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NFTs: Revolutionizing Intellectual Property Rights - Exploring the Implications of Non-Fungible Tokens in the Digital Age

SAHITHI MITHRA[1] AND SANDRA ESTHER SAVIO[2]

ABSTRACT

Non-fungible tokens (NFTs) have emerged as a significant development in the world of intellectual property rights (IPR), particularly in relation to digital assets. NFTs are unique digital assets that utilize blockchain technology to establish ownership, provenance, and authenticity of digital content. This article explores the implications of NFTs on various aspects of IPR, including copyright, and trademark. Regarding copyright, NFTs have sparked discussions around ownership and control of digital works where artists and creators can tokenize their creations as NFTs, granting them a digital certificate of authenticity and providing opportunities for direct sales, royalties, and licensing. However, challenges such as copyright infringement and unauthorized distribution of digital content persist, requiring legal frameworks to adapt to this evolving landscape. In terms of trademarks, NFTs can raise concerns when it comes to the unauthorized use of brand names or logos within digital assets. Clear guidelines and regulations are needed to address the potential for confusion, or infringement of trademark rights and freedom of artistic expression in the NFT space. Concepts like nominative fair use may play a role in determining permissible uses of trademarks within NFTs.

Keywords: *Non-Fungible Token, Intellectual Property Rights, Copyright, Trademark.*

I. INTRODUCTION

(A) What is NFT?

The Non-Fungible Token or known famously by its acronym 'NFT' are blockchain-based digitalised assets, it represents the underlying works, as mentioned under S. 2(y) of the Copyright Act, 1957, such as digital artwork, video or photograph, memes, gifs, music and even can represent shoes, clothes other works. They comprise of information that is recorded and stored in a blockchain which is linked to a specific underlying tangible asset as the ones mentioned above. Any physical commodity or product can be converted into and sold as a NFT. As its name describes NFTs are non-fungible that is it is unchangeable and cannot be divided

[1] Author is a student at Christ (Deemed to be University), Bengaluru, Karnataka, India.
[2] Author is a student at Christ (Deemed to be University), Bengaluru, Karnataka, India.

or replaced. As in the case of money, which is fungible as it can be replaced by something of equal value or by money itself of the same value. For example, an INR 500 note can be exchnaged with five INR 100 notes or by another INR 500 note, but in case of NFT that is not possible. The reason for its non-fungbility is that as each NFT is associated with a meta-data and algorithm, makes it unique and distinct from other already existing NFTs, which aslo plays a substantial role in determing its value, making it difficult to be traded off for another NFT.

An NFT is a unique token on a blockchain and this tokenization process helps in generating a digital representation of an asset using blockchain technology. The blockchain records the ownership and assignment of the NFT and this helps to makes sure that only one one NFT can be created for each item and no multiple copies can be made.

One of the rare features of NFT is with regard to its value which is difficult to determine and its valuation is based on the 'Veblen effect', where the rise in the price of a commodity does not affect the demand of it. Thus more the popularity of NFT more will be its demand.

(B) Creation Of An NFT

In order to create an NFT its minting is to be done. In minting of the NFT the digital digital representation of the Work must be created and this is called tokenisation, which is done by uploading the Work in a particular platform or marketplace like OpenSea, Bored Ape Yacht Club and SuperRare and a token is issued for its authentication, on this platform or marketplace the sale and purchase of NFTs happen.

The authentication provides a unique identification code to the NFT and this acts as proof of ownership, this also helps in eliminating the intermediary in the process of sale and purchase.

NFTs can be created on blockchain in to ways: **On-Chain NFTs** and **Off-Chain NFTs.**

1. On-Chain NFTs

   In this the NFTs are stored along with the metadata and smart contracts stored on the blockchain. The on-chain NFTs does not trequire external system in order for storage as the blockchain itself contains all the three, however it is very expensive as large computer storage is required for entire image files requires to be stored.

2. Off-Chain NFTs

   It is the most form in which NFTs are stored. In this the NFTs exists in two parts as the smart contract and the metadata for the work and NFT are not stored entirely on the bloackchain. The smart contract are present on the blockchain does not store the digital work on the blockchain but rather stores a pointer the to an off-blockchain storage location. The pointer is a link in which the file of metadata is held.

