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# INTELLECTUALIS

Fostering a New Era: Technology, Innovation, and IPR



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# EDITORS' NOTE

**Dear Readers,**

We proudly present the first edition of Volume 4 of Intellectualis, with the theme 'Fostering a New Era: Technology, Innovation and IPR'. This issue highlights various facets of IP Rights and its interface with various technologies and innovation. Our contributors have provided a diverse range of interesting articles that will pique your interest in the poignant role Intellectual Property Law plays in protecting various innovations, thus encouraging our world to become more modern and futuristic by the minute.

We hope that you take the time to read what our e-newsletter has to offer. We would like to extend our gratitude to the student body of School of Law, CHRIST (Deemed to be University) for their overwhelming response to the newsletter. We would also like to thank our Chairpersons, Dr. Avishek Chakraborty and Dr. Aradhana Satish Nair for constantly supporting us and guiding us through the drafting of this newsletter.

We hope you enjoy reading this Edition!

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# ANALYSING THE USE OF NFTs FOR PROTECTION OF DIGITAL ARTISTIC WORK

- *Anjali Baskar*

## Introduction

NFTs or non-fungible tokens are often confused with Bitcoin, but they do not fall under the ambit of cryptocurrencies or any other type of currency. This is because they are unique collectables, which cannot be traded for a certain amount of Bitcoin or US dollars or even for other NFTs. Artists all over the world have thus started using NFTs to protect their digital artistic works. India's first successful NFT marketplace, "WazirX,"<sup>i</sup> opened in June 2021 and showcases art ranging from fan art<sup>ii</sup> to Olympic medal art collections<sup>iii</sup> to triumphant music.<sup>iv</sup> Anyone creating an NFT for sale based on a work with copyright over it needs to seek permission from the owner of that work. NFT buyers do not own every copy or derivative works of the underlying work or the underlying work itself. They merely own a copy of the work that they buy.

## Why do artists use NFTs?

Creators use NFTs to determine who buys and sells their work and expand business in a more secure way against a world where piracy and plagiarism are rampant. NFTs help creators secure definite versions of their digital art in the form of tokens (as the name suggests) and convert these assets into viable

commodities, ensuring that they cannot be counterfeited. At present, India does not explicitly recognize nor ban NFT trading under the Securities Contract (Regulation) Act, 1956 or the Copyright Protection, 1957. In the USA, some state laws have included NFTs within the judicial purview.<sup>v</sup>

They are essentially computer files stored on digital public ledgers using Blockchain technology, but unlike other transactions in the digital space, the sale is accompanied by proof of authentication and ownership<sup>vi</sup>. Artists usually sign up with an NFT marketplace to sell and distribute their work in the form of tokens by providing information via an Ethereum Blockchain. NFTs do not have a pre-determined value. They have valuations according to the amount set by the highest bidder, just like at a physical auction selling a Monet or a Picasso painting. The need for these NFTs has arisen because digital art has largely been undervalued because of its easy accessibility<sup>vii</sup>, unlike physical art, which has been harder to steal or replicate. Thus, there is an argument by artists that NFTs increase financial value by making the works scarce.<sup>viii</sup>

Collectors tend to care about the root source or the original pieces, so NFTs help them track those works down in a faster and efficient manner. That's why Wu-Tang Clan's album *Once Upon a Time in Shaolin* was valued at \$2 million in 2015.<sup>ix</sup> Though artistic works circulated in these marketplaces are mostly paintings, other forms of art like music and GIFs are also sold online. However, there have been legal concerns regarding the "gate-keeping" of works through NFTs. Some artists argue that since Blockchain records data that can be traced with a timestamp on a ledger, it symbolises perpetual ownership. Sellers can track when the NFT was traded, the parties involved, and the amount it was finally sold for by looking into Blockchain transactions.

### **Copyright and Security Problems with NFTs**

The counter-argument is that NFTs represent unique assets but are not assets in their actual form unless the artist transfers the entire ownership rights and/or copyrights to the purchaser of the token. No NFT can retain the same value of the original asset when replicated. Thus, there is a misconception formulated that exclusive ownership of the version equals ownership over the work. Even though the NFT auction has the same procedure as an offline one, there is no copyright infrastructure bounded by any international or domestic law that makes the exchange of NFT copyrights possible.

Without the transfer of rights, the artist merely retains a unique hash on the Blockchain,<sup>x</sup> which keeps a record of the transactions, and a hyperlink to the artwork file. NFTs must have a signature by the uploader, by which the artist can mint them out, which is similar to a painting signed by the artist. There are no guarantees whether this signature is authentic because many minters can fake their identity, especially with many artists using pseudonyms to conceal their identity from people who know them.<sup>xi</sup> People are also selling tweets and old memes created by other people because there is no legal framework that would stop them. So, while NFTs are not hackable for the most part, the art they are selling can be stolen.

Under the US Copyright law, a limitation with respect to this issue is known as the first-sale doctrine.<sup>xii</sup> The US Copyright Act, 1976<sup>xiii</sup>, states that it is lawful for the owner of copyrighted works to sell or destroy any physical copies. This means that, after the creator sells the work, they cannot ask the buyer to obtain permission from them whenever they want to do something with the art. The US Copyright Office stated in 2001 that since digital works are not fungible, a right of first sale could not exist over the works because they are copies by their true nature. This principle was also upheld in *Capitol Records LLC v. ReDigi Inc.*<sup>xiv</sup>, where the court held that a transfer of a digital file should fall under the ambit of "ongoing reproductive right" as the distributive right

attached to the first sale doctrine does not apply here. This is because the artist cannot hand over a hyperlink of the artwork without making a copy.

## Conclusion

One solution proposed is to create a uniform structured framework recognised by international law, similar to the Berne Convention, which advocated for standardised copyright protection

guidelines across the world. This would hold NFT sellers liable if they appropriated the art of digital creators. Despite hesitancy by collectors and authors, NFTs have proven to be a lucrative investment, at least for some people. In March 2021, an artist Mike Winkelmann or “Beeple,” became the third richest living artist in the world after selling his purely digital collage for 69 million dollars.<sup>xv</sup>

<sup>i</sup> Wazirx, at <<https://wazirx.com/invite/h6qdrpb4>>

<sup>ii</sup> Wazirx, at <<https://nft.wazirx.org/MyCuteMini/3953>>

<sup>iii</sup> Livemint, ‘WazirX NFT marketplace launches Olympic-themed collectibles’, Livemint <<https://www.livemint.com/market/cryptocurrency/wazirx-nft-marketplace-launches-olympic-themed-collectibles-11627557052452.html>> accessed 25th September 2021.

<sup>iv</sup> Wazirx, <<https://nft.wazirx.org/djshaan/2404>>

<sup>v</sup> Jones Day, ‘NFTs: Key U.S. Legal Considerations for an Emerging Asset Class’, Jones Day <<https://www.jonesday.com/en/insights/2021/04/nfts-key-us-legal-considerations-for-an-emerging-asset-class>> accessed September 26<sup>th</sup> 2021

<sup>vi</sup> Amy Whitaker, ‘Art and Blockchain: A Primer, History and Taxonomy of Blockchain Use Cases in the Arts’, *Artivate*, (2019) Vol. 8, No. 2.

<sup>vii</sup> BBC News, ‘NFTs Are Shaking Up the Art World—But They Could Change So Much More’, BBC News <<https://time.com/5947720/nft-art/>> accessed on September 27<sup>th</sup> 2021

<sup>viii</sup> Tonya M. Evans, ‘Cryptokitties, Cryptography, and Copyright’, (2019) 47 *AIPLA Q. J.* 21.

<sup>ix</sup> Katya Fisher, ‘Once upon a Time in NFT: Blockchain, Copyright, and the Right of First Sale Doctrine’, 37 *CARDOZO Arts & ENT. L.J.* 629 (2019).

<sup>x</sup> Harrison Jordan, ‘No, NFTs aren’t copyrights’, Tech Crunch <<https://techcrunch.com/2021/06/16/no-nfts-arent-copyrights/>> accessed September 26<sup>th</sup> 2021.

<sup>xi</sup> James Purtill, ‘Artists report discovering their work is being stolen and sold as NFTs’, ABC News Australia <<https://www.abc.net.au/news/science/2021-03-16/nfts-artists-report-their-work-is-being-stolen-and-sold/13249408>> accessed on September 26<sup>th</sup> 2021.

<sup>xii</sup> *Supra* note 9.

<sup>xiii</sup> 17 U.S. Code § 109.

<sup>xiv</sup> *Capitol Records LLC v ReDigi Inc.*, 934 F. Supp. 2d 640 [S.D.N.Y. 2013]

<sup>xv</sup> Jacob Kastrenakes, ‘Beeple sold an NFT for \$69 million’, The Verge <<https://www.theverge.com/2021/3/11/22325054/beeple-christies-nft-sale-cost-everydays-69-million>> accessed 26th September 2021.

# 3D PRINTING: A TECHNOLOGICAL ATTACK ON THE INDIAN IP REGIME

- *Sanjana Santhosh*

3D Printing has revolutionized the technological world with its adverse consequences of depriving IP holders of their rights and substantial revenues due to its capability of producing and disseminating multiple copies of original works anonymously. We are gradually transforming from a two-dimensional world to a three-dimensional one where nothing exists in pure fictional form. However, with great innovation comes greater debates and regulatory challenges. Various aspects of IP law face attacks from this new technology due to the grey areas that exist regarding protection and infringement. One of the major concerns is determining whether infringement of IP rights arises upon using CAD files or the 3D printed product. This article aims to highlight the regulatory concerns under the Indian IP regime and pinpoints the nanoscopic areas that require attention for reforms.

## **The Conflict between Copyright Law and Design Law**

The activities of 3D Printing are presently taking place with bare minimum issues; however, there are a plethora of IP laws that get caught up in the complexities of dealing with 3D Printing. Thus, we

are not too far off from witnessing possible clashes between various IP laws on the matter.

Copyright, Designs, Patents, and Trademarks are the only four IPRs that bear the ramifications of this technology. As far as Copyright is concerned, Section 13(1) of the Copyright Act, 1957 states that Copyright in India exists only in the following classes of work:

- i) Original literary, dramatic, musical, and artistic works;
- ii) Cinematograph films; and
- iii) Sound Recording<sup>i</sup>

A perusal of the above provision brings up the issue of whether 3D Printing entails being an artistic work? Further, would the hardware related to 3D Printing fall under the ambit of “computer” since the very Act defines it to include “*any electronic or similar device having information processing capabilities*”?<sup>ii</sup>

The determination of the type of Copyright faces such clashes within the Indian Copyright regime. However, the issue does not stop there as a broader conflict arises regarding whether 3D Printing falls under Copyright or Design law.

The term “Design” is defined as follows under the Designs Act 2000:

*“Only the features of shape, configuration, pattern, ornament or composition of lines or colours applied to any article whether in two dimensional or three dimensional or in both forms, by any industrial process or means, ..... does not include any trade mark as defined in clause (v) of sub-section (1) of section 2 of the Trade and Merchandise Marks Act, 1958 or property mark as defined in section 479 of the Indian Penal Code or any artistic work as defined in clause (c) of section 2 of the Copyright Act, 1957”.*<sup>iii</sup>

A scrutiny of the provision under the Designs Act clarifies that if 3D Printing is capable of falling under the ambit of “artistic work”<sup>iv</sup> under the Copyright Act, the same will not qualify as “Design” under the former Act. However, this contradicts Section 15 of the Copyright Act, 1957 which dismisses Copyright in any design capable of registration under the Designs Act, 2000. This clash between “design” and “artistic work” thus loses the efficacy of the concerned provisions due to the indecisiveness that exists for protecting 3D Printing under the Copyright or Design law.<sup>v</sup>

### **The Proximity between Trademark law and 3D Printing**

The IP Regime, made accountable for 3D Printing activities, is pertinent to be acknowledged because it

has become fairly simple for an individual to produce, sell, and distribute 3D printed materials or even its copy at cheaper rates without the consent of the IP holder. Thus, it is necessary that the very source of such issues, i.e., CAD files, are regulated through various IP legislation to prevent IP infringement.

Trademarks in India are regulated through the Trade Marks Act, 1999, which allows the registration of marks that distinguish the products and services of one owner from the other. Once such a trademark is registered, only the owner will have the exclusive right to use the mark on his goods and services during the course of trade. Such trademarks are said to be infringed when an individual uses deceptively similar marks compared to the registered mark.<sup>vi</sup>

CAD files may consist of the digitalized version of such trademarks, which may easily be converted to 3D Printed material, leading to infringement. Any individual possessing such CAD files will be able to easily iterate the product through 3D Printing, leading to a digital counterfeit. Thus, the owners of such CAD files may be liable for primary infringement. In contrast, the files' creators will be liable for secondary infringement under the Trade Marks Act, as the creators are responsible for inducing the direct infringer to commit such a violation.<sup>vii</sup>



## Patent Concerns with 3D Printing

3D Printing has witnessed an increased shift in the ability to manufacture by traditional manufacturers to manufacturing ‘at home’, the resultant effect being distress caused in the IP Regime. This shift in competency poses adverse effects in pinning liability and creates a grey area in patent protection because patented products can easily be made at home, thus making patent enforcement nearly impossible.

Section 48 of the Patents Act, 1970 states that “*a patent granted under this Act shall confer upon the patentee the exclusive right to prevent third parties, who do not have his consent, from the act of making, using, offering for sale, selling or importing for those purposes that product in India.*” Thus, it is evident that the patent law prohibits the usage of a patented product and prohibits its sale. However, the problem arises with Computer-Aided Design (CAD) files, where online users can easily create designs and generate patented goods using them through 3D Printers, thus resulting in unintentional patent infringement.<sup>viii</sup>

The gravity of the issue increases with the added element of ‘anonymity of users downloading the various versions of CAD files as the incentive for using such software is rooted in the mere interests of amateurs rather than profit incentivisation.<sup>ix</sup> The Patent Act specifically prohibits the ‘*act of making*’ patented products, posing a difficulty before patent

law in determining the number of users downloading CAD and creating patented products out of them.

Further, not all 3D printed products can be patented. The product must have an inventive step, be capable of industrial application, and be novel. It should also fall within the ambit of Section 2(1)(j) of the Patents Act, but not under the exceptions of Section 3 of the Act.<sup>x</sup> A considerable degree of clash exists between technology and patents. For instance, Section 3(j) of the Patents Act prohibits patenting “*plants and animals in whole or any part thereof.*”<sup>xi</sup> Therefore, even a 3D printed organ of an animal may not be patented even though it involves human interference majorly and is not naturally occurring. Thus, with the advent of 3D Printing, the Indian Patent law has to mould itself to adapt to technological dynamics and forego archaic systems.

## Conclusion

3D Printing has proved to be a great technological contribution by replacing the traditional manufacturing process; however, each dissemination of this invention can lead to a potential loss of a sale to the patent holder. The biggest issue and the biggest asset of the 3D Printing process is the CAD file. So far, 3D Printing has not reached its peak, but once it qualifies as a mainstream technology, the IP rights of the original CAD file owners need to be protected. Otherwise, this can lead to the commercialisation of CAD files where consumers can easily print products,

ultimately losing the need for IP protection.<sup>xii</sup> The focus should be on developing a robust regulatory framework for demarcating IP violations with regards

<sup>i</sup> S. 13(1), the Copyright Act, 1957.

<sup>ii</sup> S. 2(ffb), the Copyright Act, 1957.

<sup>iii</sup> S. 2(d), the Designs Act, 2000.

<sup>iv</sup> S. 2(c), the Copyright Act, 1957.

<sup>v</sup> Neil Wilkof, Shamnad Basheer, “Overlapping Intellectual Property Rights”, Oxford University Press, 2012, pp. 293–295. SPRINGERLINK

<<https://link.springer.com/article/10.1007/s40901-015-0015-y>> accessed 24 September 2021.

<sup>vi</sup> S.29, the Trademarks Act, 1999.

<sup>vii</sup> “3D Printing: Ctrl+P the Future, A Multi-Industry Strategic, Legal, Tax & Ethical Analysis”, Nishith Desai Associates, 2020, pp.5-8

to the use of CAD files or the use of 3D Printed products.

<[http://www.nishithdesai.com/fileadmin/user\\_upload/pdfs/Research\\_Papers/3D\\_Printing.pdf](http://www.nishithdesai.com/fileadmin/user_upload/pdfs/Research_Papers/3D_Printing.pdf)> accessed 24 September 2021.

<sup>viii</sup> S.48, the Patents Act, 1970.

<sup>ix</sup> Davis Doherty, “Downloading Infringement: Patent Law as A Roadblock To The 3d Printing Revolution”, HARV. J. L. & TECH.vol.26,2012,<<http://jolt.law.harvard.edu/articles/pdf/v26/26HarvJL-Tech353.pdf>> accessed 24 September 2021.

<sup>x</sup> S.2(1)(j), S.3, the Patents Act, 1970.

<sup>xi</sup> S.3(j), the Patents Act, 1970.

