

# Non-Fungible Tokens: The Future of Digital Collectibles and Assets

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**Abstract:** *Non-Fungible Tokens (NFT's) is a form of digital certificate of authentication being created on the blockchain technology which is similar to other virtual crypto assets and currencies. The popularity of the blockchain technology along with dealing in crypto assets has seen to grow in the recent years. The NFT market is also rising exponentially as witnessed in the recent years. The very concept of NFT originates from a token standard of Ethereum, aiming to differentiate and distinguish each token with its unique signature being bound with digital properties. The impressive return on its rapidly increasing market worldwide has drawn massive attention, with India too having witnessed a heightened interest in this digital sector, especially from the upcoming new-age investors and digital creators. However, development of the NFT ecosystem being in an early stage has seen an absence of a regulatory legal framework to govern such pre-mature digital crypto assets in the country of India. The legal policies surrounding them are plentiful which has further lead to a lack of clarity in regards to its legal validity and sanctity. The upcoming artists may tend to get lost in this frenetic evolution with lack of systematic summaries. This paper intends to explore the concept of NFT in contrast to cryptocurrency and copyright along with its working and technical components. It aims to analyse the legal pitfalls which impact its functioning along with the opportunities and challenges faced by the Indian legal framework in terms of cryptographic assets.*

**Keywords:** NFT, Non Fungible Token, Blockchain, Digital Collectibles

## 1. Introduction

With the advent of technology and the world being struck by the pandemic, digital world has witnessed a rapid change. The new digital world has given rise to one such transformation i.e. digital investments and digital currencies. The cryptocurrency has transformed into a massive industry subsequently rising the demand of investors all across the country willing to invest in these digital assets and cryptocurrencies.

The digital revolution has led to an open display of everything online. The digital platform has adversely affected the creation and innovation of original artists by people being absolutely unaware about the ownership and authorship of the works displayed online. With lack of security and authenticity the artists and creators are left with nominal value of their creations. This is what the NFT's aims to solve, they represent ownership of a unique item which is then attached to a token through the blockchain.

2020 heading towards the mainstream art world has witnessed a boom in the market for NFT's climbing to a market capital of almost 338 million from 41 million in the year 2018. A new generation of traders is being witnessed in the NFT market i.e. digitally native people having amassed reputation and wealth, willing to invest in asset classes outside the established asset markets.<sup>2</sup> Recently, with the increasing popularity of non-fungible tokens, millions of artists and investors across the world have engaged in these digital assets. From Vignesh Sundaresan buying a digital art named Bepple by an artist Mike Winkelmann worth \$69.3 million to the famous artist Nuclaya deciding to place his album on the digital platform - it is safe to say that NFT's are all set to pave their way into the modern digital age.

However, the legality of such digital assets is still a huge question. Its increasing popularity has raised questions concerning its longevity and sustainability under the Indian

Legal Framework. India has evidenced speculations regarding the legitimacy of such tokens. The Indian population has raised serious concerns as per the sustainability of the tokens in India consequently putting them at question.

## 2. Literature Review

In the existing articles authors have mentioned different areas under NFT's like creation, architecture, how NFT's work and reasons for recent growth in popularity of NFT's. Authors have also covered the risks that are involved with NFT's and the growth of NFT market capital over the years.

The target of this paper is to educate audience about NFT's. To achieve this goal, I have tried to include the glance of different topics covered by other authors and I have added the impact NFT transactions have on environment and what we can do to reduce this impact. Also I have covered different industries in which NFT's can be used to resolve the issues which everyone is facing with existing system that we have from couple of decades.

This paper includes use of NFT to replace the existing system and have a better approach which might help organizations to save money and time involved in the transactions.

### Why Are NFTs So Valuable?

NFTs are non-fungible tokens. In economic terms, a non-fungible asset is something of value that cannot be interchanged.

NFTs are becoming valuable and the demand is steadily increasing. Let's find out why they are so valuable.

NFTs are valuable because they verify the authenticity of a non-fungible asset. This makes these assets unique and one of a kind. Picasso's paintings are non-fungible. While

anyone can make copies of his paintings, the original painting remains irreplaceable and unique. NFTs make digital content irreplaceable, hence valuable.

To understand the value of NFTs further it is necessary to understand 'fungibility' better.

'Fungible' is the term used when you are able to exchange an asset that you own with another asset of equal value. Currency is an example of a fungible asset. For example, imagine you have \$20 and you get two 10 dollar bills in exchange for the \$20. You still have the same value but you have exchanged your asset and received a new asset.

Bitcoin is another example of a fungible asset. You can exchange Bitcoins for getting valuable goods or products and services. The difference between NFTs and Bitcoin is the non-fungibility of the NFT. NFTs are unique and non-fungible.

Ok, let's go back to the example of the artwork by Picasso. Since Picassos's artwork is unique and irreplaceable its value depends on multiple factors. Usually, the value for non-fungible assets will depend on the **utility, ownership history, future value, and liquidity premium**.

A painting or artwork is in fact, just the arrangement of colors in a specific manner. But the feelings it evokes and the impact it creates are central to the valuation of that piece of art. Recently a digital-only artwork by Beeple was sold for **\$69 million**. What does the buyer get? Nothing tangible - only a virtual picture. But there was a value to these pixels as much as \$69 million.

#### What makes NFT art valuable?

There are a few different key aspects when it comes to determining what makes an NFT valuable. So, how do you know if a non-fungible token holds value?

Here are some factors to consider when determining the value of a non-fungible token (NFT):

- **Underlying value** (the value behind the creator.)
- **Potential value** (future value, up and coming artists and creators, celebrities.)
- **Perception of the buyer** (what is the NFT worth to you?)
- **Similar market value** (what are other pieces from the same creator selling for?)