II. NFT AND BLOCKCHAIN & CRYPTOCURRENCY

The NFTs are stored on the blockchain and its purchase happens in cryptocurrency. Thus making the two essential in order for an NFT to operate.

Blockchain is a distributed software network which facilitates the transfer of digital assets without the interference of an intermediary. It allows any commodity to be tokenised, stored, and exchanged on a blockchain network. As NFTs are sold and purchased in the marketplace, the blockcahin creates a record of the same which acts as a proof of ownership. Thus, blockchain provides both ownership rights and as well as anonymity for anyone who purchases the NFT.

In India, in the case of "**Internet and Mobile Assn. of India v. RBI7"**[3], the Supreme Court had quashed the circular issused by RBI in 2018 stating the ban on use of cryptocurrency. The Court held that it was interfering in the fundamental right to trade and RBI cannot impose restriction on cryptocurrency due to non-existence of any law pertaining to it. As there is no specific legislation regarding cryptocurrency therefore the use of NFTs must also be legal as purchase and sale of NFTs happens in cryptocurrency. However it is still uncertain whether NFTs are commodities or security.

(A) NFT and Smart Contract

NFTs are been created through a minting process by using Smart Contracts which automatically sets the creator as the owner of the NFTs once minted and it assigns ownership of the token. The minting process involves the conversion of digital files like music, video, audio, images into crypto assets on a blockchain. The NFTs marketplace uses a set of smart contracts to aution NFTs, by obating a temporary ownership of the NFTs, where predetermined conditions relating to bid price and specific date are mentioned and if these conditions are not met then the NFT ownership will be transferred back to the creator.

The NFT smart contract creates a virtual agreement between the parties in which the terms of the contract are in form of a code. And these smart contracts are stored on a blockchain, thus help in elimating any intermediary in the process of purchase and also elimiantes the chances of errors thereby receiving the name smart in smart contract. It usually uses blockchain such as Bitcoin and Ethereum. The smart contracts assigns and reassigns ownership of the NFTs, reassignment happens when NFT is sold and the ownership is transferred to the new owner from the previous one.

However smart contracts are not binding as they are not legal contracts.

(B) NFT and Metaverse

Metaverse is the superset of virtual reality, augmented reality, and the Internet. It is a digital

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[3] 2020 SCC online SC 275

assets platform, built on Ethereum blockchain and is involoved in the digital assets creation, trade, communication etc. Unlike other platforms metaverse is interoperable and allows cross-chain transactions between Metaverse and other blockchains such as Bitcoin, Litecoin, and Ethereum.

While understanding the relation between NFT and Metaverse, NFT on one hand are virtual tokens however metaverse has its own virtual universe. Metaverse createsa virtual world which provides a shared, permanent and open platform for the public. While the NFT creates tokens which are inexchangable and non-fungible.

Metaverse facilitates a person to travel between different locations and places through the 3-D world without actaully having the need to commute and use physical resources. It helps in conneneting people through virtual world and even a person can do all their daily tasks in the virtual world.

(C) NFT and its legal implications with regards to Intellectual Property Laws

Non-Fungible Tokens (NFTs) have emerged as a revolutionary technology that enables the digital ownership and trading of unique digital assets. NFTs have gained significant attention and popularity in recent years, especially in the art and collectibles market.

NFTs provide a mechanism for creators to tokenize their digital creations, allowing them to prove ownership and establish scarcity in the digital realm. This has opened up new possibilities for artists, musicians, and content creators to monetize their work directly, without the need for intermediaries. However, this new paradigm also raises questions and challenges in relation to IPR. The key challenges faced by NFTs are in matters relating to copyright and trademark.

(D) NFT and Copyright

The Non-Fungible Token or known famously by its acronym ‘NFT’ are blockchain-based digitalised assets, it represents the underlying tangible works, however it is important to differentiate between NFT and the underlying works. Only the underlying works may obtain copyright protection however the NFTs are not likely to enjoy these rights as they only represent these artistic works on the blockchain. These rights are enjoyed by the creator or the assign of the work.