<sup>xii</sup> Timothy Holbrook, “How 3-D Printing Threatens Our Patent System”, 2016,

<<https://www.scientificamerican.com/article/how-3-d-printing-threatens-our-patent-system1/>> accessed 24 September 2021

## MONSANTO V. NUZIVEEDU SEEDS: PATENTING BT COTTON

- **Keerthana R**

### Introduction

Manifestations of modern research and agricultural discoveries have led to increased innovation in the agricultural industry. This calls for licensing and protection of the new agricultural methods and developments; however, there is some controversy regarding the issuance of IP rights biotechnological advancements. While some argue that patents and trademarks incentivise inventors while also preventing exploitation of ideas, others find that strict

enforcement of such rights may prevent broader sharing of such technology.

In the above case, Monsanto Technology LLC, an agriculture-focused company, had acquired a registered patent for the Nucleotide Acid Sequence (NAS) containing the gene *Bacillus thuringiensis* (Bt gene), and upon insertion of this gene into the DNA of cotton seeds, it would result in a bollworm-resistant cotton plant variety.

Monsanto Tech filed a suit against Nuziveedu Seeds Limited in 2016 for patent infringement, and Nuziveedu filed a counterclaim challenging the patent's validity in itself.<sup>i</sup> The trial court upheld the validity of the patent, which was followed by an appeal to the High Court against the order of the trial court. The High Court then revoked the order of the trial court stating that the invention was not patentable as under Section 3(j) of the Patents Act, 1970, which states that "plants and animals in whole or any part thereof other than micro-organisms but including seeds, varieties and species and essentially biological processes for production or propagation of plants and animals" are not inventions within the meaning of the Act.

The Supreme Court then held that the High Court had erred with regards to invalidating the patent simply because the validity was judged on the prima facie examination of facts. Since the validity of a patent is a question of both law as well as facts, expert testimonies and evidence had to be considered while deciding upon the same.

The critical issue here was whether NAS is a "part of the plant or seed" after its insertion into the DNA sequence of plants, and if not, it would come under the ambit of the Patents Act. Article 27.3 of the TRIPS Agreement imposes upon the member States an obligation to protect plant varieties and hybridisation of flora via patent acts or through a *sui*

*generis* law. India chooses to do this via public policy which is why it seems like an opportunity well used on the part of the Supreme Court. The blatant disregard meted out by the lower courts towards intellectual property rights warranted the Supreme Court's remand<sup>ii</sup> wherein it was held that:

"While Section 64 of the Patents Act provides for revocation of patent based on a counter claim in a suit, it is observed that the provision necessarily presupposes a valid and detailed consideration of the claims in the suit and the counter claim in accordance with law and not summary adjudication sans evidence."<sup>iii</sup>

### **Biotech and IPR**

Insulin and blood transfusions are only a few examples of how immensely biotechnological advancements can help humankind and the health industry. As such, biological advancements and DNA related experimentation, should it result in a useful product, should be patentable as under a Utility Patent.

Lines of genetic code are similar to computer code to some extent. Additions and deletions of said code could result in a completely new plant variety or program which is why each variant must be protected. Harmonization of patent protection and open access to such technological advancements calls for a complicated balancing game especially since biotechnological discoveries may very well impact

our daily lives. The Bt cotton variant in this case had previously been banned by the State of Maharashtra in 2012 in order to promote local seeds which required significantly less fertilizers and pesticides however, this ban was lifted after a subsequent variant was developed and patented by the Punjab Agricultural University. Now that Genetically Modified Organisms (GMOs) and Hybrid Seeds have started gaining popularity with farmers and agriculturists, the need for IPR recognition and enforcement has only risen.

### **Legal Analysis**

Monsanto's claim revolved around the fact that NAS was not a naturally occurring microorganism and was manufactured via human processes, it was thus was patentable under the Act since it fulfilled all the criteria for patentability.

Nuziveedu stated that NAS was not industrially useful alone. Only after addition to the seed could the microorganism fulfil the criteria of novelty and usefulness. Further, NAS could not reproduce on its own and was merely a chemical composition.

In this case, the order of the Delhi High Court directing Monsanto to continue supplying BT cotton seeds was a clear violation of the contract entered into by the parties and further, the cancellation of the patent by the division bench was not justified since Section 3(j) states that while one cannot patent a plant, an animal or a biological process, the present

case concerns a biotechnological invention that clearly requires human intervention and creativity. The modified DNA sequence is also an artificial process and since NAS cannot biologically reproduce on its own, it cannot classify as a biological process either.

Under Rule 26(5) of the European Patent Convention, *"a process for the production of plants or animals is essentially biological if it consists entirely of natural phenomenon such as crossing or selection"* and this goes to prove that the patent was indeed valid and the decision of the High Court was inapt. When the case was then appealed in the Supreme Court, the Court reiterated that consideration of Section 64 of the Patents Act and Section 9 of the Civil Procedure Code is crucial when revoking a patent and thereby remanded the case to the Single Judge for disposal. This indicated a huge loss of opportunity to set an example owing to the unique circumstances of the case. Had the apex Court decided the matter itself, it would have set an unprecedented example for the future.

### **Conclusion**

Biotechnology requires investment and in order to bring potential investors into the development of new experiments, IPR offers the biotech firms a sort of guarantee that testifies the unique aspect of their product. This in itself would contribute greatly towards securing future funding. Exploitation of such

discoveries can also be prevented via IPR and the present case rightly reiterates the same.

The Monsanto case has highlighted the importance of IP law with regards to biotechnological advancements and this decision has thereby not only reassured the companies to continue research and development but also seek protection under Patents Act, 1970. The case has also reiterated that Patent law related to biotechnological inventions including DNA, RNA, rDNA and research in the area do

classify as technological advancements that warrant protection via IPR.

The Supreme Court, by reiterating the need for evidence and expert testimonials while deciding upon the validity of a patent has emphasised that the Patents Act must be referred to in a wider perspective since patent issuance and enforcement would not only help the economy but also incentivise future research and development.

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<sup>i</sup> Monsanto Technology LLC v. Nuziveedu & Ors AIR 2019 SC 559.

<sup>ii</sup> Shree Vardhman Rice & Gen Mills v. Amar Singh Chawalwala (2009) 19 SCC 257; Bajaj Auto Limited v. TVS Motor Company Limited (2009) 9 SCC 797.

<sup>iii</sup> Monsanto Technology LLC v. Nuziveedu & Ors AIR 2019 SC 559.

# THE RISING MARKET OF VIDEOGAMES AND THE STATUS OF GAME ENGINES WITH RELATION TO IP RIGHTS IN INDIA

- *Athul Vijay*

## Introduction

A video game named Raji, made by Nodding Head Games was recently nominated for The Game Awards 2020, thus becoming one of the first games to receive the honor of nomination.<sup>i</sup> The Game Awards is an extremely prestigious award show which showcases some of the most critically acclaimed games of the year. The nomination of Raji

in the category of Best Debut Game has put India on the map of the global video game scene as a country with the potential to release full-fledged AAA games into the market. This has called into question the legal status of video games within India and the need to develop the market into a fully-fledged one with the

means to compete with the video game markets currently in place within other countries.

Video games have evolved rapidly within the last decade, and the onset of the coronavirus pandemic has forced most of the world indoors, thus driving many to turn to video games for entertainment. The market for video games throughout the world has evolved into one worth almost 300 billion dollars.<sup>ii</sup> A huge amount of video games are released every year by video game manufacturers, thus making it one of the biggest and most competitive markets. Along with the development of the video game market, there arises a need to consider how video games will fare in the realm of Intellectual Property Rights within India.

The lack of proper and defined legislation for video games in India brings forth the question of how the unique creations of video game companies can be protected. India is one of the most rapidly evolving technological giants in the world. Thus the question arises on how India can establish a proper foothold in the video game market. This article seeks to study the current status of video games within India under the ambit of Intellectual Property Rights and to understand the future of video games in India.

### **Intellectual Property and Video Games in India**

Video games have evolved throughout the years. The legal status of video games is something still subject

to heavy debate. Various forms of video games involve various forms of intellectual property protection. Article 2 of the Berne Convention for the Protection of Literary and Artistic Works<sup>iii</sup> deals with literary and artistic works, including dramatic works, works similar to photography and cinematographic works. Video games are essentially a work of art consisting of both cinematographic and audio-visual elements and thus can be given a status similar to motion pictures. Video games are also essential pieces of software and therefore can come under the definition of literary works under Article 2 of the Berne Convention.

In India, neither the Copyright<sup>iv</sup> nor the Trademark Act properly defines video games leading to developers copyrighting video games as literary or cinematographic works under the definition laid down under Section 2 of the Indian Copyright Act. However, the complex nature of a video game is such that multiple copyrighted works<sup>v</sup> exist within it, such as musical works and third-party software used to create the game. Games use copyrighted audio tracks and musical works, which form an integral part of the gameplay mechanic.

In the Grand Theft Auto games, a radio feature is available wherein a player can switch through in-game radio stations and listen to the ones they please. These radio stations feature songs from famous artists like Britney Spears, Hall and Oates, and even Rahul

Dev Burman.<sup>vi</sup> Some video games are direct adaptations of novels such as the Tom Clancy video game series.<sup>vii</sup> The presence of multiple copyrighted materials forming the crux of video games brings into question the uniqueness of the medium from a legal perspective. Section 17 of the Indian Copyright Act<sup>viii</sup> provides copyright protection to individuals for their independent creations. However, if such creations are made while working with any employer under service contracts, the resulting rights would rest with the employer. Independent creators handing their creations over to game development companies would lose their rights to the developer who would hold exclusive rights.

### **Video Game Engines and IP**

Video games are created using Game Engines, licensed by companies to aid in the production of a video game.<sup>ix</sup> Some of the most famous game engines are Unreal Engine, Unity, CryEngine, and Frostbite Engine. These Game Engines are leased out to game developing companies who then build their game within the engine. Thus, Game Engines essentially act as a platform for building the game from scratch.

Video game engines are essential to the production of a game. Well-established video game developers who have stood the test of time, such as Valve and Infinity Ward, have in-house game engines<sup>x</sup> which help them develop video games without the help of any third-party engine provider. But budding video game

developers require existing video game engines from other manufacturers. As a result, they loan engines from other video game companies to create their games. A certain similarity exists between all the games made within the same engine owing to the fact that they share the same source code. For example, a game made on an engine designed by the Valve corporation will share similarities with other games developed on the same engine. This is a result of the engine itself, and all games made on a certain engine shall share similarities with its source code.<sup>xi</sup> Thus, the issue of copyright infringement is side-stepped as long as the creator gives due credits to the engine and its developer.

The *Sega Enterprises Ltd. v. Accolade, Inc*<sup>xii</sup> case was an important case dealing with the legal rights of the fundamental framework of a video game. In this case, the video game company Sega had a form of code inserted into their video game cartridges developed or licensed by them so that only the games approved by the company could run on their console, the Sega Genesis. Accolade, an American video game development company, had replicated the code of the Sega Genesis games through a reverse engineering process to bypass hefty licensing costs. The source code helped them to create game cartridges that were able to run on the Sega system. Following the release of Accolade game cartridges compatible with Sega Genesis consoles, Sega filed a trademark and copyright infringement case against Accolade. The



U.S. Court of Appeals held reverse engineering of a copyrighted code to be legal provided such a course of action is the only way to access copyrighted materials of a video game. It would in that case fall under the ambit of fair use and evoke the 'sweat of brow' doctrine in favor of Accolade.

This judgment is instrumental, as video game developers are protected from any restrictive practices by companies whose game engines they use, enabling them to have proper means to distribute their games through multiple platforms. In India, a significant lack of game engines created within the country has resulted in Indian game developers using the engines of other developers to create video games. In the absence of a legal framework for video games, standard software licensing rules apply for Indian game developers licensing engines from other companies.

## Conclusion

The technological sector within India has been growing rapidly within the past decade. The entry of Indian game developing companies as key players within the international market would open up new opportunities for employment and a new consumer base within the country. Thus establishing a proper legal framework is vital in encouraging video game development within the country. The complex nature of a video game cannot be contained within the ambit of 'cinematographic works' and thus requires a fresh and fleshed-out approach to protect Indian game developers. The rise of streaming platforms such as Twitch and YouTube has seen more Indians spend their time playing and streaming games, thus creating a rising video game market that will require a proper legal framework to function and compete.

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<sup>i</sup> Shouvik Das, 'India's First Game Awards Nominee, Raji: An Ancient Epic, Can Mature Our Gaming Industry', (NEWS18, December 11 2020) <<https://www.news18.com/news/tech/indias-first-game-awards-nominee-raji-an-ancient-epic-can-mature-our-gaming-industry-3168029.html>> accessed October 29th, 2021.

<sup>ii</sup> 'Global Gaming Industry Value Now Exceeds \$300 Billion, New Accenture Report Finds', (ACCENTURE NEWSROOM, April 29th 2021) <<https://newsroom.accenture.com/news/global-gaming-industry-value-now-exceeds-300-billion-new-accenture-report-finds.htm>> accessed September 1st 2021.

<sup>iii</sup> Berne Convention for the Protection of Literary and Artistic Works, Article 2.

<sup>iv</sup> Reethika Wadhwa, Merril Joy, 'Copyright in The Gaming Industry' (MONDAQ, Jan 3rd 2020)



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<<https://www.mondaq.com/india/copyright/879888/copyright-in-the-gaming-industry>> accessed September 1st, 2021.

<sup>v</sup> David Greenspan, 'Video Games and IP: A Global Perspective'. (WIPO, Aug 31st, 2018) <[http://www.wipo.int/wipo\\_magazine/en/2014/02/article\\_0002.html](http://www.wipo.int/wipo_magazine/en/2014/02/article_0002.html)> accessed September 1st, 2021.

<sup>vi</sup> Wikia, 'GTA Wiki: Radio Stations' <[https://gta.fandom.com/wiki/Radio\\_Stations](https://gta.fandom.com/wiki/Radio_Stations)> accessed September 1st, 2021.

<sup>vii</sup> Daniel Terdiman, 'Ubisoft buys Tom Clancy's name', (CNET March 20, 2008) <<https://www.cnet.com/news/ubisoft-buys-tom-clancys-name/>> accessed September 1st 2021.

<sup>viii</sup> Copyright Act, 1957, Section 17.

<sup>ix</sup> Jared Halpern, 'The What and Why of Game engines', (MEDIUM December 11, 2018)

<<https://medium.com/@jaredehalpern/the-what-and-why-of-game-engines-f2b89a46d01f>> accessed September 1st, 2021.

<sup>x</sup> Kim Byung-Wook, 'Why develop in-house game engines?', (THE KOREA HERALD March 23, 2021) <<http://www.koreaherald.com/view.php?ud=20210323000704>> accessed September 1st, 2021.

<sup>xi</sup> Sughandha Nayak, 'Copyright Protection for Computer Software an Indian Perspective', (MONDAQ, Sept 13th, 2013) <<https://www.mondaq.com/india/copyright/262564/copyright-protection-for-computer-software-an-indian-prospective>> accessed September 1st, 2021.

<sup>xii</sup> Sega Enterprises Ltd. v. Accolade, Inc. [1992] 977 F.2d 1510 [9th Cir. 1992].

## CASE INGOTS

### **Dassault Systems Solidworks Corporation & Anr v. Spartan Engineering Industries Private Limited & Anr. [34/2021 I.A. 1042/2021]**

The plaintiff is a French company called Dassault Systems which filed a suit alleging copyright infringement of their software, Solidworks by the defendant Spartan Engineering. The plaintiffs claimed copyright on the basis of the Copyright Act, 1957 (Act) and the tenets laid down under the Berne convention. The court issued an order in favor of the plaintiffs by stating that “Software infringement is a serious issue, and deserves to be nipped in the bud.” The court held that the definition of literary works can be extended to software and upheld Section 40 of the Copyright Act providing copyright to foreign works.

### **GE Power India Limited v. NHPC Limited [CS (COMM) 140/2020 & I.A. 4016/2020]**

This case relates to an allegation of infringement upon copyrighted architectural drawings. The Delhi High Court held that the case cannot be tried in the Court as there was no prima facie case. The Court quashed the argument of the defendant wherein fair dealing under Section 52(1)(a) of the Copyright Act was invoked. The section was only applicable to private use and since the defendants used it for commercial purposes, it could not be termed as fair dealing. But the lack of proof of any vested interest from the plaintiff had resulted in the Delhi High Court dismissing the case as there was no basis for one prima facie.

### **Jagran Prakasham Ltd. vs. Telegram FZ LLC & Ors [CS(COMM) 146/2020]**

Online pdf copies of the issues of Dainik Jagran newspapers were being circulated via Telegram channels without the consent of the newspaper. The newspaper filed a suit alleging copyright infringement against Telegram stating that they had violated their trademark rights and copyright by acting as an intermediary in circulating the digital copies. The Court issued an ad-interim injunction by stating that the plaintiff had made a compelling case prima facie and directed Telegram to release the information of the owners of the channels involved in circulating the newspaper. The court further directed Telegram to remove all channels that participated in this infringement.

