised questions about the rights and autonomy of robots and AI systems and their implications on Intellectual Property Rights. It raised several concerns about the legal status of AI and the rights of robots. As Sophia is capable of generating creative works such as art or music, the question arises as to who owns the rights to these works. Granting legal personhood or citizenship, Sophia would be considered the author and owner of such works, potentially giving rise to complex legal questions about intellectual property rights. The creator of Sophia Dr. David Hanson, CEO and Founder of Hanson Robotics, himself stated in his paper titled "Entering the Age of Living Intelligence Systems and Android Society" that "As people's demands for more generally intelligent machines push the complexity of AI forward, there will come a tipping point where robots will awaken and insist on their rights to exist, to live free, and to evolve to their full potential."[205] He further stated that, "advanced robots will have the right to marry, own land and vote in general elections by 2045."[206]

5.6 Position of Indian laws

The term 'author' in relation to "computer-generated work "has been defined under section 2(d) of the Indian Copyright Act, 1957. Section 2(d)(vi) of the Copyright Act states that author means "in relation to any literary, dramatic, musical or artistic work which is computer-generated, the person who causes the work to be created."[207] Section 9(3) of the UK Copyright Act states that "In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken."[208] Unlike the UK

[205] Anthony Cuthberton, *Robots will have civil rights by 2045, claims creator of 'I will destroy humans'android*, Independent UK, 2018.
[206] Ibid.
[207] The Copyright Act, 1957, Section 2(d)(vi)
[208] The Copyright, Designs and Patents Act, CDPA, 1988, United Kingdom, Section 9(3), "In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken.

"Copyright, Designs and Patents Act"(CDPA),[209] Indian Copyright Act does not provide definition for "computer-generated work". The CDPA under Section 178 defines 'computer-generated' as work produced by computer with no human author.[210] The definition of 'computer-generated' in the CDPA tries to brings AI-generated works within its ambit, and create an exception to "all human authorship requirements".[211]

Thus, the definition of 'author under the Indian Copyright Act, reflects a conflicted (skeptical) position of AI-generated works in Indian Copyright laws. This position has been echoed continuously in a string of judicial decisions. In "***Tech Plus Media***" case,[212]the Delhi Court stated that "the plaintiff is a juristic person and is incapable of being the author of any work in which copyright may exist." The court further held that the plaintiff, however, can be owner of the copyrighted work under an agreement. In the case the plaintiff, *Tech Plus Media*, a leading IT publication house filed a suit against the defendants who were ex-employees of the plaintiff, who developed a website similar to that of the plaintiff. The plaintiff alleged infringement of Copyright in plaintiff's databases and violation of trade secrets. The court observed that the databases/information that the plaintiff claim copyright consist of collection of customers names, email addresses and particulars, and hence, the plaintiff cannot be termed as the author of such contribution, and cannot claim copyright in such collection within the meaning of Section 14 of the Copyright Act.

In *Camlin Ltd* v. *National Pencil Industries* case,[213] the High Court of Delhi clarified the meaning of the term "author". The Court stated that "mechanically reproduced printed carton" cannot be deemed as 'original artistic work' within the meaning of section 13 of the Copyright Act, as it does not originate from an author expending his labour and skill upon it. It is hard to determine the author of a mechanically printed carton, hence such carton was not a subject-matter of copyright. The court further stated that "copyright is

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[209] Ibid.

[210] The Copyright, Designs and Patents Act, CDPA, 1988, United Kingdom, Section 178- "computer-generated", in relation to a work, means that the work is generated by computer in circumstances such that there is no human author of the work.

[211] Andres Guadamuz, *Artificial Intelligence and Copyright*, October 2017, WIPO Magazine

[212] *Tech Plus Media Private Ltd* v. *Jyoti Janda & Ors*, 2014(60)PTC 121 (Del).

[213] *Camlin Pvt. Ltd.* v. *National Pencil Industries*, AIR 1986 Delhi 444

conferred only upon authors or those who are natural person from whom the work has originated. In the circumstances the plaintiff cannot claim any copyright in any carton that has been mechanically reproduced by a printing process as the work cannot be said to have originated from the author. A machine cannot be an author of an artistic work, nor can it have a copyright therein".[214]

Indian Copyright Act definition of 'author' failed to address on the issue as to whether a creator of the programme or the user of the programme would be considered or recognized as the one who making the arrangement for the work to be generated. In other words whether the maker of the paper or writer of the paper should be conferred copyrights. As for instance, every work created on Microsoft Word are not owned by Microsoft. Input of an array of instruction by the user can generate art that resembles Pablo Picasso. In these scenario, the courts deliberation on such complexities has been contrived on a case to case basis. In the *Nova Productions* v. *Mazooma Games* case,[215]the English Court of Appeal had the opportunity to decide on the authorship of a computer game. The court held that a player's input "is not artistic in nature and he has contributed no skill or labour of an artistic kind". Thus user action contribution may be contrived on a case to case basis. In India issue concerning the authorship of computer-generated work has been left to judicial deliberation and pronouncements. Presently as provided under Section 2(d)(vi) of the Copyright Act author means, the person who causes the work to be created.