The ownership if the copyright is mentioned under S. 14 of the Copyright Act, 1957 and they get exclusive rights including the right to create/mint the underlying work of NFT. The ownership of the NFT can be transferred entirely by way of assigment or the minting rights can be granted by licence. The mintimg of NFT can only be done provided such an individual or entity has the right to reproduce the Work and communicate the Work to the public otherwise such an act of minting will amount to copyright infringement. However the underlying work is never been transferred it is only the NFT of which the copyright is transferred.

The NFTs being digital content there is high possibility of copying of the content but the buyer of NFTs cannot file for copyright infringement as they are not the owners of the digital content but of the NFT. When purchasing NFT the purchases does not get full ownership of the digital content they get copy of it and these ownership provides only the digital bragging rights, which gives the owner of the NFT right on the original work and anyone who makes the copy of the NFT such a copy has no value. This gives the owner exclusivity on the NFT and it is only the owner who can view, listen or access the NFT thus to some extent restricting the possibility of the NFT getting copied.

The Indian Copyright Act, 1957, provides the circumstances when copyright infringement occurs, however due to anonymity and lack of regulations make this process difficult. Further the NFTs are prone of fraud and creator’s moral rights violation.

III. Ownership of an NFT

The authorship and ownership of the underlying work of the NFT and the ownership of the NFT can be different or with the same person or entity. The person/entity that mints the NFT acquies the ownership of the NFT. But before such minting process the entity or individual must obtain copyright from the author of the underlying work otherwise it will be a copyright infringement. The ownership rights provides the owner the right to control the work however this control is only obtained by executing a standard, formal copyright license to the work connected to the NFT.

The NFT which is purchased provides with an non-exclusive license only that is to display the NFT but cannot commercialize it. This happens due to non-transfer of copyright through separate assignment/license agreement between the NFT seller and buyer. For example in the case of ‘CryptoKitties’ in which the owner only granted commercialisation of the artwork but the earning obtained through such commercialisation must not exceed $ 100,000 per year. But in the case of NBA TopShots, the NFT was granted with the license to ‘use, copy and display’ the ‘moment’ depicted in the NFT.

In Indian Copyright Act, 1957, the right to assign work is only possible if it is provided through a written agreeement and NFT are purchases through smart contract is not possible as they are not in written format. So the transfer of copyright in the underlying work is possible by a fully executed assignment or license agreement which grants either the copyright in the Works or certain rights over the NFT to the buyer.

The main problem with selling of NFT is that the transfer of copyright ownership must be done in a written form and duly signed by the owner but if the owenrship of an NFT is transferred is done merely through smart contract then the ownership still remains with seller and is not transferred to the buyer. Further making a smart contract legally binding is difficult and one of the challenging thing to do. Therefore it is easier to license the copyrightof the NFT because licenses don't need to be signed or even need not be granted in written form.

(A) Some cases relating to NFT and Copyright

Though in India there is no such case relating to NFT and copyright however there are international cases dealing with such matters.

The Chinese case, "**Shenzhen Qice Diechu Cultural Creativity Co., Ltd. v Hangzhou Yuanyuzhou Technology Co., Ltd"[4],** Shenzhen Qice Diechu is the copyright owner of the Chinese artist Ma Qianli work 'Fat Tiger' which is a cartoon series. An NFT user on Bigverse minted an NFT of one of Qianli's works, 'Fat Tiger Vaccination' and sold it for RMB 899 on the digital marketplace, the NFT uses the same name and image as that of the original work and regarding this the author was not informed. The plaintiff sued the defendant for contributory infringement.

The Court had upheld the infringement and directed the to destroy the digital work and send it to an inaccessible address in order to disconnect it from the blockchain. The court further observed that the marketplace must conduct a preliminary ownership check of digital work during the minting of NFT and has a duty of care to duly check such conent and recommended establishing an IP review mechanism. The court placed a higher level of threshold to be maintained by such marketplaces when such conent are minted as NFT.