# A BEGINNER'S GUIDE TO INTELLECTUAL PROPERTY IN THE FINTECH INDUSTRY

- *Joanna L. Mathias*

## Introduction

It's difficult to deny the impact of the FinTech sector on business around the world as the technology industry grows. It is a rapidly growing industry that has transformed business operations. FinTech is applicable not only for Investment apps but also insurance, cryptocurrency as well as mobile banking. This industry is not new but it has grown very quickly and become one of the most important sectors of the 21st century. Globally, the tremendous rise of fintech companies and marketplaces has increased the exposure of vulnerabilities in fintech infrastructure.<sup>i</sup> These risks can be mitigated by making full and proper use of intellectual property. In this article, we discuss the scope of Intellectual Property in the FinTech sector and its Importance. Patents, trademarks, copyright, designs, and trade secrets are just a few of the forms of IP protection that might be accessible to fintech. The strongest rights are usually regarded to be ones that are registered intellectual property rights (patents, registered trademarks, and registered designs) since they are simpler to enforce.

## Copyright

Copyright is a crucial tool for Fintech firms to safeguard their intellectual property, especially when

the suggested software provides excellent computing performance and utility. Computer code, visual interface features, audio and video tutorials, application programming interface (API) structure, and other works are all automatically covered by copyright. Source code, pseudo code, machine code, and purpose-built hardware or firmware are all examples of computer code.<sup>ii</sup> For a FinTech firm, copyright is an essential intellectual property asset, especially if the software design delivers computational and usability efficiencies. Companies in the Fintech industry should offer adequate security for programmers' work since they may mistakenly and without authorization utilize third-party source codes in their work, which may jeopardize ownership of the technology and the organization's ability to function.

## Patents

Patents are a tool for preventing other firms from developing, using, and selling patented technology. This enables firms to acquire or maintain market share while still protecting their R&D expenditures. Patents provide a competitive advantage and are utilized as a bargaining weapon. Any technological development plan should examine whether or not key

technical innovation is patentable. Competitors and other actors may have their own patents or pending applications, so companies should be informed of other publications and lawsuits. In compared to other intellectual property rights, obtaining patent protection is a time-consuming and costly procedure. However, there exist international agreements that allow for the postponement of expenditures while ensuring the early initiation of protection for significant innovations. Given the quick rate of development in Fintech, getting early protection is critical owing to the structure of the patent system, in which the date of filing the application is quite important.

### **Trademark**

Fintech firms should definitely consider investing in the reputation of their trademarks, as this ensures good customer service and quality. Fintech companies want strong trademarks to set themselves apart from their competitors. Given that Fintech firms frequently handle critical financial assets, a recognizable trademark (brand) may be very vital to their clients.

### **Industrial Design**

The "look and operation" of tangible things such as electronic cards, transaction devices, computer interfaces, and icons can be protected using industrial designs. Industrial design protection may be a significant asset, especially if a feature contributes to

the distinctiveness of a trade mark, product, or service, or enhances the usability of a product.

### **Trade Secrets**

Trade secrets do not need to be registered, but firms must take reasonable efforts to keep them hidden. In turn, as long as the protected information is kept secret and has commercial worth, it can be safeguarded for an indefinite amount of time. Unfair business practices include misappropriation (e.g., unauthorised use) of trade secrets. The benefit of this type of security is that it ensures that secret information is protected indefinitely as long as adequate confidentiality safeguards are in place.

### **Indian Scenario**

As a leading economy, India's FinTech sector is booming. The FinTech market in India is expected to grow to US\$ 84 billion by 2025. Out of 21 unicorns in India, 1/3rd is FinTech companies. Paytm is one of India's highest valued Unicorn at US\$ 21 billion. Much of the growth in this industry has occurred post the demonetization move in 2016. Many industries reported losses last year but the FinTech market continued soaring due to the imposed physical restrictions and a demand for contactless digital payments. The government has provided tax exemptions to technology startups and has also launched the Support for International Patent Protection in Electronics and IT scheme to provide financial aid to technology start-ups to strengthen

their competitiveness through innovation and its protection, as well as offering specific intellectual property benefits to start-ups such as fast tracking of patent applications and an 80% rebate in filing fees.<sup>iii</sup>

## Conclusion

Designing an appropriate intellectual property protection plan might be difficult due to the complexity of Fintech goods and services. The most essential thing for businesses to do is describe their

intellectual property and attempt to effectively safeguard it. Fintech firms must actively register their intellectual property, particularly protectable patents, with an emphasis on technological innovation. Counter-arguments should be prepared for any potential objections. Patenting technical inventions should be the cornerstone of any IP strategy, but brand protection is equally critical. A well-developed IP portfolio can not only safeguard but also increase the value of any fintech company.

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<sup>i</sup> 'What Is Fintech? Guide To Financial Technology' (Builtin.com, 2021) <<https://builtin.com/fintech>> accessed 25 September 2021.

<sup>ii</sup> Medeiros M, 'Intellectual Property Strategy For Fintech — Financier Worldwide' (Financier Worldwide, 2021) <<https://www.financierworldwide.com/intellectual-property->

[strategy-for-fintech#.YVDcrJpBzIU](https://www.financierworldwide.com/intellectual-property-strategy-for-fintech#.YVDcrJpBzIU)> accessed 26 September 2021.

<sup>iii</sup> Avimukt Dar, 'The Law Reviews - The Financial Technology Law Review' (*Thelawreviews.co.uk*, 2021) <<https://thelawreviews.co.uk/title/the-financial-technology-law-review/india>> accessed 17 October 2021.

# THE TRENDS IN IPR IN THE FIELD OF SEMICONDUCTOR & NANOTECHNOLOGY

- Anjali Saran

## Introduction

The present era that we live in is known as *the Information Era*, due to the various technological innovations and inventions taking place around us, everywhere. Starting from the late 1700s, when the idea of protection of such '*ideas*' behind these creations started taking place, the concept of protection of such *intellectual property* through

legislative backing was introduced. With time, this protection came to be known as *Patents*, which were granted across the world in developed and, in some cases, developing countries, to give due credit to the inventor for his contribution to society. This further incentivized people to develop new things to gain recognition in society and gave the creator an added

advantage of charging a little extra price for his invention.

In today's time, however, technological innovations are covered under a multitude of laws other than Patents. While Patents have retained their original purpose, they are now mainly used for chemicals and pharmaceuticals. Patents were initially brought in to protect an innovative product- now, they can be filed for a product design, parts of a product, the process of creating it or the technique behind it. There can be many different patents for a single product. An example can be iPhone 12 Pro, which has been granted eight different patents in the US<sup>i</sup>.

With the advancement in technology, hundreds of patents are required for a single product. For example, an Intel Chip comprises Processor cores, Memory, Interfaces, Digital signal processors, Bus-based communication, Network on a chip, Power consumption, and many other components. Each of the components needs a separate patent to protect it, and considering that particular components need as many patents, it will lead to chaos in the documentation. It'll make matters worse during litigation due to the complexity of the case. Therefore, a separate legislation was brought in to deal with the complex nature of semiconductors (or chips in short).

### **About the Act**

The Semiconductor Integrated Circuits Layout-Design Act, 2000, was brought about for this

purpose, to arrest this very problem<sup>ii</sup>. This Act is basically for protecting semiconductor integrated circuit layout designs and other connected or incidental matters. This law defines various terms to leave no scope for ambiguity. The primary offence under this Act is reproducing the design or invention without giving due credit, and the punishment entailed is imprisonment up to 3 years or a fine between Rs. 50,000-10 Lakhs or both<sup>iii</sup>. The Act also mentions the procedures to register under this Act and get protection<sup>iv</sup>. However, once registered, the term is valid only for ten years, after which the owner will have to apply for renewal. This makes the entire process very costly and cumbersome.

### **Current Scenario of the Semiconductor Industry**

The legislation solved the much-probed problem of having multiple patents for the same product. It also introduced specialization. Earlier, for all kinds of technological innovations, Patents were filed to protect the owners of such ideas. So, be it the invention of washing machines or a silicon chip for Bluetooth, all were considered the same and filed under the General category of Patents, which also increases the time taken for actually getting one due to so many of them being filed. Therefore, a special body dealing with semiconductors would expedite the entire process. Now, after this Act, there is no need to file such complex Patents. By filing for registration under this Act, a person can safeguard the design of the product as well as the elements in it.

This Act can be extended for nanotechnology as well, which, although it might seem small, it consists of complex portions that need separate protection<sup>v</sup>.

Furthermore, the recent pandemic has affected this industry to a large extent. There has been a colossal drop in the production of semiconductors, which can only be reversed by 2023<sup>vi</sup>. In such a situation, if other IP Laws were to be followed, as mentioned earlier, the entire process from agreement to action would take a lot of time. But, the presence of this Act makes it easier for companies to approach each other easily, and use their product for manufacturing different goods.

However, in such a circumstance, we also have to consider whether the cost of the product is equal to the benefit being derived from it (in terms of the public and owners of such rights). For example, a standard dongle of Airtel or Tata consists of such semiconductors to provide Internet connectivity. During the pandemic, the demand for such devices sky-rocketed due to the 100% online situation. Therefore, producers and manufacturers, rightly predicting the helplessness of the economy, started charging higher prices for them because of these licenses, preventing other people from manufacturing them at a lower cost. It led to an increase in Deadweight Losses, a phenomenon where the economy is not able to produce and distribute enough in society.

## Conclusion

There is still a long way to go for such laws to develop properly in India. On the one hand, the prevalent IP Laws incentivize the people from innovating and creating new things, yet on the other, it also provides owners undue advantage to charge high prices. In the case of the Semiconductors Act, it offers people a solution to escape the complexity of one law, in favour of another. The bitter truth that remains, in the end, is nothing is perpetual,- the companies invest time and money in acquiring such IP Rights, which they ultimately have to part ways with after some time, or if not, then invest some more time and money in retaining them. Also, after the expiration of the protection period, the information comes into the public domain and can be exploited by anyone for personal gains. Sometimes, it's the public who suffer due to the monopolistic attitude of owners. Altogether, it is not easy to decide about its applicability. Therefore, a careful analysis is needed before bringing any amendment to the present scenario, especially here, when the market in discussion is already facing certain impediments. And although the present law is working fine, we can still hope for the government to improve upon it, and make it better & fruitful.

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<sup>i</sup> 'Apple has been Granted 8 Design Patents for the U.S. version of the iPhone 12 Pro with a mmWave Antenna

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Window’ (Patently Apple 15<sup>th</sup> September, 2021),  
<<https://www.patentlyapple.com/patently-apple/2020/11/apple-has-been-granted-8-design-patents-for-the-us-version-of-the-iphone-12-pro-with-a-mmwave-antenna->> accessed 20<sup>th</sup> September, 2021.

<sup>ii</sup> The Semiconductor Integrated Circuits Layout-Design Act, 2000.

<sup>iii</sup> The Semiconductor Integrated Circuits Layout-Design Act, 2000, No. 37, s 56.

<sup>iv</sup> The Semiconductor Integrated Circuits Layout-Design Act, 2000, s 8.

<sup>v</sup> V K Ahuja, Laws Relating to Intellectual Property Rights, Page nos.- 687-703 (3RD Edition, LexisNexis, 2019).

<sup>vi</sup> Rajkumar Dubey, ‘India: Semiconductor Integrated Circuits Layout Design In Indian IP Regime’,

(MONDAQ)

<<https://www.mondaq.com/india/technology/28601/semiconductor-integrated-circuits-layout-design-in-indian-ip-regime>> accessed 19th September, 2021



# COPYRIGHT LEGISLATION ON CREATIVE WORKS MADE BY ARTIFICIAL INTELLIGENCE IN INDIA

- *Nachiket Jonnalagadda*

## Introduction

The 21st century has brought in an extensive amount of human innovation, especially in the technological field. One such innovation, which has gained much popularity since its inception, is Artificial Intelligence (hereinafter referred to as AI). AI refers to machines and programs designed to emulate human thinking and rationalisation<sup>i</sup>. From mobile and computer device assistants like Siri and Alexa to providing recommendations on multiple apps across the internet, AI can be used in various ways. It can also author many creative works such as paintings, writings, music, etc. This article shall explore if AIs can receive copyright over a creative work produced by them and if any provision in the Indian Copyrights Act of 1957 governs the same.

## Artificial Intelligence and Creative Work

Recently a music group from the United States had used AI software to create new tracks for bands and musicians such as Nirvana and Jimi Hendrix. The machine was able to simulate the creator's music with much ease, thus proving that the capabilities of AI seem to be limitless<sup>ii</sup>. However, in these examples

mentioned above, there has been some human intervention. However, the reader must note that an AI can produce creative work without any human effort. For instance, "Faceless Portraits Transcending Time," an exhibition of prints recently shown at the HG Contemporary Gallery in New York, were all wholly created by AI<sup>iii</sup>. The AI was fed with an algorithm to learn a specific art style and generate its art piece by interpreting that particular style. So, it is pretty evident that an AI is capable of creating original art.

## Can AI Work be Copyrighted in India?

Considering that AI-created works have become more prevalent, one can then ask, "If an AI is capable of producing creative work and if that work can then be copyrighted?" If so, are there any laws that govern the creative works of AI? This article shall examine various opinions on the same. Before dwelling on this issue, one must understand what a copyright is and the relevant legal provisions on copyrights. Copyright is a legal term used to describe a creator's rights over literary works and artistic pieces. These

works include books, paintings, music, films, advertisements, and even computer programs. Many countries worldwide have a difference in opinion about whether AIs can be given copyrights.

In India, the primary source of copyright legislation is the Indian Copyrights Act of 1957. This Act only recognises and gives copyrights to human beings and does not recognise AIs or other non-legal entities.<sup>iv</sup>

The ownership of copyrights is given based on two doctrines, namely, “Modicum of Creativity” and “Sweat of the Brow.” According to the “Sweat of the Brow” doctrine, an author acquires the right to their work simply by being diligent in its creation. There is no need for an extensive amount of creativity required to qualify for a copyright.<sup>v</sup>

The creator is entitled to rights on account of efforts and expenses put in by him in the creation of such a work. The doctrine of Modicum of Creativity states that the prerequisite for copyright is that there must be an element of creativity in the creation or product. India follows the doctrine of Modicum of Creativity.<sup>vi</sup> However, the position of AIs with regards to ownership of copyrights is quite problematic. Since the statute does not recognise AIs as valid legal entities, the copyrights are usually given to the individual responsible for producing the AI when an AI creates something.

This method of allotment of copyrights violates the doctrine of Modicum of Creativity as the individual

who made the AI made no creative effort or contribution to the creation. So it is ideal that an AI is given copyrights over the said work of art.<sup>vii</sup>

However, the following arguments may arise: an AI is made to understand specific data, which it interprets to create its art piece. Because this data may have existing copyright protection, its use by the AI in developing the work could result in copyright infringement. Another issue for consideration is that copyrights issued to humans cannot be used for AIs. Under Section 24 of the Indian Copyright Act, the period of copyright protection is limited to the author’s lifetime and an additional 60 years after their death.<sup>viii</sup> As a result, it can be deduced that the legislature did not intend for a work to have perpetual copyright. AIs are perpetual and do not die. Therefore, any copyright granted to it shall be perpetual, which is beyond the scope and objective of the Act.

## Conclusion

In light of the issues mentioned above, the author believes that the best possible solution to reduce any ambiguity and problems on copyrights is to create separate legislation related to AIs. Further, AIs must be recognised as legal entities to avoid any inconvenience about the issuance of copyright. The best example of the recognition of AI as legal has to be the Dubai government granting citizenship to Sophia, a social humanoid robot which had granted Sophia rights akin To establish whether a work can

be protected by copyright, the “Modicum of Creativity” test is presently utilised. However, the “Sweat of the Brow” criteria should be applied to AI-generated works as it allows for a more lenient copyright protection level. AI-specific copyright law would help ensure that the AI receives the copyright,

alleviating the lack of creativity. Additionally, a lower standard of infringement should be established so that the vast amount of data that the AI uses is not subjected to unnecessary copyright infringement since the AI is unaware that the data provided to create something is previously copyrighted.

<sup>i</sup> Lucy Rana, Meril Matthew Joy, India: Artificial Intelligence And Copyright – The Authorship, (Mondaq, 18<sup>th</sup> December 2019), <<https://www.mondaq.com/india/copyright/876800/artificial-intelligence-and-copyright-the-authorship>> accessed on 12 September 2021.

<sup>ii</sup> Kory Grow, In Computero: Hear How AI Software Wrote a ‘New’ Nirvana Song, (The Rolling Stones, April 2021), <<https://www.rollingstone.com/music/music-features/nirvana-kurt-cobain-ai-song-1146444/>>, accessed on 13 September 2021.

<sup>iii</sup> Ian Bogost, The AI-Art Gold Rush Is Here, (The Atlantic, March 2019), <<https://www.theatlantic.com/technology/archive/2019/03/ai-created-art-invades-chelsea-gallery-scene/584134/>>, accessed on 13 September 2021.