[214] Ibid.. para, 54-55.
[215] *Nova Productions Ltd* v. *Mazooma Games Ltd & Ors* [2007] EWCA Civ 219, [2006] EWCA Civ 1044

CONCLUSION

Change is inevitable, be it progressive or regressive. Exceptional phenomenon such as Digital Age has become commonplace, which has spread its tentacles all over the world touching almost half of the earth's population. With it, new patterns of challenges has emerged leading to issues such as the "digital disruption", "dignity in the digital age", "national security", "intelligence cyberwar", "cybercrime", intellectual freedom", "data ethics and data privacy" etc. Every aspects of human lives are being transformed and infiltrated. Hence, there is a dire need of management and legislation changes, to keep pace with the changing time, and to meet the requirement of various aspects of the new age rationally.

The advent of digital era fueled by advanced digital technology has also impacted and re-designed the landscape of Intellectual Property (IP) Rights. The technological revolution has altered the perception of established notion of Intellectual property. What has been considered as stealing in the traditional sense, now it has been equated with 'sharing'. The line between original work, duplication and distribution has been blurred. The advent of revolutionary technology like the AI has been further muddled the perception of creativity and innovation, prompting new challenges in the realm of Intellectual Property (IP) rights. As society is evolving, the need to embrace new forms of expressions, has become significant to keep pace with the technological advancement. The necessity to understand the transformation nature of the forms of expressions and medium of expressions can go a long way in fulfilling the objective of Copyright protection that is to maintain a balance between right of creators and public welfare.

Suggestion and Recommendation

First requirement is to understand and get a coherent picture of this revolutionary change in its entirety, the generational shift that is happening in our society and economy. Today every individual or an organization needs a digital fabric to connect and unleash its creativity, to empower itself. With the advent of widespread nature of sharing, cybercrimes has become rampant. It is oftentimes hard for Intellectual Property (IP) holders to pursue any violations or infringements. Hence, there is need of public awareness of rights they

holds in their intellectual creation. Contrary to popular belief, one cannot just take materials or contents from the digital platform and use it as their own. There are policies, guidelines and laws one must abide by. And there are legal consequences for such infringements.

The Governing authority should expedite actions to make some changes in the current copyright Act to meet with the needs of the transformative era. Enhancement of technical surveillance counter measures, along with calculated legal framework catering to the needs of the creators as well as the users, will provide an impetus to the cultural heritage of a country. It will go a long way in the enhancement of the economic, social and political structure of the country.

Moreover, there is a dire need of Digital IP-specific legislation in India, as well as implementation of suitable and purposeful legal framework specific to citizen's interests in the digital space, particularly their privacy and Intellectual Property. Though we may encounter many loopholes in the implementation of regulations, as information is so hard to protect, easy to steal, as well as due to lack of precedents. There is a dearth of cases relating to social digital contents primarily conceivably due to unawareness of the issues of infringement of copyright in social platform. The security technologies should be upgraded and analyzed properly.

There is a strong need to sensitize the public on the implications of stealing copyrighted contents and sharing them on the Internet. The governing authorities, the service providers and relevant stakeholders has an important role to play in averting undue exploitation of copyrighted works in the digital environment.

Furthermore, authors and creative content creator should take on additional technological measures such as watermarking and blockchain to protect their creative work and avert unwarranted exploitation of their work.

Hence, any insights which helps in rationalizing the concern avoiding unrealistic assertions ought to be encouraged. Moreover, further research and work is needed to properly estimate the issues relating to copyright protection in the digital age as well as the Intellectual Property rights.

To conclude, it can be surmised that Intellectual Property rights can be highly valuable rights playing a significant role in attainment of a competitive edge today. Hence, proper assessment of the Intellectual Property (IP) rights of the copyright holders and the promotion of public welfare, creativity and inovation should form the strategy of the governing institution in the national as well as in international fora.

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