(B) Copyright and Trademark

A trademark indicates the brand value in relation to its ownership, value, and quality of the goods. To enhance trade in goods/services with respect to its mark, the metaverse platform plays a prominent role. The origin of NFTs in the virtual world of IPR leads the way to the virtual trading of goods/services without procuring its possession but rather to revenue generation through its value. The possession, transfer of value, right for commercial exploitation, and reproduction of work is determined through 'smart contracts'. Moreover, the owner of trademarked goods has control over virtual markets in relation to his/her goods and can claim remedies.

Apart from this, in recent developments of NFTs the misuse or unauthorized usage of the mark's content is more prevalent. The NFTs users are selling the physical goods of other companies or using the brand value of the mark without adequate permissions from the respective owners of the mark. This passing-off turns out to spoil the reputation or goodwill of the trademark owner.

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[4] (2022) Zhe 0192 Minchu No. 1008

In a similar way, if the mark is attached to a low-valued product it turns out to be trademark dilution.

Basically, this usage of the mark is done through the virtual depiction of the good or the mark of the respective good and later this is linked to NFTs. This amounts to confusion in the minds of the public with respect to the mark's source of origin and its quality. This ultimately results in trademark infringement. While considering the literal trademark law interpretation, this indicates that there is no trademark infringement as there is a difference between both virtual artistic depictions of marks and physical marks of the respective good.

But, this virtual depiction is claimed to be artistic work by the users as they are creating these images virtually which are distinguishable from the physical form of the good. To determine the issues of this unauthorized usage, the courts tried to draw a line between NFT's artistic works and the likelihood of confusion that can be created in the minds of the public.

(C) Public Domain- Right To Publicity

Trademark laws primarily focus on protecting distinctive signs, symbols, or designs that identify and distinguish the source of goods or services. Trademarks serve to prevent consumer confusion and protect the commercial value and reputation associated with a particular brand. On the other hand, the right to publicity relates to an individual's right to control and profit from the commercial use of their name, image, likeness, or other identifiable aspects of their persona. It protects an individual's personal identity and the economic value derived from it.

Trademark laws protect against unauthorized use of trademarks that may create a false association or imply endorsement. In some instances, the unauthorized use of an individual's name, likeness, or persona in connection with a trademark may infringe upon both trademark rights and the right to publicity.

In India, NFTs started to gain prominence recently and 11 companies in total are conducting business through NFTs such as Mahindra & Mahindra, Make My Trip, and so on. The Delhi High Court recognized the NFT artistic works in the virtual world in the case of "**Digital Collectibles Pte Ltd. and Others Vs Galactus Funware Technology Private Limited and Another**"[5]. In this case, the defendant, an online gaming company, allowed users to create and maintain their own virtual teams in the form of cards in the mobile application through the Stricker website by using NFT technology. The users pay an entry fee and based on their skill and knowledge select the team members on the virtue of images and names of real athletes. These cards used by the defendants are similar to the plaintiff's online gaming platform operated

[5] Digital Collectibles Pte Ltd. and Others Vs Galactus Funware Technology Private Limited and Another (2023) SCC OnLine Del 2306 (India)

under the 'Rario' website (blockchain), where 'digital player cards' are used by users to sell and purchase the team's cards. The plaintiffs claimed for trademark infringement as there may be confusion among the public that the defendant's goods originated from the plaintiff but the defendants brought up the argument of original artistic work that cricketers are depicted through art but not directly their actual images and claimed the right to publicity. The defendants argued that the usage of such players' names and images to be considered as descriptive or normative use. Here the court held that the usage of players' names and performance from on-field matches by defendants is from the public domain, thus they have the right to publicity. Apart from this, instead of the player's photographs they virtually depicted their images through their artwork. Thus, the court upheld the right to publicity and original artistic work through NFTs. In addition, this case brought the idea that there is no difference between ordinary OFS games and NFT digital player cards.