<sup>iv</sup> Ayush Pokhriyal & Vasu Gupta, *Artificial Intelligence Generated works under Copyright Law*, NLUJ Law Review 6(2) 113,114 (2020), <<http://www.nlujlawreview.in/wp-content/uploads/2020/04/62-NLUJ-Law-Review-93-2020.pdf>>, accessed on 15 September 2021.

<sup>v</sup> *Walter v Lane* [1900] A.C. 539.

<sup>vi</sup> *Feist Publications, Inc., v. Rural Telephone Service Co.*, 499 U.S. 340 (1991).

<sup>vii</sup> Adityan Rangaswamy, *Artificial Intelligence and Copyright In India* (The Digital Future, January 2021), <<https://thedigitalfuture.in/2021/01/29/artificial-intelligence-and-copyright-in-india/>>, accessed on 13 September 2021.

<sup>viii</sup> Section 24, Indian Copyright Act, 1957.

# THE NEW ERA OF DIGITAL FASHION: INTERPRETING OWNERSHIP OF WORKS

- *Sanjana Rebecca*

## Introduction

The world of Fashion is an evolving space and has unquestionably responded to recent technological changes in the digital sphere. While the gaming industry has garnered much of the limelight in the arena of digital content through in-game skins and character upgrades, the fashion industry has been quick to follow suit. Moreover, due to the pandemic-

driven in-store shutdowns, 2020 & 2021 have welcomed their fair share of online shoppers. Besides, the concept of digitizing fashion might have been in the brewing for years in response to discussions on sustainability and green fashion.

Statistically speaking, digital fashion initiatives have recorded favorable responses from Big Box retailers like Amazon and mighty fashion brands including Nike have entered the scene with their NFT powered CryptoKicks. The U.S patent for Nike's Cryptokicks reads that "on purchasing a physical shoe, the digital representation is generated and the same is linked to the consumer with the cryptographic token."<sup>i</sup> However, Nike's Cryptokicks only scrapes the surface of the digital fashion boom by attaching a cryptographically secured digital asset (non-fungible token) to the physical shoe.

What if I tell you that you can purchase an entirely digital clothing item and only wear it digitally on your social media pictures? Digital clothing can be defined as intangible items created by 3D designers with the integration of AI software. The composition for digital clothing is fundamentally different from traditional clothing in multiple ways. Digital clothing is made through pixels rather than textiles and is an eco-friendly alternative to fast fashion<sup>ii</sup>. In terms of selling the digital item, digital fashion companies have varying business models. That is, the digital fashion item can be blended onto the purchaser's picture either by the company's team of 3D designers or by customers themselves through the use of 3D software.

For instance, DressX, one of the pioneers in the digital fashion space adopts the former approach wherein the customer on purchase of the item uploads the picture on their website and then receives the

digitally altered image in the mailbox within a span of a few days<sup>iii</sup>. Alternatively, the American brand Fabricant's digital couture collection have to be digitally fitted onto the picture by the customers themselves using 3D Software (Examples; CLO3D, Marvelous Designer, Blender & Cinema 4D). Thus, the digital file of the item can either be sent to the customer or retained by the company.

Considering that digital fashion is expressed in a fixed tangible medium like in-game skins, they are eligible for copyright protection. On that note, the creation and generation of digital fashion brings in a new range of ownership issues particularly in the realm of Copyright Law. It is pertinent to understand that while some brands create their designs exclusively in digital format, other brands use the conventional process of designing the physical garment first which is later used as inspiration to recreate or animate the digital piece. Further, brands may employ third-party 3D designers independently or through an agency to generate the digital work. The 3D designer also makes use of accessible AI software to inject digital existence into a clothing item. Unless contractually specified, the copyright of the digital item may not ideally vest with the original designer. In that case, the original designer only has a copyright over the physical garment, whereas the 3D designer or agency owns the digital design rights. The 3D design agency can also extend an exclusive

licensing agreement to enable the original designer to utilize the digital garment for some time.<sup>iv</sup>

However, applying copyright becomes difficult when several agencies may be put to task in generating a digital portfolio; for instance, one agency works in designing the garment, the second agency would digitally emulate the same, and a third could be engaged in altering the digital article onto the customer's picture. In this work model, the original designer might lose out on exercising his right to reproduction because of the multiple entities now involved in the digital recreation process.<sup>v</sup> As a result, it becomes necessary to structure licensing agreements with each party involved and ensure that the right of each party is adequately categorized. Sometimes, fashion works are also AI-assisted and leave a blank space for interpreting copyright ownership; whether copyright would belong to the software developer, or the assisted person is subject to heavy discourse and depends on the software copyright policy.

Due to the complexities mentioned above, it is easier to exploit the confines of copyright law for digital fashion. In an industry where fashion piracy and counterfeiting otherwise thrive under normal circumstances, it is impossible not to imagine imitation pieces by other 3D designers. With the help of AI software, digital design theft is not uncommon. AI software can be used to collect data and mirror designs. Even when agencies own proprietary AI

software for 3D design generation, other freely available AI software can be deployed for imitation pieces. Further, considering that some brands offer digital files to customers, the file can be shared and reproduced on other platforms, diluting the copyright holder's exclusive right to reproduce.

While the stated copyright issues may be a stifling concern for some emerging digital brands, that is not the case for The Fabricant's digital collection. In fact, the Fabricant gives away monthly files of digital garments for free. The Fabricant believes in the revolution of digital fashion and remarks that sharing and exporting files coupled with software solutions only fuels the industry's growth. The brand has recognized that piracy is inevitable and has embraced its services' specialization. On the other hand, Browzwear, a brand that offers digital AI solutions in recreating a physical garment based on the digital twin, observes the same. On a perusal of the deeper issues in the industry, a question arises. Whether copyright law is the only way to protect digital assets and regulate ownership?

### **Are Non-Fungible Tokens the Way Forward in Digital Fashion?**

There is a common misconception that NFTs can replace copyright for digital works. While its blockchain technology can aid in keeping track of transactions and ownership, Copyright ownership and NFTs are not the same. NFTs are unique tokens attached to the asset and are independent of the asset

itself. Undoubtedly, NFTs maintain the sanctity of digital content and are perceived as a secure and verifiable way to sell online. It is important to note that NFTs are singular, and duplicating the original is not possible. The ownership of a non-fungible token is tradeable and transferable but cannot be equated to copyright. The copyright ownership for the asset itself vests with the digital creator, while the NFT only represents the asset. The digital fashion industry has found a two-fold use for NFTs; one where NFTs are digital twins for physical garments and the other where it can add identity and ownership to a digital garment.<sup>vi</sup> Many luxury brands such as Gucci have plans to enter the Blockchain technology market to keep up with current trends. Smaller brands have already caught on to the bandwagon. For example, RTFKT Inc. sold about 600 pairs of digital sneakers for \$3.1 million in seven minutes in February through NFTs. Additionally, Nueno has appeared as a fashion

exclusive NFT marketplace and allows customers to make payments in cryptocurrencies.<sup>vii</sup>

## Conclusion

The digital fashion industry has undeniably accepted NFTs as a way forward, but the application of copyright law is essential to prevent fashion piracy and excessive counterfeiting. The NFT space is unregulated by statute or law. Because of this, the “minting” of digital signatures visible on the tokens can easily be emulated without the creator’s permission. Therefore, even in a digital marketplace, copyright protection is relatively superior in preventing design theft as of now. In conclusion, however, the author believes that clearly defined legal parameters and regulations for NFTs in the future might render copyright protection less valuable for digital fashion.

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<sup>i</sup> Mathew Beedham, ‘Nike now holds patent for blockchain-based sneakers called CryptoKicks’ (TNW NEWS, Dec 10 2019) <<https://thenextweb.com/news/nike-blockchain-sneakers-cryptokick-patent/>> Accessed 26th September, 2021.

<sup>ii</sup> Anonymous, ‘Digital Clothing: All You Need to Know About the Future of Fashion Brands’, (Loomly Blog) <<https://blog.loomly.com/digital-clothing/>> Accessed 26th September, 2021.

<sup>iii</sup> Dress X About Us:<https://dressx.com/>

<sup>iv</sup> Brooke Roberts-Islam, ‘Digital Fashion: Who Really Owns The IP Rights?’,(Forbes, Nov 3, 2020), <<https://www.forbes.com/sites/brookerobertsislam/2020/11/03/digital-fashion-who-really-owns-the-ip-rights/>> Accessed 26th September, 2021.

<sup>v</sup> Carolyn Wimbly Martin and Margaret Horstman, AI and Copyright in the Fashion Industry,(Lutzker & Lutzker LLP, June 30, 2021) <<https://www.lutzker.com/ai-and-copyright-in-the-fashion-industry/>> Accessed 26th September, 2021.

<sup>vi</sup> Harrison Jordan, No, NFTs aren’t copyrights, (Tech Crunch, June 16, 2021) <<https://techcrunch.com/2021/06/16/no-nfts-arent-copyrights>> Accessed 26th September 2021.

<sup>vii</sup> Thuy Ong, Clothes That Don't Exist Are Worth Big Money in the Metaverse, (Bloomberg Wealth, June 17, 2021) <<https://www.bloomberg.com/news/features/2021-06-16/non-fungible-tokens-and-the-metaverse-are-digital-fashion-s-next-frontiers>> Accessed 26th September 2021.



## CASE INGOTS

### **Sony Pictures Network India Pvt.Ltd vs www.sportsala.tv & Ors [CS (Comm), 289/2021]**

The plaintiff, Sony Pictures filed a lawsuit against a number of browser-based websites like that of the defendant, seeking an interim injunction against infringement on the plaintiff's copyright under Section 51 of the Copyright Act of 1957. The website had also illegally streamed sporting events and infringed the exclusive media rights of the plaintiff. The court held that the unauthorized streaming of the matches would result in monetary loss and granted an injunction in favor of Sony Pictures against websites including their redirects, mirrors, and alpha-numeric versions. A dynamic injunction was also granted against rogue web-sites, which may reproduce, broadcast, make available, communicate to the public or distribute the cricket matches. The Court also passed an order asking ISPs to block the mentioned and other rogue websites and asked the Government of India to give appropriate directions to prevent infringement of copyrights of Sony Pictures in the matches.

### **Viacom 18 Media Private Limited vs. www.oreo-tv.com & Ors [CS(COMM) 367/2021]**

The plaintiff filed a suit for copyright infringement and protection of broadcasting rights before the Delhi High Court for the grant of an interim injunction. The plaintiff owns and operates the VIACOM 18 Network of channels and OTT platforms. They had acquired an exclusive license from the Liga Nacional De Football Professional to broadcast and communicate the La Liga matches of 2021 to the public. They also had the authority to grant license to third parties to retransmit the La Liga 2021 commercially. The defendant's websites engaged in the business of uploading pirated and unlicensed content and violated the plaintiff's exclusive broadcasting rights. The court restrained the Defendants from broadcasting, communication, and telecasting to subscribers any content of the La Liga 2021. It was held that authorization or the obtaining of a license from the Plaintiff was mandatory for such transmission or communication of the La Liga matches.

# PROTECTING INNOVATION IN THE AUTOMOTIVE INDUSTRY

- *Sahana R*

## Introduction

Intellectual property plays a significant role in protecting innovation in the Automotive industry in India, especially in the case of small companies in the Automobile industry. The Indian Automobile Industry constitutes nearly 7.1% of the GDP and is expected to reach more than 300 billion dollars by 2026.<sup>i</sup> With the advancement in technology, there has been a boom in innovation in this particular industry. The car companies have rapidly changed their models, car accessories, etc in the past few decades. In the 1990s, cars had features such as manual windows, pop-up headlights, etc which are no more in use today. The automotive industry is inclining towards a more automated approach.

## Significant Changes in the Automobile industry

There have been significant changes in the Automobile industry in the last few decades. The main changes in the automobile industry have been Electrification, hybridization, downsizing, and down speeding technologies.<sup>ii</sup> In India, the electrification of vehicles started in 1996 when Scooter Pvt Ltd, invented the first electric three-wheeler vehicle named Vikram Safa.<sup>iii</sup> In the past decade, there has been an increase in automatic vehicles as consumers

have preferred hybrid or automatic without gear vehicles for the ease of driving. Fully automated vehicles are not yet recognised by the Indian Law, however, there are many startups such as Flux auto, Swayyatt, Minus Zero<sup>iv</sup> etc. AV companies that have emerged in the past few years who have developed the Automated Vehicle technology. Due to the scope of rapid changes in the Automobile Industry, Intellectual property plays an important role in preserving and nurturing this kind of technology.

## Patent Protection to Innovation in the Automobile Industry

Patenting of automobiles first started in the year 1886, when Carl Benz submitted the patent application in the Imperial Patent Office in Berlin.<sup>v</sup> The automobile sector is one of the fastest-growing sectors in India. The level of competition in this sector led to the need for protecting the innovation with the help of Intellectual property. According to Section 2(j) of the Indian Patents Act, 1970 an invention means "a new product or process involving an inventive step and capable of industrial application."<sup>vi</sup> For a patent to be obtained the following criteria must be met:



The subject matter of the invention should be patentable, that is it must not come under Section 3 and 4 of the Indian Patent Act. Section 3 and 4 extensively explain those activities that are not inventions and those cannot be patented.<sup>vii</sup> Therefore, if any technology must be patentable in the automobile industry, it cannot be a discovery, admixture and so on as mentioned under Section 3 and 4. Furthermore, an invention must be novel which means that invention should never have been published in the public domain.<sup>viii</sup> The invention must be capable of being used in the industry that is defined as the invention is capable of being made or used in an industry.<sup>ix</sup> Therefore, there must be a practical application of the invention in the automobile industry.

There have been many patent disputes in the automobile industry. One such example is the dispute between Broadcom, Volkswagen, Audi, and Porsche.<sup>x</sup> Broadcom who was a semiconductor supplier to Volkswagen and other companies, accused Volkswagen of using 18 of Broadcom's patents in the navigation and entertainment system without any license. Broadcom demanded a compensation of 1 billion dollars for the same in the Munich Court.<sup>xi</sup> However, Broadcom ended the dispute by an out of court settlement with the companies. The Mannheim Regional Court gave first two judgements in favor of the car manufacturers but 18 more disputes were still remaining in the Court.<sup>xii</sup>

Therefore, for both the parties, the out of court settlement was the best option.

### **Trademark Protection to Innovation in the Automobile Industry**

Trademark is another such Intellectual property vastly used in the Automobile industry to prevent competitors to use the same, similar or confusing trademark. Trademark means a mark capable of being represented graphically and which is capable of distinguishing the goods or services of one person from those of others and may include the shape of goods, their packaging and combination of colors.<sup>xiii</sup> Trademarks also help the companies to sell their products and the consumers are able to choose the products from these reliable companies. There has been a history of trademark disputes between car companies in the automobile industry.

One such case is the *Toyota v. M/S Prius Auto Industries Ltd. & Ors*<sup>xiv</sup>, Toyota in the year 1990 obtained a trademark for the word Prius, their commercial hybrid vehicle. Toyota filed a permanent injunction suit before the Delhi High Court against the defendants by stating that the defendants were using the Prius trademark without Toyota's consent which gave the defendants higher goodwill and reputation in the automobile industry.<sup>xv</sup> An appeal was made before the Apex court in which the court gave a decision in favor of Prius Auto Industries Ltd.<sup>xvi</sup> The court held that even though Toyota had a good reputation and Goodwill in India, it was not

able to establish that it had acquired substantial goodwill for its car under the name 'Prius' in the Indian market and therefore could not claim under the territoriality principle.<sup>xvii</sup> The reasoning behind this judgement was that the reputation and goodwill of the company was not for the Prius cars as it did not have necessary attributes of the right of a prior user so as to successfully maintain an action of passing off even against the registered owner.<sup>xviii</sup>

## Conclusion

The automobile industry significantly contributes to the Indian economy. With the increase in vehicles consumption, primarily electric and automated vehicles in India, the need for protection is even

higher. The start-ups and small companies in the Indian Automobile Industry must be made aware of Intellectual Property Rights and infringement implications. Various schemes and policies such as the Schemes for Facilitation Start-ups IPR started by the Controller General of Patents, Designs, and Trademarks, IPR Facilitation Centers by Confederation of Indian industry<sup>xix</sup>, etc help in the registrations of IP of small enterprises. However, more schemes and subsidies specific to Motor vehicles and Intellectual property must be launched to help small businesses in the Automobile Industry. This kind of scheme and Subsidy to apply for IP will help the enterprises and companies to innovate more.

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<sup>i</sup> Gandharv kumar GK and Gandharv kumar, "The Rise and Rise of Autonomous Vehicle Startups in India" (*Analytics India Magazine* July 27, 2021) <<https://analyticsindiamag.com/the-rise-and-rise-of-autonomous-vehicles-startups-in-india/>> accessed September 25, 2021.

<sup>ii</sup> "The Changes Witnessed in the Automobile Industry In India" (*Bankbazaar*) <<https://www.bankbazaar.com/insurance/motor-insurance-guide/changes-witnessed-in-the-automobile-industry-in-india.html>> accessed September 25, 2021.

<sup>iii</sup> eTrio, "Electric Vehicles: Where It All Started" (*etrio*) <<https://www.etrio.in/blog/history-of-electric-vehicles.html>> accessed September 26, 2021.

<sup>iv</sup> Gandharv kumar GK and Gandharv kumar, "The Rise and Rise of Autonomous Vehicle Startups in India" (*Analytics India Magazine* July 27, 2021) <<https://analyticsindiamag.com/the-rise-and-rise-of-autonomous-vehicles-startups-in-india/>> accessed September 25, 2021.

<sup>v</sup> "Benz: Benz Patent Motor Car." (*Mercedes*) <<https://www.mercedes-benz.com/en/classic/history/benz-patent-motor-car/>> accessed September 23, 2021.

<sup>vi</sup> Section 2(j), Indian patent Act, 1970.

<sup>vii</sup> Section 3, Indian Patent Act, 1970.

<sup>viii</sup> Section 2(l), Indian Patent Act, 1970.

<sup>ix</sup> Section 2(ac), Indian Patent Act, 1970.

<sup>x</sup> Mathieu Klos, "Broadcom Settles Dispute with VW and Audi" (*JUVE Patent* April 12, 2021) <<https://www.juve-patent.com/news-and-stories/cases/broadcom-settles-over-connected-cars/>> accessed September 26, 2021.

<sup>xi</sup> Ibid.

<sup>xii</sup> Ibid.

<sup>xiii</sup> Section 2(1)(zb), The Trade Marks Act, 1999.

<sup>xiv</sup> Toyota v. Prius Auto Industries Ltd, (2018) 2 SCC 1.

<sup>xv</sup> Ibid.

<sup>xvi</sup> Ibid.

<sup>xvii</sup> Ibid.

<sup>xviii</sup> Ibid.

<sup>xix</sup> Mishra S, "Schemes, Policies and Programmes for Patent Facilitation - Intellectual Property - India" (*Welcome to Mondaq* June 1, 2020) <<https://www.mondaq.com/india/trademark/944830/schemes-policies-and-programmes-for-patent-facilitation>> accessed September 25, 2021.

# INTELLECTUAL PROPERTY AND EDUCATIONAL TECHNOLOGY

- *Abhisvara*

## **Introduction**

The pace of the incorporation of technology in education is very rapid due to the widespread use of online educational classes since March 2020, after the spread of the COVID-19 pandemic across the globe. Teaching in higher education and blended or online programs is becoming resource-intensive day by day. Colleges and universities are making significant investments in people trained in various fields like instructional designers, media educators, and librarians; and in digital platforms and tools supporting the teaching and learning enterprise. Prior to the arrival of the digital era, the educational sector benefitted a lot from the exceptions allowing for “fair use” and the other exemptions in copyright law.<sup>i</sup> Once the digital era in education started, new intellectual property strategies were introduced for supporting the collective educational enterprise. Some include creative commons licensing, open educational resources, open access to research, and open-source software.<sup>ii</sup> Intellectual property is a vital asset of the educational technology sector, and optimum protection and exploitation of intellectual property rights is an essential driver of this field.

## **EdTech and intellectual property protection**

Intellectual property can either be developed in-house or through acquirement as well as licensing from a third party.<sup>iii</sup> Intellectual property rules vary

as per the business model of educational technology. For example, in the case of the offshore Business model, a number of international players stationed abroad provide education services in India. The servers or clouds are generally located outside India for offshore models, and the intellectual property is also hosted outside the country. Whereas, in cases where licensing is used as the route, the educational technology entity like a foreign university having the IP rights for the proprietary courses’ material will enter into a licensing arrangement with an entity located in our country. Things like brand name, curriculum, know-how, and related items are licensed to the Indian party. The course curriculum is imparted to the local students by the institute located in our nation. In the educational technology sector, the agreements for assigning the IP rights are essential to safeguard the chain of title to the assets created in this domain as IP is the vital cog in educational technology, the rights related to the intellect vest with the correct entity.<sup>iv</sup>

## **Contractual documents**

When employees or consultants create IP, it is essential to put clear documentation to ascertain how the owner entity holds the IP rights. So, it calls for the creation of clear assignment clauses in employee, consultant, and third-party contractor agreements to

not leave any scope for ambiguity.

Several educational firms acquire IP in the course of obtaining services like website and software development, development of marketing, and promotional material. Regarding an acquired IP, the complete chain of title documents has to be examined to confirm whether the entity from which the IP is to be obtained has a bonafide right to transfer the IP. For getting the assignment rights, some particular provisions under Indian IP legislation need to be complied with for IP rights transfer. For example, in the case of copyright, it has to be ascertained whether the term and territory of the assignment are specified in the licensing documents. If these items are missing in the assignment, then the term will be deemed to be five years, and the territory will be considered as India. These provisions of copyright law may not affect an employer-employee relationship as the employer owns the copyright by default. However, in the case of all other situations, assignment clauses have to be examined with adequate caution for ensuring absolute ownership of copyrighted work. Moreover, with respect to other forms of IP like trademarks or patents, the IP rights are to be assigned with specificity.

### **Copyright**

Content is king in the educational sector, as it drives the entire operations. As mentioned in the Indian Copyright Act of 1957<sup>v</sup>, copyright remains in force in original literary works like course material, musical works like background scores or notations;

artistic forms like graphics; dramatic works like the performances in a video, cinematograph films; and sound recordings like audio files. The literary work can even include computer programs and is protected.<sup>vi</sup> The registration of copyright in India is not mandatory. It comes into force from the moment the work is created, provided it is original and authentic. However, a registered copyright is *prima facie* evidence for establishing the ownership. The term of the copyright generally covers the lifetime of the author and an additional 60 years thereafter.

Various models exist to decide the ownership rights over the content created in the educational technology sector in foreign countries. For example, three models are popular in the case of the content created by utilizing a significant set of university resources. While in some cases, the universities own all the IP,<sup>vii</sup> the faculty members have sole ownership in others.<sup>viii</sup> In the third model, the ownership or use rights are shared between the university and its faculty members.<sup>ix</sup>

### **Trademark**

An entity's brand name, product names, tagline, logo, and trade dress are trademarks. In our nation, trademarks are protected both under statutory law and common law. A trademark can be registered under the Trade Marks Act, 1999 and the Trade Mark Rules of 2017.<sup>x</sup> Registration suffices as *prima facie* proof for a trademark. However, even if the mark is not registered with the authority, it still receives protection under common law. Under the common

law, the trademark owner may claim a right of passing off against the entity that may be passing off goods and services as that of the goods or services of the owner of the trademark. The domain names in an e-business environment like education technology, websites, and internet domains play a stellar role in the conduct of business.<sup>xi</sup> Though there is no specific law or regulation pertaining to domain names, the Courts in our country have extended the protection availed to trademarks under the Trademark Act and Trademark Rules to domain names.

### Patents

Patents in India, under the Patents Act, 1970,<sup>xii</sup> govern patents and offer protection to inventions. Not all innovations are considered “inventions” under the Patents Act. An Invention is defined as “a new product or process involving an inventive step and capable of industrial application.” Software (save in some instances), algorithms, and business methods are not patentable in India, unlike in other nations. As a result, learning-based products and processes are not patentable in India unless integrated with the hardware. The invention should satisfy the requirements of novelty, non-obviousness (inventive step), and industrial application. It should also not have been available in the public domain earlier. The primary problem that businesses encounter when it comes to patents is determining whether a product or process is patentable. For instance, if a company develops a novel process but reveals it to the public, it may lose the right to patent

it since it was unaware of what qualifies as a patent and how to patent a product. If the company’s value was built on the novel process, this could be a deal-breaker from a commercial standpoint.<sup>xiii</sup> This is especially true for an EdTech corporation that develops its own unique learning products and processes.

### EdTech ventures and education specific laws

Despite the fact that education is open to 100% FDI, investors have traditionally been apprehensive of investing in India’s education sector due to its highly regulated nature.<sup>xiv</sup> The advantage of EdTech, however, is that it is currently not subject to such strict regulation. The UGC (Open and Distance Learning Programmes and Online Programmes) Regulations, 2020<sup>xv</sup> and AICTE (Open and Distance Learning Education and Online Education) Guidelines, 2021<sup>xvi</sup> allow for Indian higher educational institutions (HEIs) to deliver their online programmes using learning platforms that the UGC has recognised. This recognition has given the online learning sector more structure and stability, encouraging degree aspirants to pursue online education. Another advantage is that when institutions offer courses online, they may enrol more students, allowing students to access better universities.

### The way forward

With technology rapidly advancing and AI becoming a reality, it is evident that EdTech will continue to evolve at an exponential rate. New legal, regulatory,

and tax issues will arise as a result. Given the boost that online education has received as a result of various regulatory authorities, it may not be too far-fetched to predict that AI and related technologies

will shape the future of EdTech and its impact on education.

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<sup>i</sup> John Willinsky, 'Intellectual Property and Education' (2017) Oxford Research Encyclopedia of Education, < <https://doi.org/10.1093/acrefore/9780190264093.013.230>> accessed 28 September 2021.

<sup>ii</sup> *Ibid.*

<sup>iii</sup> Vivek Kathpalia, Aarushi Jain, Ashish Sodhani, Ipsita Agarwalla, Aniruddha Majumdar, 'EdTech: From IT to AI' (2021) Nishith Desai Associates Research Paper <[http://www.nishithdesai.com/fileadmin/user\\_upload/pdfs/Research\\_Papers/EdTech\\_From\\_IT\\_to\\_AI.pdf](http://www.nishithdesai.com/fileadmin/user_upload/pdfs/Research_Papers/EdTech_From_IT_to_AI.pdf)> accessed 28 September 2021.

<sup>iv</sup> *Ibid.*

<sup>v</sup> The Copyright Act, 1957 (India).

<sup>vi</sup> Vivek Kathpalia, Aarushi Jain, Ashish Sodhani, Ipsita Agarwalla, Aniruddha Majumdar, 'EdTech: From IT to AI' (2021) Nishith Desai Associates Research Paper <[http://www.nishithdesai.com/fileadmin/user\\_upload/pdfs/Research\\_Papers/EdTech\\_From\\_IT\\_to\\_AI.pdf](http://www.nishithdesai.com/fileadmin/user_upload/pdfs/Research_Papers/EdTech_From_IT_to_AI.pdf)> accessed 28 September 2021.

<sup>vii</sup> Edward J. Maloney and Joshua Kim, 'Intellectual Property and Digital Learning' (*Inside Higher ED*, June 12 2019). <Intellectual Property and Digital Learning ([insidehighered.com](http://insidehighered.com))> accessed 28 September 2021.

<sup>viii</sup> *Ibid.*

<sup>ix</sup> *Ibid.*

<sup>x</sup> Trade Marks Act, 1999 (India); Trade Mark Rules of 2017 (India)

<sup>xi</sup> Vivek Kathpalia, Aarushi Jain, Ashish Sodhani, Ipsita Agarwalla, Aniruddha Majumdar, 'EdTech: From IT to AI' (2021) Nishith Desai Associates Research Paper <[http://www.nishithdesai.com/fileadmin/user\\_upload/pdfs/Research\\_Papers/EdTech\\_From\\_IT\\_to\\_AI.pdf](http://www.nishithdesai.com/fileadmin/user_upload/pdfs/Research_Papers/EdTech_From_IT_to_AI.pdf)> accessed 28 September 2021.

<sup>xii</sup> The Patents Act, 1970 (India).

<sup>xiii</sup> Vivek Kathpalia, Aarushi Jain, Ashish Sodhani, Ipsita Agarwalla, Aniruddha Majumdar, 'EdTech: From IT to AI' (2021) Nishith Desai Associates Research Paper <[http://www.nishithdesai.com/fileadmin/user\\_upload/pdfs/Research\\_Papers/EdTech\\_From\\_IT\\_to\\_AI.pdf](http://www.nishithdesai.com/fileadmin/user_upload/pdfs/Research_Papers/EdTech_From_IT_to_AI.pdf)> accessed 28 September 2021.

<sup>xiv</sup> *Ibid.*

<sup>xv</sup> University Grants Commission (Open and Distance Learning Programmes and Online Programmes) Regulations, 2020 (India).

<sup>xvi</sup> AICTE (Open and Distance Learning Education and Online Education) Guidelines, 2021 (India).



# DATA INTELLIGENCE AND INTELLECTUAL PROPERTY RIGHTS

- Aleena Anabelly A

After a habitual swipe down of your feed, have you ever wondered why Instagram predicts your preferences with precision? In this information age, where technology-mediated platforms are vying to level up their user-preference predictions, the presence of an entity that reads your mind and pumps your feed with exactly what you desire could be felt. These oddly satisfying suggestions made by this ‘invisible’ entity are quintessential of Data Intelligence. Strangely enough, you and I exist in their world of ‘suggestions.’ This article attempts to explore this world created by technology-mediated platforms, by analyzing the origin of their data intelligence and the entity that has a claim over the output generated through the employment of this enigmatic ‘intelligence.’

## What is Data intelligence?

The capacity to collect or acquire information and further benefit from them through unique processing and analysis of such information thus collected is ‘Intelligence.’<sup>i</sup> Aligning with this widely accepted definition of ‘intelligence’ – data intelligence can be interpreted as the conversion of digital data into useful data insights through the employment of Artificial intelligence and machine learning tools. Intelligent data insights are created from human-made algorithms that instigate the machines to

process the data for predicting user choices. The predictive information thus gathered can be effectively used for enhancing social, economic, and technological transactions, ranging from law enforcement to businesses.

## The notion of ‘Authorship’ and Data Intelligence

Then the vexed question becomes: Who can be credited as the author of such predictive data information – the machine that produces the information or the algorithm's creator that aided the machine to produce such insights? In order to answer this question, the popular notion of authorship envisaged through Intellectual property laws should be revisited. The author of innovative work is a conventionally romanticized figure who hold absolute, moral, legal, and economic rights over their creation<sup>ii</sup>. Resonating with this perception, a highly imaginative and agreeably progressive definition of the term – ‘author’ was given by the U.S Supreme Court in the case – *Burrow-Giles lithographic Co. v. Sarony*, where it said that the author “represents, creates, or gives effect to the idea, fancy or imagination<sup>iii</sup>.” The exclusive legal entitlement and control that are given to authors under the above-mentioned formulations, theoretically conform to the traditional conception of property and ownership<sup>iv</sup>.

Authorship, assigned exclusively to copyrightable works, succinctly eliminates all non-human creations<sup>v</sup> from its interpretational ambit. The common association of authorship to a legal person reinstates this conformist claim. The fundamental, idea-based substructure of the software or computer program that facilitates the use of data intelligence is protected under Patent laws and the execution of the software's idea under copyright protection mechanisms<sup>vi</sup>. But, according to the <sup>1</sup>Computer Related Inventions (CRI) guidelines of 2016<sup>vii</sup> in India, Article 52(c) of the European Patent Convention of the European Union and the ratio given in *Alice Corp Pty. v CLS Bank International*<sup>viii</sup> by the US Supreme Court – only software or program attached to hardware is patentable. Likely, it is a well-settled rule that the primary safeguard available to algorithms, software, and computer programs that are not appended to hardware, are executed only through the Copyright laws of a country. This trend can be traced to the Indian Copyright Act, 1957, where computer software, algorithms, and programs are recognised as copyrightable literary work under section 2(o). Further, according to the text of Indian legislation, the creator of the program or algorithm is attributed with its authorship. A marginal deviation from the literal application of the definition of authorship was earlier seen in *Burrow-Giles*

*lithographic Co. v. Sarony*, where an absolute right over a creation is invested with the entity/actor that “gives effect to the idea, fancy or imagination.” When applied to machines that employ data intelligence, this abstraction illustratively shows how the idea of authorship under copyright laws and inventorship under patent laws can be dynamically interpreted. Though human-made algorithms exist as the source of the machine's intelligence, further expanding such intelligence and its application to form predictions is a pure machine activity. Surprisingly, the process of collection, analysis, processing, and interpretation of the data required for furthering the software's efficiency is undertaken by the machine through the application of its digital intelligence. Thereby, the machines materially contribute to the process of ‘giving effect to the idea.’ Then, this process gives rise to deep philosophical questions about authorship and inventorship.

A claim over the output generated through technology-mediated systems by utilizing data intelligence cannot be downrightly accredited to the programmer as the ‘output’ is a combination of natural human intelligence and data intelligence of the machine. In this respect, the legal right over the creation produced by applying data intelligence can be awarded in three different ways

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<sup>1</sup> Example 12 of Chapter 6 titled “Illustrative examples of Claims which are not patentable” defines that the software that are not attached to hardware do not fall under the Patents Act, 1970 as patentable material.



1. To the machine/technology-mediated entity/AI, or
2. to the creator of such technology, or
3. jointly to the machine/AI and the creator of the technology<sup>ix</sup>.