IV. TESTS- LIKELIHOOD OF CONFUSION OUTWEIGHS FREEDOM OF ARTISTIC WORK

In the United States case of "**Hermes Int'l v. Rothschild**"[6], the defendant Rothschild sold their products through NFTs by depicting the image of MetaBirkins (fur-covered handbags), which is the plaintiff's unique product. The main issue raised was whether there is confusion of the plaintiff's association with the defendant's virtual product to the consumers. On one hand, the plaintiff claimed unauthorized profits and trademark dilution of the mark's quality by the defendants by such usage of an 'iconic' bag in digital form. On the other hand, the defendants argued that the digital images of the handbag are linked or associated with the NFT and consumers have clarity that they are images of the digital handbag and these are not associated with the plaintiffs.

Roger's test is applied to determine whether the defendant's digital image is an artistic work based on whether there is "artistic relevance" to the work to which it is used and whether the use of such trademark creates confusion and unfairly misleads the consumers with respect to its source. **Gruner + Jahr test** is also applied to see whether a defendant's usage of something associated with the plaintiff's trademark could create confusion with respect to the source of the product. In this test the factors of prominence of the mark, similarity between marks, actual public confusion, competitive proximity, quality difference, bad faith in usage of such mark, consumer's sophistication and likelihood of bridging the gap into the marketplace.

Here, the court brought the conclusion that the freedom of artistic expression can be overruled in the presence of consumer confusion to promote the public interest. Therefore, based on evidence material which proved usage by the defendants created public confusion that this

[6] Hermes Int'l v. Rothschild, 22-cv-384 (JSR) (2003)

digital image is associated with the plaintiff, the Rothschild are held liable for trademark infringement and dilution.

(A) Defences- Fair Use

In the case of **"Nike v stockX"[7],** the defendants resold the plaintiff's sneakers in their NFT collection without prior permission, this affected the reputation and goodwill of Nike company. This is done for the purpose of investments and trading but not for physical possession of the sneaker shoes. This even led to misleading the public by causing confusion on the relation between the brand and its right holder. The case aims to distinguish between fair use and infringement. Similar to Metabirkins case, the defendants argued that vault NFT is linked to these collected items but NFT are not separate. This implies that if the customer wants the physical possession of the good then that person's digital portfolio will be removed from circulation but NFTs are not itself independent.

Fair use doctrine in respect to trademarks:

The primary function of trademarks is not to grant exclusive rights for creative expression or ideas, as in copyright law, but to protect the commercial value and reputation associated with a particular brand. While trademark law does not have a specific fair use doctrine, it does allow for certain uses of trademarks that are considered nominative fair use. Nominative fair use permits the use of a trademarked name or logo to refer to or describe the trademarked goods or services accurately. This type of use is generally permissible if it does not create confusion or imply endorsement or affiliation with the trademark owner.

Even though the current case is uncertain still this defence is considered by the concerned court.

V. Conclusion

In conclusion, non-fungible tokens (NFTs) have introduced new considerations and challenges in the realm of intellectual property rights (IPR). While NFTs provide a means of establishing ownership and provenance for digital assets, they have also raised complex issues surrounding copyright, trademark, and other forms of IPR. Additionally, the emergence of NFTs has highlighted the need for clarity and legal frameworks in areas such as licensing, contractual agreements, and enforcement of IPR. The decentralized nature of blockchain technology and the global reach of NFT transactions further complicate the enforcement of IPR laws and regulations. As the NFT market continues to evolve, it is crucial for artists, collectors, platforms, and regulators to collaborate and establish best practices that protect and respect IPR. This may involve the development of standardized licensing agreements, enhanced copyright protection mechanisms, and increased transparency in the verification of ownership and authenticity.

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[7] Nike, Inc. v. StockX LLC, 22-CV-00983 (VEC)(SN) (2023)

As the NFT market continues to evolve, it is expected that regulations and best practices will develop to address these concerns. It is essential for participants in the NFT ecosystem, including creators, buyers, platforms, and regulators, to navigate these challenges responsibly and ethically.

Ultimately, the long-term impact and sustainability of NFTs will depend on how they are integrated into existing systems and whether they provide meaningful value to creators and collectors. The future of NFTs will likely involve a combination of innovation, collaboration, and adaptation as the technology matures and society further explores the possibilities and implications of digital ownership and expression.

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