The existing frameworks that recognize the creator of the technology as authors/inventors seem to be the most viable choice, within this bound of possibilities, as liability allocation in instances of harm arising from the use of data intelligence can be carried out efficiently. A system that imposes liability on a natural person that can be visibly made accountable is relatively efficient than a system that appoints an invisible technological entity as the answerable actor.

Attributing the authorship on creations that employ data intelligence solely to the programmer might be ethically wrong; but, historically, law - a human creation, has been bound to the ‘reality of humans.’ Extending this world to include, and regulate a non-human entity, and its actions hasn’t fully become a part of our imagination. Though, non-human entities that exhibit conspicuously similar behavioral traits as humans are being regulated by law, we are not yet ‘ready’ to recognize that a world beyond our reality can exist – where machines are also equipped to ‘create.’

<sup>i</sup> Ünver HA, “Digital Open Source Intelligence and International Security: A Primer” [2018] Centre for Economics and Foreign Policy Studies

<sup>ii</sup> Debussche J and César J, “Big Data & Issues & Opportunities: Intellectual Property Rights” (*Bird & Bird* March 2019) <<https://www.twobirds.com/en/news/articles/2019/global/big-data-and-issues-and-opportunities-ip-rights>> accessed September 25, 2021

<sup>iii</sup> 111 U.S. 53 (1884)

<sup>iv</sup> Ginsburg JC, “The Concept of Authorship in Comparative Copyright Law” [2003] SSRN Electronic Journal

<sup>v</sup> Acosta R, “Artificial Intelligence and Authorship Rights” (*Harvard Journal of Law & Technology* February 17, 2012)

<<https://jolt.law.harvard.edu/digest/artificial-intelligence-and-authorship-rights>> accessed September 27, 2021

<sup>vi</sup> “Intellectual Property Rights in Software – What They Are and How to Protect Them” (*Freibrun Law*) <<https://freibrunlaw.com/intellectual-property-rights-software-protect/>> accessed September 25, 2021

<sup>vii</sup> Computer Related Inventions (CRI) guidelines of 2016

<sup>viii</sup> 573 U.S. 208 (2014)

<sup>ix</sup> Moitra K and Vallabh K, “Copyright in Works Created by Artificial Intelligence: Issues and Perspectives” (*Lexology* February 18, 2021)

<<https://www.lexology.com/library/detail.aspx?g=4513277a-6571-40f1-923d-c09ec5366fdd>> accessed September 25, 2021

# BLOCKCHAIN TECHNOLOGY AND INTELLECTUAL PROPERTY

- *Harshini N*

## Introduction

Being the decade with colossal growth and development in the field of technology, it has transformed our lives and the conduct of business in today's world. It has made the world much simpler with this era being the most fluid period in history. One such evolving segment of technology is blockchain technology. With intellectual property rights and technology being correlative every often, the IP laws also need to be in with the pace of the development. While the use of Intellectual Property in the scope of patent applications is often to be seen in matters related to blockchain and other distributed ledger technologies, the need to instigate appropriate IP laws incorporating the latest technologies from addressing issues ranging from the point of inception to the complete process and enforcement is highly crucial.

## Blockchain's advantage in the IP regime

Blockchain technology is a decentralized, immutable, strictly encrypted distributed ledger technology that is completely managed by the users themselves with no third parties involved.<sup>1</sup> The IP and blockchain have dual relationships where the protection of blockchain by IP laws also strengthens and enhances the IP regime to another level on the other hand. A sound intellectual property system also

needs legitimate and verifiable records when it comes to IP rights. The IP rights being controlled at a different level of offices in silos the necessity to sync cannot always be done which will pose a major challenge as it is highly difficult to update it every often. Blockchain is the major anchor, the IP offices across the globe are enormously benefitted. The true potential of blockchain is to be seen in various aspects of IP namely:

### 1. *Creation of IP:*

Blockchain has a major role in instituting the evidence of first inventorship when it is patent or copyrights or trademark which is needed to find to rightful inventor which in turn reduces various ownership related litigations to come up.

### 2. *Contractual agreement and licensing:*

The concept of smart contracts which is an aspect of blockchain technology will be highly useful in self-monitoring terms and their due execution and also the immutable proof of their execution which in turn helps the licensing of IP rights. The entire management and control of IP rights will also bring the data simplified since the main information of both the rights and the rights holders will be verifiable and available.

**Section 10 of the Indian Contract Act, 1872** ("ICA") states the characteristics of a legal contract that a smart contract must achieve in order to be valid and enforceable in India. While the ICA primarily regulates physical contracts, Section 10-A of the Information Technology Act of 2000 establishes the legality of contracts made by electronic methods ("IT Act").<sup>ii</sup> The government may issue a directive to favour smart contracting after receiving thorough recommendations. Smart Contracts are legal instruments; but, if the legislature takes proper measures to define and codify them, more clarity can be obtained.

### 3. *Record keeping and ledger maintenance:*

The registers of records of Ip data which is usually in the form of the paper of electronically updated and stored for every advancement, it can be maintained using blockchain technology which also ensures accurate data record and data verification being totally tamperproof. These records are of evidentiary use in the court of law when it has to identify the right of holders and blockchain makes it immensely simpler.

### **IPR managed by blockchain technology applications**

Any work results (e.g., contributions from collaboration partners, freelancers) - or rather the IP's corresponding "digital fingerprint" (hash value) - can be stored in the blockchain as part of any development agreement, allowing the contracting

parties (as well as any other third parties) to verify the IPR's emergence at a specific point in time (Proof-of-Existence). If the applicable legal framework, such as (German) Copyright law, does not allow for a registration process (conveying absolute rights to a person on a specific subject matter), such proof might be very important.<sup>iii</sup>

### **Increasing Trademark Registration Process Efficiency**

Throughout the lifespan of a trademark application, the applicant must demonstrate the use of the mark, whether as proof of use in the application process or to demonstrate acquired distinctiveness. If real evidence of trademark usage, as well as frequency and dates of use, could be put to a blockchain and registered at the USPTO, it could be easily shared and available for everyone to view<sup>iv</sup>. By making the ability to check on a registered mark quicker and more trustworthy, might decrease concerns with a probability of confusion.

### **The Supreme Court of India has issued an opinion on the legal standing of cryptocurrency**

In *Internet and Mobile Association of India v. Reserve Bank of India*,<sup>v</sup> the Hon'ble Supreme Court of India drew the legal sector's attention to distributed ledger technology, which established the fundamental foundation of Cryptocurrencies (bitcoin, dogecoin). The RBI, in its function of maintaining India's economy, was found to have the

essential authorities to regulate virtual currencies, according to the Court. Banks and other financial institutions licensed by the RBI are no longer barred from supplying bank-related service in accordance with cryptocurrencies.

Meanwhile, The Department of Economic Affairs, drafting a bill in the year 2019 on 'Banning of Cryptocurrency & Regulation of Official Digital Currency Bill, 2019'<sup>vi</sup>. In India, the Draft Bill aims to make a wide range of cryptocurrency-related activities which are considered prohibited. The law emphasises the challenges of holding, selling, or disposing of cryptocurrencies, as well as any form of cryptocurrency trading. The prohibition solely applies to cryptocurrency transactions.<sup>vii</sup>

It does not apply to the use of distributed ledger technology or cryptocurrencies for the purpose of research. Mining, holding, selling, issuing, transferring, or utilising<sup>viii</sup> cryptocurrencies is punishable under the Draft Bill by a fine or up to ten years in prison, or both. The central government, in collaboration with the RBI, contemplates accepting the digital rupee as legal currency, according to the proposed legislation.

## Conclusion

It is very evident that the technology of blockchain has enormous potential to uplift the IP development process throughout the world in order to faster their record management, smart licensing, contracting

agreements, better data access with the worldwide IP regime. Blockchain also has a strong role in the near future for better enforcement of IP rights and resolutions for IP infringement issues. But there are also curtains limitations in terms of growth rate, security, speed, and much more aspects which need to be considered and addressed in order to get the fullest use of such a true potential. Although blockchain technology has a promising future in the realm of tech-based growth, certain of the platform's unique properties may make legal enforcement difficult.

Judges or legal counsel that are technically minded are still in the minority. The technology is still in its initial phases of development, and lawmakers should address a range of legal and practical issues, including code defects and a lack of cryptography competence, among others. While this is accurate in terms of legal enforcement, blockchain technology has offered a simple but effective mechanism based on anonymous users' trust and cryptography. In this age of digital technology, a thorough and exact legislative framework for implementing it will, over time, boost efficiency by reducing errors and expanding access to legal education.

*“Every informed person needs to know about Bitcoin because it might be one of the world’s most important developments.” —Leon Luow, Nobel Peace Prize nominee.*

<sup>i</sup> Birgit Clark, Blockchain and IP Law: A Match made in Crypto Heaven?; <https://ipil.lu/en/blockchain-ip-law-match-made-crypto-heaven/>

<sup>ii</sup> Information Technology Act, 2000, S. 5.

<sup>iii</sup> Legal Tech: How Blockchain Can Easily Transform The Legal Profession; <https://www.abcllegal.com/blog/legal-tech-blockchain>

<sup>iv</sup> <https://www.mondaq.com/fin-tech/893706/how-blockchain-technology-will-impact-our-legal-system>

<sup>v</sup> Internet and Mobile Association of India v. Reserve Bank of India, 2020 SCC Online SC 275.

<sup>vi</sup> Draft Banning of Cryptocurrency & Regulation of Official Digital Currency Bill, 2019, [https://prsindia.org/billtrack/draft-banning-of-](https://prsindia.org/billtrack/draft-banning-of-cryptocurrency-regulation-of-official-digital-currency-bill-2019)

[cryptocurrency-regulation-of-official-digital-currency-bill-2019](https://prsindia.org/billtrack/draft-banning-of-cryptocurrency-regulation-of-official-digital-currency-bill-2019)

<sup>vii</sup> blockchain: Legal implications, questions, opportunities and risks; <https://www2.deloitte.com/global/en/pages/legal/articles/2018-legal-blockchain.html>

## IPR REWIND

- September 3, 2021 - The DPIIT-IPR Chair & IQAC Cell, NLUJA Assam: Webinar on Intellectual Property Management
- September 12-14, 2021 – IP Watchdog Live
- September 20, 2021 – Is there an app for that? Arbitration of smaller commercial disputes in the technology sector
- September 21, 2021 – International Organizations as Users and Providers of International Arbitration
- September 22-24, 2021 – The 10<sup>th</sup> Edition of the Pharma IPR Conclave
- September 23, 2021 – Paris Arbitration Week 2021: WIPO Panel Discussion on Arbitration and Trade Secrets
- September 27, 2021 – Webinar on Intellectual Property Rights by RGNIIPM and RGNUL

# INTELLECTUAL PROPERTY CONCERNS AND TECH-STARTUPS

- *Manasa Vishwanath*

## Introduction

The Economic Survey 2020-21 by the Ministry of Finance recorded 41,061 startups being recognized by the Government of India as of December 23<sup>rd</sup>, 2020. Compared to 11,694 in 2019; the active recognition of startups rose to 14,784 in 2020.<sup>i</sup> This means an approximate increase of 3000 startups. India is statistically proven to house the world's third largest startup ecosystem. Bengaluru has also seen rapid growth in its technology ecosystem, emerging as the fastest-growing global tech hubs. Investment data in Bengaluru was analyzed by London & Partners and it found that investments increased five times from 2016 to 2020<sup>ii</sup>. This environment is rich and conducive to the birth and success of start-ups. The idea that forms a future company and establishes its business and presence in the market; is both protected and limited by Intellectual Property rights and laws. These protections are enforced and legitimized through domestic laws and global treaties.

A Forbes article written by Richard Harroch and Neel Chatterjee talks extensively about Intellectual Property strategies that tech-startups should keep in mind<sup>iii</sup>. The article lists 10 strategies that will help

start-ups who will face many issues regarding designing of products, finding investors, and market practices.

## Strategies Identified

In the article by Richard Harroch and Neel Chatterjee there is a focus on a wide ambit of strategies; a few of which have been highlighted below:

1. Protecting your name – A name of a start-up is linked to its identity and market presence. A suitable name and logo go a long way in helping people identify and remember a certain product. This mark as defined under the Trademark Act is not limited to words or numbers, it can include pictures, signatures, sounds, combinations of colors, labels, etc. Trademark protection in turn, protect these unique identifiable marks that the company recognizes as theirs. These may also include service marks. It is absolutely indispensable that while deciding a name, companies need to cross-check with official databases whether a similar trademark exists or not. An exhaustive list of registered trademarks can be found in the Intellectual Property India website. Trademarks of any kind can also be

registered under the Trade Marks Act on the same website.

Website domain names too come under the protection of a trademark. In the *“Yahoo! Inc. v. Akash Arora & Anr.”* Case it was decided by the court that – ““the domain name serves the same function as a trade mark, and is not a mere address or like finding number on the internet, and therefore, it is entitled to equal protection as a trademark”<sup>iv</sup>.

2. Types of Intellectual Property protection available – Start-ups vary in the types of IP protection they need for their core elements. Different aspects of its functioning require different forms of protection. An extended array of these protections is available for start-ups to utilize; including patents, copyrights, trademarks and trade secrets.

In relation to tech-startups particularly, software can be protected through both copyrights and patents. Patents are said to give a more concrete defined protection, but the extent to which it is applicable to computer programs is limited. Although explicitly excluded in Indian law from the ambit of patents, computer programs in relation with an essential hardware component can be patented. Copyright protections are easier to obtain regarding the explicit inclusion of programs.

- **Patents :** Patent rights are arguably one of the most important protections to intellectual property. They

are exclusive rights given to the owner of said patent, on their inventions. According to this right, which is usually given by an authoritative body, it is only the patent holder who can exploit the invention. A patent is the strongest form of protection, but it is subject to stringent criteria. Section 3 (k) of the Patent India Act 2002, precludes a computer program being granted a patent if it comes under a business method, mathematical method or algorithm. Software can be patented if it is linked to a hardware component of such an invention. This hardware needs to be “an essential part of the invention along with the software or computer program”<sup>v</sup>. The term of protection for a patent is twenty years from the filing of the application.

- **Copyrights :** The WIPO Intellectual Property Handbook describes copyrights to be that “branch of law which deal with the right if intellectual creators”<sup>vi</sup>. It comes into force in original literary, dramatic, musical or artistic work, cinematograph films and sound recordings. An amendment to the 1957 Copyright Act includes computer programs as “literary work”. Copyright laws protect the expression of an idea, it protects an idea of an individual and prevents it from being reproduced without expressed consent. The term of protection for copyrights is sixty years.

Notwithstanding the rights of a copyright owner on their work, “the Act permits fair use and reverse



engineering of the program and the same won't constitute to be an infringement”<sup>vii</sup>. Recreation of a copyrighted work through reverse engineering would not constitute infringement. Copyrights do not protect the operational methods and principle of the program code; the process and procedure of developing the code is not protected. Copyright holders can grant licenses to certain parties that permit recreation of copyrighted work without infringement.

3. Cost-effective strategies – Many start-ups do not have adequate funding and investments to hire Intellectual Property experts as advisers and get a wide range of patents. The process can be costly and time-consuming. Start-ups are advised to seek patent claims on “core values” of their inventions and be able to monitor them, according to Richard Harroch and Neel Chatterjee. These “core-values” may encompass integral source and object codes of the program and requisite integrated hardware components of the invention. Indian administration provides for portals of patent, copyright, and trademark registration that can be done online. Lists of facilitators for the same are also provided on the Indian Government website portal.

4. Going International – Domestic and Global markets work very differently and are governed by various laws. Many start-ups have great potential to enter international markets thus, it is important they

formulate strategies that enable the protection of their inventions and ideas in other countries as well. Filing for patents or copyrights internationally requires a comprehensive understanding of the nuances of the law and various other international agreements. India is signatory to an array of international conventions namely the Paris Convention, Berne Convention, Universal Copyright Convention and TRIPS Agreement<sup>viii</sup>. India’s software exports have also increased drastically, distinct domestic laws on Intellectual Property protection of software that are in harmony with international treaties and agreements are imperative for the bolstering of the Indian start-up economy.

## Conclusion

A study released in February by the European Patent Office (EPO) and the European Union Intellectual Property Office (EUIPO) titled “Intellectual property rights and firm performance in the EU”, studied the significance and importance of IPR in the European Economy. It was concluded in the study that firms who own different types of IPRs generally have a better economic performance when compared to firms that do not possess IPRs. The study found comparatively higher levels of employee revenue and wages. “SMEs that own a combination of patents, trademarks and registered designs generate almost double (98%) the revenue per employee

compared with companies that do not own any of the three IP rights”<sup>ix</sup>.

The Indian-economy is a breeding ground for up-and-coming tech start-ups. It is necessary for these businesses to gain an informed understanding on the

intricacies of Intellectual Property Rights. Through protection and promotion these small businesses increase their chances of success in domestic and global markets.

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<sup>i</sup> The Economic Times, “What Economic Survey 2020-2021 says about the startup ecosystem” (29th January, 2021)<<https://economictimes.indiatimes.com/tech/startups/what-economic-survey-2020-21-says-about-indias-startup-ecosystem/articleshow/80586774.cms>> accessed 27th September, 2021.

<sup>ii</sup> The Economic Times, “Bengaluru world’s fastest growing tech hub, London second: Report” (14th January, 2021)<<https://economictimes.indiatimes.com/tech/technology/bengaluru-worlds-fastest-growing-tech-hub-london-second-report/articleshow/80263653.cms?from=mdr>> accessed 27th September, 2021.

<sup>iii</sup> Richard Harroch and Neel Chatterjee, “10 Intellectual Property Strategies For Technology Startups” (6th June, 2017)[online]<<https://www.forbes.com/sites/allbusiness/2017/06/06/10-intellectual-property-strategies-for-technology-startups/?sh=7b16df12ab1b>> accessed 27th September, 2021.

<sup>iv</sup> Nishit Desai Associates, “ Intellectual Property Law in India”, (2015) 1-29

<sup>v</sup> Sonal Sodhani, “Is Software Patentable in India?” (28<sup>th</sup> May, 2019) <[https://www.ipandlegalfilings.com/is-software-patentable-in-](https://www.ipandlegalfilings.com/is-software-patentable-in-india?utm_source=Mondaq&utm_medium=syndication&utm_campaign=LinkedIn-integration)

[india?utm\\_source=Mondaq&utm\\_medium=syndication&utm\\_campaign=LinkedIn-integration](https://www.ipandlegalfilings.com/is-software-patentable-in-india?utm_source=Mondaq&utm_medium=syndication&utm_campaign=LinkedIn-integration) > accessed, 18<sup>th</sup> October, 2021.

<sup>vi</sup> World Intellectual Property Organization, “WIPO Intellectual Property Handbook” , (2004) (2) 17-67

<sup>vii</sup> Sonal Sodhani, “Is Software Patentable in India?” (28<sup>th</sup> May, 2019) <[https://www.ipandlegalfilings.com/is-software-patentable-in-india?utm\\_source=Mondaq&utm\\_medium=syndication&utm\\_campaign=LinkedIn-integration](https://www.ipandlegalfilings.com/is-software-patentable-in-india?utm_source=Mondaq&utm_medium=syndication&utm_campaign=LinkedIn-integration) > accessed, 18<sup>th</sup> October, 2021.

<sup>viii</sup> World Intellectual Property Organization, “Enterprising Ideas: A Guide to Intellectual Property for Startups” (2021) [online] <[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_961.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_961.pdf) > accessed 27th September, 2021.

<sup>ix</sup> European Patent Office, “Study highlights economic benefits of owning intellectual property rights – especially for small businesses” (8th February, 2021) [online]<<https://www.epo.org/news-events/news/2021/20210208.html>> accessed 27th September, 2021.

# THE INTERPLAY BETWEEN INTELLECTUAL PROPERTY RIGHTS AND TECHNOLOGY TRANSFER

- *Lilian Grace Thomas*

## **Introduction**

The purpose of intellectual property rights is the creation of access to state-of-the-art technology, by serving and promoting the development of society. In order to do so, it is necessary to ensure the development of such technology is not hampered or interrupted by external means. The intention, in particular, is technological innovation, production, transfer, its dissemination and technical know-how for the purpose of technological development.<sup>i</sup>

The essence of the transfer of technology is a transfer of the functional attribute of that particular technology. It is ideally a medium through which ideas, knowledge, and skills are dispensed to an individual, or an institution, within or outside a country.<sup>ii</sup> It contributes to the dissemination of knowledge, and creates a genesis for the advancement of products, processes, and applications. On the one hand, this process inarguably adds value to the existing goods and services. On the other hand, it may not entirely ensure profitability in the market; however, it provides a competitive

edge and an environment whereby investors and research enthusiasts can collaborate, especially those who might have lacked the resources otherwise.

## **Significance of Intellectual Property Rights in Technology Transfer**

Post the Uruguay Round of negotiations, which resulted in greater IPR protection, a general consensus was formed amongst developed countries, wherein they were put in a position of promoting technology transfer towards developing countries. The resultant situation, however, was met with diverse opinions and criticisms. The lack of adequate IPR protection in the developing countries posed a significant concern with regard to their abilities and ease of copying and reproducing such technology. Moreover, the institution or entity providing such technology lacked adequate recourse in cases of infringement. Whereas in developed countries, IP protection proved to be a major tool in the promotion of local development and innovation,

particularly in the pharmaceutical, chemical, and petroleum industries.<sup>iii</sup>

Technology transfer can materialise either formally i.e., through foreign direct investments (FDIs), or licensing agreements or informally through copying or reverse engineering.<sup>iv</sup> In a knowledge-based economy, it is easier to implement and administer IP rights nationally. This situation, however, becomes slightly complex at the international level. While IP seeks to establish a balance between innovation incentivisation and social welfare, the costs may increase in the enforcement of rights in the global scenario. This may often be in the form of ineffective enforcement mechanisms, lack of cooperation on the side of host governments, and an insufficient dispute resolution system.<sup>v</sup>

By strengthening IPRs, a more significant appeal may lie before foreign firms to manufacture and sell their technology in developing countries. While doing so, it might have to transfer sensitive information such as the workings of the technology, the requisite training of individuals to operate the system etc. This situation might lead to reluctance on the part of multinational firms, as developing countries tend to have a weaker IPR regime and hence, the infringement rates will be higher in a such a situation.<sup>vi</sup>

The strengthened IPR protection may also contribute to additional resources in the management of IP, such as licensing, alliances, FDIs etc. Moreover, collaboration amongst the public and private sectors within the developed country in the diffusion of technology will give rise to material transfer agreements and research contracts. Public institutions being on better ground, can further their resources or fund any research undertaken by private institutes. Such a collaboration must also include incentives, whereby private institutes are not discouraged from producing newer advancements. Therefore, the critical aspect is the efficient allocation of resources, and the reduction of transaction costs, which would otherwise be higher in the absence of an effective IP regime. About 70% of the least developed countries (LDCs) lie in the African continent.<sup>vii</sup> Taking the case of the African countries, FDIs can diffuse the requisite technological knowledge, thereby expanding the scope amongst the local population. This, in turn, creates spillover effects viz., local appropriation, utilisation and spread of the new technical knowledge.<sup>viii</sup>

Another vital element in the process of technology transfer is the anti-trust aspects that may fall in place. As IP protection ideally generates monopolies, lowering the market barriers may increase competition in the field.

Smaller firms will be able to exploit the benefits of IPRs in a manner that benefits both the industry as well as the society. The requisite IP regimes will determine the levels of technology transfer, as it can affect industrial development. It is pertinent to note that broad terms of anti-competitive clauses might negatively affect the transfer rate, and hence, must be adequately narrowed prior to its implementation.

### **Article 66.2 of the TRIPS Agreement and its Effects in the Global Scenario**

Under Article 66.2 of The Agreement on the Trade-Related Aspects of Intellectual Property Rights (TRIPS), a positive legal obligation has been imposed on developed countries for the furtherance of technology transfer to LDCs.<sup>ix</sup> This obligation is to be understood in a wider sense, wherein several aspects are taken into consideration. It includes the effective functioning of incentives to enterprises and institutions. A major concern that arises is the lack of an exhaustive definition of ‘developed’ or ‘developing’ countries. This leads to ambiguity with respect to the obligated countries, and the proper implementation of the provision. Thus, even though a positive obligation is placed upon the developed countries, it is up to their discretion whether to provide for such technology transfer.

Moreover, the underlying objective of the TRIPS Agreement is the protection of IPR, and thus, this obligation includes proprietary technology and not only those available to the public.<sup>x</sup> More discretion is accessible in the case of the latter and hence an effective implementation will be possible on those technologies protected by IPR. However, evidence shows that most developed countries have failed to fulfil their obligations under 66.2.<sup>xi</sup> A reluctance is seen on a global scale and hence, a technological gap arises in this manner.

A good example in this matter is China’s model of technology transfer, which is ideally based on localising intellectual property and establishing domestic markets, by decreasing the dependence on foreign technology. Their primary investments revolve around building a technology-based economy. Their policy zeroes in on acquiring foreign technology, using non-tariff barriers to strengthen nationalised offerings, and then providing for a domestic market wherein these offerings are put at an advantageous position, both at the domestic and global level.<sup>xii</sup> However, in doing so, it has outrightly ignored international trade principles. The outcome of this, is China’s reduced dependence on foreign technology, thereby positioning themselves as

a global competitor and a leader in the technological domain.

An increase in the transfer of goods thus plays a vital role in supporting firms in furthering their research, thereby providing an environment for ameliorating development at a quicker pace. It directly contributes to the welfare of society by facilitating efficient transactions, and nurturing inventiveness.<sup>xiii</sup>

## Conclusion

As the way forward is the globalisation of IP and IP rights, it is necessary to have an adequate regime in place, which balances both the interests of the inventor/investors and the beneficiaries. This must ideally boost confidence amongst the nations so as to increase the rate of technology transfer. Hence, the following recommendations may prove imperative in this process. Firstly, clear-cut definitions with respect to technology transfer, developing and developed countries, and their obligations must be formed. This will

eliminate the ambiguous nature of the applicability of Article 66.2 and hence, can prevent developed countries from shying away from their obligations. Secondly, there must be an adequate mechanism wherein the development or adherence to the policy is closely monitored, and whether they have been beneficial. These can also help in identifying gaps in the policies, programmes, particularly with respect to their implementation. Moreover, it would be ideal to focus on a few key areas, in order to examine possible challenges or shortcomings. Concentrating on these elements would aid in the assessment of the extent of the impact and assist in the formulation of viable clauses in treaties or agreements. Lastly, adequate dispute mechanisms must be put in place, wherein foreign investors or inventors are guaranteed the enforcement of their rights.

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<sup>i</sup> Agreement on Trade-Related Aspects of Intellectual Property (TRIPS) 1994, art 7.

<sup>ii</sup> Standing Committee on the Law of Patents, Fourteenth Session (6 October 2011) <[https://www.wipo.int/edocs/mdocs/scp/en/scp\\_17/scp\\_14\\_4\\_rev\\_2.pdf](https://www.wipo.int/edocs/mdocs/scp/en/scp_17/scp_14_4_rev_2.pdf)> accessed 15 September 2021.

<sup>iii</sup> Blakeney, M., *Enforcement of Intellectual Property Rights*, (Edward Elgar Publishing Limited 2012).

<sup>iv</sup> Carlos Correa, 'Intellectual Property in the LDCs: Strategies for Enhancing Technology Transfer and

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Dissemination' Background Paper No.4: UNCTAD: The Least Developed Countries Report (2007).

<sup>v</sup> Tarun Kabiraj, 'Intellectual Property Rights, TRIPS and Technology Transfer' (1994) 29 *Economic & Political Weekly* <<https://www.jstor.org/stable/4402037>> accessed 15 September 2021.

<sup>vi</sup> Branstetter, Fishman, 'Do Stronger Intellectual Property Rights Increase Technology Transfer? Empirical Evidence from U.S. Firm-Level Panel Data' (2006) 121 *The Quarterly Journal of Economics* 321.

<sup>vii</sup> UN List of Least Developed Countries <<https://unctad.org/topic/least-developed-countries/list>> accessed 15 September 2021.

<sup>viii</sup> Patrick Lowe, 'Intellectual Property and Technology Transfer towards African Countries: Is International Law a Beneficial Policy?' in Theresa Moyo (ed), *Trade and Industrial Development in Africa* (CODESRIA 2014).

<sup>ix</sup> Suerie Moon, 'Does TRIPS Art. 66.2 Encourage Technology Transfers to LDCs?' (Policy Brief No. 2, UNCTAD – ICTSD Project on IPRs and Sustainable Development, December 2008).

<sup>x</sup> B.N. Pandey, Prabhat Kumar, 'Technology Transfer in TRIPS Agreement: Implications for Developing Countries' (2011), 3 *Dehradun Law Review*, 38.

<sup>xi</sup> Correa, 'Intellectual Property in the LDCs' (n 4) 93.

<sup>xii</sup> Lewis, James., 'Section 301:Investigation: China's Acts, Policies and Practices related to Technology Transfer, Intellectual Property, and Innovation', (2020) Centre for Strategic and International Studies (CSIS), <<http://www.jstor.org/stable/resrep24249>> accessed 18 September 2021.

<sup>xiii</sup> Jock Langford, 'Intellectual Property Rights: Technology Transfer and Resource Implications' (1997) 79 *American Journal of Agricultural Economics* 1576.



# TECHNOLOGY TRANSFER AND IPR

*-Eashwar B K*

## Introduction

The movement of data, designs, inventions, materials, software, technical expertise, or trade secrets from one organisation to another or from one purpose to another is referred to as technology transfer. The rules, methods, and values of each organisation involved in the process guide the technology transfer process. To share the risks and advantages of commercialization, joint ventures, licencing agreements, and partnerships can be formed. Technology transfer offices may be used by research institutes, governments, and corporations to aid in the process. Economists, engineers, attorneys, marketing professionals, and scientists may work in these offices. The protection of intellectual property (IP) connected with discoveries created at research institutes is an important aspect of tech transfer. This could entail licensing patented intellectual property to third parties or forming a new company to licence the IP.<sup>i</sup>

## IPR and Innovation

According to research, as more nations improve their IPR regimes, the benefits of higher innovation through better IPR protections grow lesser because the market covered and additional innovation that can be fostered by such protection reduces. Strengthening IPR protection can lead to welfare reductions because IPR holders engage in monopoly pricing that distorts consumer choice. This is especially true in countries that do little or no R&D and would otherwise be able to free-ride on foreign ideas<sup>ii</sup>. The key benefit of robust IPR protection is that it encourages R&D, which leads to innovation and higher long-term growth by allowing innovators to appropriate a share of the profits of their creative activity. The influence of IPR protection on local innovation is anticipated to differ depending on a country's degree of development and factor endowments. In general, we can expect IPRs to have a distinct impact on domestic innovation in countries with substantial innovative capacity compared to those with limited resources for domestic invention.

## Multilateral Organizations

Multilateral organisations can help facilitate research into the economic effects of IPR protection and encourage the distribution of its findings to all relevant parties.

Stronger IPR protection, according to recent research by Chen and Puttitanun (2005)<sup>iii</sup>, has a favourable influence on innovation in developing nations. Chen and Puttitanun devise a model that includes both an import and a local sector, with two local enterprises in the import sector and a local and a foreign firm in the local sector. The foreign firm in the import sector has a patented technology, whereas one of the local firms in the local sector has the ability to generate patentable technology. Stronger IPR protection, which reduces the capacity to copy, can reduce competition and raise prices in the import industry while encouraging innovation in the domestic sector.

## The Korean Experience

Korean companies entered the mature technology stage in the 1960s and 1970s by acquiring, assimilating, and enhancing mature foreign technology generally available through various double-imitation based mechanisms, and developed in the 1980s and 1970s 1990s through aggressive

efforts to strengthen technology to the level of intermediate technology.

As the process of industrialization evolved and Korean companies acquired manufacturing skills in duplicating low-cost, standardized products, they needed to improve their local skills and, in the face of rising local wages and emerging intellectual property rights and sustainability projects, create higher value-added products and 3 threats to competition in the labor-intensive production of developing countries of the second stage.

The government invested heavily in the expansion and deepening of university research in the intermediate technological stage.<sup>iv</sup> The Korean government and the steel company POSCO founded three new research-oriented universities specializing in science and technology. In 1989, the government also passed the Basic Law for the Promotion of Research, with which universities are supposed to improve their research capacities. As a result, university research has also expanded significantly.

The Korean government has also increased the number of Government Research Institutions (GRIs) from just one to over twenty to intensify basic research and serve various industrial needs. GRIs began to play

an important role in strengthening the bargaining power of local companies in acquiring increasingly sophisticated foreign technologies.

For example, when Corning Glass refused to transfer fiber optic manufacturing technology to Korea in 1977, two major copper cable manufacturers in Korea formed a joint alliance. RandD project with a GRI. After 7 years at RandD, a locally developed optical cable was successfully tested in 1983 on a 35 km long route. Technology at favorable conditions.

<sup>i</sup>“What Is Technology Transfer? (Definition and Examples)” (TWI) <https://www.twi-global.com/technical-knowledge/faqs/what-is-technology-transfer>

## Conclusion

A variety of factors are expected to influence the impact of IPR protection on growth, innovation, and technological diffusion in developing nations. While stronger IPR protection in the poorest countries is unlikely to result in significant benefits in terms of innovation or technology diffusion, the administrative costs of developing a patent system and enforcing TRIPS, as well as the potential for market power abuses in small closed markets, suggest that such countries may lose out. Stronger IPR protection in the poorest nations may potentially stifle or delay the imitative stage of growth that many industries appear to require to increase their inventive capacity.

<sup>ii</sup> Falvey, R., 2021. Theory and Evidence. [online] Unido.org. Available at: [https://www.unido.org/sites/default/files/200904/Role\\_of\\_intellectual\\_property\\_rights\\_in\\_technology\\_transfer\\_and\\_economic\\_growth\\_0.pdf](https://www.unido.org/sites/default/files/200904/Role_of_intellectual_property_rights_in_technology_transfer_and_economic_growth_0.pdf)

<sup>iii</sup> Nancy Jane, "Ethnographic Inquiry of Social Support throughout Women's Labor and Childbirth Experiences" (1998). Dissertations. 281 <<https://digital.sandiego.edu/dissertations/281>>

<sup>iv</sup> “Technology Transfer & Intellectual Property Rights” <[https://unctad.org/system/files/official-document/ictsd2003ipd2\\_en.pdf](https://unctad.org/system/files/official-document/ictsd2003ipd2_en.pdf)> October 15, 2021

# UNDERSTANDING THE RELATIONSHIP BETWEEN SEARCH ENGINES AND COPYRIGHTS

- *Ananya Deswal*

## Introduction

To visualize a world without the world wide web and computers has become incredibly difficult. The internet and the online presence of people are expected to grow exponentially in the coming years. Along with it grow the possibilities of copyrighted content being uploaded by unauthorized individuals or groups. At this stage, it becomes important to find a perfect balance between securing the rights of the creators over their intellectual property and still giving search engines a certain level of freedom to display the information uploaded by people across the world. The question at hand is, understanding the current status of liability of search engines in case of copyright violation and any possible amendment suggestions that will strengthen the rightful circulation of owned material to ensure continuous growth of knowledge and information available on the net. An important point to note here is that copyrights are for the expression of an idea and not the idea itself.

## Copyrights and Search Engine's Liability

The World Intellectual Property Organization (WIPO) defines 'Copyright' as the "legal term used to describe creators' rights over their literary and artistic works. Works covered by copyright range from books, music, paintings, sculpture, and films, to computer programs, databases, advertisements, maps, and technical drawings."<sup>1</sup> If someone publishes, releases, or performs any copyrighted work or does anything that is an exclusive right of the copyright owner, without permission or acquiring an appropriate license, that amounts to copyright infringement.

Search engines are web-based programs that aim to scan and present data from the internet by providing results based on the users' search queries. Google, Yahoo!, Bing, DuckDuckGo, etc., are some of the leading examples of search engines used by countless millions worldwide. With 4.66 billion active

internet users in January 2021 worldwide, massive amounts of data are processed each day. In 2020 alone, 2.5 quintillion data bytes worth of content was generated daily.<sup>ii</sup> This content/data includes video files, text messages, images, audio files, and more. Search engines act as the gateway to an unfathomable amount of data. With people updating content by the second, the expanding internet can be understood as a vast repository/library that is automated and digitalized. In order to strike a balance between optimizing the content online and ensuring that copyrights are respected, it is important to look at various factors regarding the liability of search engines for unauthorized content on the web.

At one end, keeping track of who is uploading questionable content is a fiendishly difficult task. To alienate and run a check on every upload made would essentially result in lowering the efficiency of search engines as information providers. Many have argued that they play a passive role in just presenting information to users. If liabilities are piled on them for the uploads made by individuals who lack the legal capacity to do so, it will severely impact the customers/users.

In the case of *Gordon Roy Parker v Google*, the District Court of US rejected the author's

plea claiming copyright infringement by Google by asserting that in the absence of the required volitional conduct, copyright infringement cannot be claimed. As a search engine with its technical and automated setup, the system does so as a third party without any intention to gain financially from the material being copied.<sup>iii</sup> It is also important to note that with the growing technological prowess, the anonymity offered by Internet services is another factor that needs consideration. Section 79 of the Information Technology Act 2000 provides Search engines with a defense.<sup>iv</sup> They will not be liable for copyright infringement if they can prove their due diligence, or where an unauthorized individual uploads such content if they can prove to have no knowledge of the same.

As of this moment, in India, search engines cannot be held accountable for direct copyright infringement, and claim defense under Section 51(a)(ii) of the Copyright Act, 1957, which essentially talks about ignorance regarding the copyrighted content - "...unless he was not aware and had no reasonable ground for believing that such communication to the public would be an infringement of copyright." However, search engines can be held liable for contributory

copyright infringement and have injunctive orders against them if it can be proven that they were in fact, aware of the infringement of said copyright.<sup>v</sup>

On the other end, it is important to take cognizance of the copyright owner and their effort into their work. Easier access of information is not a strong enough reason to neglect the duty of search engines, as platforms, to ensure that the intellectual property of the original authors/creators is respected and any unauthorized use of copyrighted content does not take place. Even if such content is uploaded online, escaping the notice of search engines, immediate evaluation of the concerned upload should take place upon receiving notice. They should take appropriate action following through with the copyright owner's wishes. Further, suppose unauthorized parties are using any content, and they make profits from the said violation, they should be held liable - this is stated in Section 51(a) (ii) of the Copyright Act 1957.<sup>vi</sup> It is uncertain whether search engines gain financially from the copyright violation that takes place on these platforms. This is something that needs to be debated and discussed thoroughly, along with an increase in transparency.

Another important thing to be kept in mind is the growing technology that helps analyze digital footprints. Search engines should devise a way to ban users who continue to disregard creators' intellectual property despite repeated notices so that such defaulters do not profit unfairly from others' copyrighted content.

At this juncture, one may ask - Well if certain content is copyrighted, is there no way through which a person can safely use this information for non-commercial purposes without facing a world of legal consequences? Is there a way through which search engines can continue to properly be third party providers of information that is sought by people worldwide? There is - The doctrine of Fair Use. In the famous case of *Folsom v. Marsh*, it was established by Justice Story, "...we must often, in deciding questions of this sort, look to the nature and objects of the selection made, the quantity and value of the material used and the degree to which the use may prejudice the same or diminish the profits or supersede the objects of the original work."<sup>vii</sup> This doctrine is essentially what allows the respondent in a case of copyright to prove that their intention for taking the copyrighted content was not to

benefit financially or change the related market, with it.

## Conclusion

Copyrights are a way to secure the rights of the owner of the original work. It aims to bring about an environment where individuality is rewarded by the creator gaining exclusive and commercial rights to their work. Search engines, which essentially work to provide us with information that we need and arm us with knowledge, need to be regulated so that no unauthorized person

takes away from the work of others without taking prior permission or having a valid license for the same. If this is established in a manner that doesn't hinder the flow of information on the internet, it would be the most desirable outcome in this fierce debate on the liability of search engines for copyright infringement.

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<sup>i</sup> World Intellectual Property Organization (WIPO), Copyright < [www.wipo.int/copyright/en/](http://www.wipo.int/copyright/en/) > accessed August 24, 2021

<sup>ii</sup> Joseph Johnson, 'Digital Population Worldwide' (*Statista*, September 10, 2021) < [www.statista.com/statistics/617136/digital-population-worldwide/](http://www.statista.com/statistics/617136/digital-population-worldwide/) > accessed August 23, 2021

<sup>iii</sup> Jacquelyn Bulao, 'How Much Data Is Created Every Day' (*Techjury*, September 9, 2021) < <https://techjury.net/blog/how-much-data-is-created-every-day/#gref> > accessed August 26, 2021

<sup>iv</sup> Information Technology Act, 2000

<sup>v</sup> Jha Sneha and Jha Sameer, 'An Analysis of the Theory of Contributory Infringement', [2006] *Journal of Intellectual Property Rights*, pp 318

<sup>vi</sup> Copyright Act, 1975

<sup>vii</sup> William Z. and Nasri, '*Crisis in Copyright*', 29, Allen Kent Ed., Marcel Dekker, Inc., 1976



# GREEN TECHNOLOGY AND IP: A TWO-WAY DIALOGUE

*-Shreya Sampathkumar*

## **An Introduction to Green IP and its Significance**

The advent of the 21st century has borne witness to the spread of environmental awareness and its reasons, namely, pollution, destruction, rapid consumption of resources culminating in climate change. As material evidence of this impact is studied, there has been an increasing interest in crafting technological solutions to the problems posed by environmental problems to preserve sources for future generations to come. The importance of inculcating values and innovation that promote sustainability on a scale that creates foreseeable change is the need of the hour. Like other kinds of technology, green technology requires initiative, investment and incentive, while considering the limitations that a passion for saving the environment can bolster.

Intellectual property rights derive a balance between the interests of innovators and the public interest. They are essential tools in providing incentives for the creation and

exchange of new technology. This article will explore the implications of using a balanced IP rights system that promotes environmental sustainability while ensuring enough profits are procured to encourage investors and creators. Given the nature of this discussion, it is clear at the outset that the positives of adopting a comprehensive system of IP protection far outweigh its drawbacks. The public domain is the ocean of knowledge exchange because it is open to all. Developing countries, in particular, require this sort of access as the first step to engage in technological development. The question of resource availability comes next, but the importance of the availability of technological know-how is crucial.

Take the example of creating a particular type of motherboard that a machine requires. A developing country may not have all the resources necessary to make the motherboard. Still, with the know-how, they will look for alternative resources to replace the initially required resources. While navigating through this territory, due consideration must be provided to patents and

the rights under patent protection and its access and exchange to cater to developing countries' environmental needs. Innovation is the cornerstone to economic development and participation in the safety of the environment. Aptly dubbed so, IPR is certainly the 'global currency of innovation' with an increasing number of patent applications being made to promote innovative environmentally sound technologies. In a global economy driven by knowledge, IPRs are a strategic asset to compete with other companies in a certain market for technology.

This applies even to green technology markets. Ongoing 'patent wars' are one such example of innovation competition in the field of information technology. Two conclusions can be drawn from all the aspects that have been discussed: One, IPRs are most certainly the best way to go for technology exchange.<sup>i</sup> This necessitates a more robust and more widespread regime of protection enforceability. Two, IPRs can prevent the diffusion of new technologies and restrain affordable, readily available access to them. There is a need to accommodate these two conflicting opinions, resulting in the definition of a balance that has to be created between the ease and affordability of technology transfer and the benefits that

owners of such technologies receive in exchange for permitting their use and diffusion.

Organisations pushing for the public use of such green technology knowledge face severe backlash from emerging economies and are labelled as a part of the 'anti-IP movement'. The fear of being labelled so has led to a decrease in the number of forums willing to discuss the subject of establishing such a balance. This is because partaking in the cause to promote green technology transfer minimises the role of IPRs, which in turn affects the business of companies dealing in the same, which happen to be located in countries with emerging economies, such as China.<sup>ii</sup>

Contrary to such opinions, the commercial role that IPRs play in green technology is not necessarily destructive or against the ideas of the global availability of green technology. The World Intellectual Property Organisation's pioneer platform, WIPO GREEN, targets the acceleration, adaptation, adoption and deployment of climate change-focused technology, with particular reference to developing countries and their economies. The platform brings together those searching

for new green technologies to employ and those who create them.

### **The Interface between Patent Laws and Green Technology<sup>iii</sup>**

With the prospect of dealing with the intersection between the patent system's strength and innovation in developing countries, there are two mutually inclusive doubts that must be addressed. The first one among the two discusses the extent to which technology transfer is facilitated by a stronger regime of patent protection. How does laying the foundation for a better system affect firm behaviour?

The second question deals with how stronger patent protection nurtures technological innovation within a country. How does this interact with the behaviour of firms within the country? At first glance, the second question certainly seems more pertinent to the subject matter of the current article. However, the first question addresses a vital issue, especially with regard to developing nations, such as India. Industrialized countries do not have much reason apart from patent protection to engage in the development of technology that developing nations require, and this category of technology includes green technology.

The above argument nevertheless, is made under the assumption that IPRs are completely enforceable, which is only really possible in a utopian world. In addition to this, such technology transfer does not aid local skill and human capital development when only physical manifestations of knowledge are worth being exchanged. Thus, a counterargument crops up while a stronger IP regime will help domestic firm activity, it prevents innovation that occurs through exchange and access to other similar technologies, which ultimately prevents upkeep with technological trends.

When weighing these two conclusions, it is pertinent to remember that the level of technological innovation in a certain developed country needs a certain know-how absorption level in the country that the know-how is being accessed.

Considering real-world implications of harmonizing IPRs, there is evidence, according to the World Bank 2010 World Development Report, that there is no proof that a tedious system of IP protection has been an obstacle to the exchange of climate-friendly technologies to middle-income countries. The converse is apparently true too - the weak implementation of IPRs or a weak system, in general, do not pose as barriers to the same exchange.

A combination of several technologies can give a desired environmental effect, and a large number of such potentially compatible technologies have completely realizable know-how, with the advantage of being available in the public domain. Innovation in green technology is expected to arise from marginal improvements of current technologies. While these marginal improvements are certainly patentable, it still serves to be efficient enough to leave adequate scope for competition in innovation.

### **What exactly is classified as ‘Green Technology’?**

The term itself denotes any clean or environmentally-friendly technology, the products or innovations used to protect the environment with the sole objective of promoting sustainability and conservation of existing resources. The International Patent Classification Committee supports an initiative titled the ‘IPC Green Inventory’, which enables searches for patent information in the field of green technology. The following categories of technology fall under its ambit:

1. Alternative Energy Production
2. Energy Conservation
3. Nuclear Power Generation

4. Transportation
5. Waste Management
6. Agriculture Forestry
7. Administrative, Regulatory and Design Aspects

The adoption of green technology will aim to decrease global warming emissions and inculcate the usage and research of alternative energy sources, thus conserving non-renewable sources.

Intellectual property is the essence of technological advancement and development conceptualised by way of proprietary rights, capable of being transferred, assigned, licensed and protected against infringement. Article 7 of the TRIPS Agreement (Trade-Related Aspects of Intellectual Property Rights) elaborates on the intersection of IPRs and Green Technology:

*"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 a balance of rights and obligations.*<sup>iv</sup>

Thus, ‘Green Intellectual Property’ defines the protection of inventions and helps these environmentally-friendly technologies receive legal protection.

Greenhouse gas emissions and other climate-change problems affect the world as one large community. This requires a global, targeted approach tackling multiple negotiations, frameworks and organisational concerns while examining intellectual property in conjunction with green technology. However, the existing system that attempts to include all of the above functions does not appear to require a revamp as of today’s scenario. The conditions of patentability and inventiveness in specific are observed to have been relaxed over the years. One aspect that would push the system forward is the acceleration of the examination process and an increase in the affordability of taxes and other costs involved. Green technology would bode well to be licensed or sold to third parties because that would improve community engagement with the concept of green technology therefore, lengthening of patent protection duration can be an idea to

provide an incentive to the patent owner to license the same for adequate compensation. If; incentives fail to accomplish their objective, one can resort to compulsory licensing when essential green technology is in dire need. However, in order to protect all interests, incentives ought to be the method of preference.<sup>v</sup>

## Conclusion

While all of these ideologies are meditated upon, the ultimate impact falls on the consumer. The power to considerably reduce emissions lines upon the consumer. All governments have a collective responsibility to research answers to climate change problems, and at the heart of this lies every consumer’s passion for environmental sustainability. In order to persuade the consumers to such a cause, there can be two strategies: Inculcating an awareness of the issues that green technology addresses, the roles of scientists, activists and writers. The other element that ought to be tweaked is consumer information pertaining to the goods and services sold to them.<sup>vi</sup> They must be made aware of the tiniest impact that a single action can bring about. Misleading ‘Green’ labels must be eradicated from the market in order to establish a regime of complete

transparency of the environmental  
consequences of a transaction.<sup>vii</sup>

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<sup>i</sup> Bronwyn H. Hall and Christian Helmers, The Role of Patent Protection in (Clean/Green) Technology Transfer, 26 Santa Clara High Tech. L.J. 487 (2009). Available at:

<http://digitalcommons.law.scu.edu/chtlj/vol26/iss4/1>

<sup>ii</sup> Ahmed Abdel Latif, 'Intellectual Property Rights and Green Technologies from Rio to Rio: An Impossible Dialogue? ' [2012] Policy Brief No 14(-) ICTSD Programme on Innovation, Technology and Intellectual Property

<sup>iii</sup> Ahmed Abdel Latif, 'Intellectual Property Rights and Green Technologies from Rio to Rio: An Impossible Dialogue? ' [2012] Policy Brief No 14(-) ICTSD Programme on Innovation, Technology and Intellectual Property

<sup>iv</sup> Article 7, Trade-Related Aspects of Intellectual Property Rights

<sup>v</sup> Amlegals, 'Green IP- A Way Forward To Sustainability' (Mondaq,21 May)

<<https://www.mondaq.com/india/trade-secrets/938054/green-ip-a-way-forward-to-sustainability>> accessed 26 September 2021

<sup>vi</sup> Jonathan M.W.W Chu, 'Developing and Diffusing Green Technologies: The Impact of Intellectual Property Rights and their Justification ' [2013] 4(53) Journal of Energy, Climate and the Environment

<sup>vii</sup> Guillaume Henry, 'Intellectual Property Rights and Green Technologies ' [2010] World Congress of the International Association for the Protection of Intellectual Property (AIPPI)