So continuing with the contrast with cryptocurrencies which are fungible – Fungible tokens are divisible into smaller units. Some examples are **Bitcoin and Ethereum**. For example, you can split up Bitcoins into **Satoshis** and Ethereum can be broken down into base units known as **Wei**.

NFTs cannot be broken down like Bitcoins into smaller units. There is a unique piece of data that is usually rare and limited in number. Couldn't any artwork be copied and shared endlessly? Of course, it can be, but the aspect of NFT is that it can be made into a token which means that it has a digital certificate of ownership that can be bought and sold along with the artwork.

What this does is create the authenticity and credibility of the source of that work or the type of NFT that you are buying. The authentic Picasso will be valuable even if multiple fake copies of it are made and sold and hung in houses or offices. The original will still have value if its authenticity can be proven.

#### How NFTs are created

Technically, anyone can create an NFT. Artists, gamers, brands, and musicians all have an opportunity to create NFTs and offer them for sale. They have to create any work and then turn them into NFTs on the blockchain. This process of conversion is called **minting**.

Once this is done they can put it up for sale on the marketplace of their choice and attach a commission (royalty) so that every time somebody purchases it, they receive a payment. Please do remember that the fees for these transactions can be quite high due to the known **gas fees** on the Ethereum blockchain.

Each time a transaction happens, the price for energy (gas) taken to complete the transaction is charged to you, along with another fee for the selling and buying. These charges can be extremely high and fluctuate based on the site that you

If you want to create an NFT you will have to go on to some of the platforms where NFTs are created and traded. There are many platforms such as **Rarible, Ethereum, and SuperRare**. These platforms allow you to create NFTs using blockchain technology that cannot be altered. This means that the ownership of the NFT cannot be undone by anybody nor can anyone recreate your creation.

Now all NFTs can be viewed by anyone once it is uploaded on the platform and anyone can sell it or buy it without permission from anybody else. Just like virtual collectibles. The owners of the collectibles can buy and sell it as they wish.

#### What are the different types of NFTs with value?

There are multiple types of non-fungible tokens which hold a certain level of value, but what exactly are the different types of NFTs with value?

Multiple types of NFTs are authenticating certificates for any digital content such as music, artwork, collectibles, characters, and objects within a video game, etc. All of these can be made into NFTs and ownership can be claimed and verified on them.

#### Buying and trading NFTs

Usually, the most popular marketplaces to buy NFTs are OpenSea, Rarible, MarkersPlace, SuperRare Etc. You have to also get some cryptocurrency to start with. There are many options such as Bitcoin, Ethereum, Ripple the list goes on.

You can install Metamask from their site and then buy some Ethereum by using a credit card or bank transfer. Now you will have funds in your Metamask wallet and be ready for buying. Then you can go to the marketplaces such as Nifty

gateway, Super rare, NBA top shot, etc., and start buying or trading NFTs.

### Are NFTs worth the investment?

With NFTs sudden take off, there are many fish biting at the bait making the space crowded with both trash and treasure. So, are non-fungible tokens worth the investment?

NFTs are worth the investment as long as the token you purchase has underlying value. The underlying value represents the value of the company or person behind the minting of the NFT. Underlying value also depends on both tangible and intangible assets associated with the NFT.

For example, Twitter founder Jack Dorsey has put up the first tweet on auction. The bidding has reached \$2 million online. Artwork by other artists has sold for as much as \$50 million and above.

This is proof that there is big money in the NFT space. But ultimately the worth of an NFT is what the market demands that piece. Just like how the artwork has been valued and sold in the real world for ages based on the value assigned by the market, NFTs will also follow suit.

### What is the future of NFTs?

It is fairly evident that blockchain technology is changing the future of trade. This will include Bitcoins as well as digital assets such as NFTs. We have just gotten started in crypto art and if top players in art and fashion start participating in this space then it will most definitely explode.

Even companies and various brands are participating onto this new opportunity. Recently, Taco Bell came out with animated gifs and it was sold out half an hour after the launch. Pringles followed close behind and the NBA is certainly killing it using the marketplace NBA top shot where digital collectibles are being traded.

The possibilities of selling virtual jewellery, accessories, and virtual clothing using NFT markets and social media are huge. It is start of this trend and various opportunities can be created with NFT's in different sectors. The opportunities that are yet to come are going to be limited only by creativity.

### Issues and Challenges

While there is a lot of money to be made in the NFT market there are challenges and issues to be sorted out. One of the major controversies surrounding NFTs is their contribution to the carbon footprint which is creating huge concerns. A single gif can lead to the consumption of a huge amount of energy and we're talking about thousands and millions of gifs that will be bought and sold in the market places. The impact of these on the environment are simply too horrible to be imagined.

Currently, NFTs are in their early stage and not a lot of regulations or rules exist around them. It remains to be seen how governments and regulatory agencies will react to this and the laws they bring about.

### Impact on Environment

As per the research conducted, NFT's does not cause impact on environment during trading but the impact on environment is linked to how the NFT's are produced. The amount of energy/computing power required to create NFT's is huge and lot of electricity is consumed while creating NFT's. Generating NFT through proof of work method uses the same amount of electricity as an average American household over nine days.

Mining NFT's don't have to be so power consuming. There are different ways through which NFT's can be mined without using huge amount of power. The proof-of-stake method uses less energy than proof of work because it does not require the extensive use of computing hardware.

There are multiple platforms which are environment friendly which NFT traders can use which will have less impact on environment.

- **Solana:** The Solana blockchain supports a broad range of NFT marketplaces, including Magic Eden, Solanart, and Rabbit Hole.
- **Algorand:** The Algorand blockchain supports Aorist, a climate-focused NFT blockchain for artists, in addition to several NFT marketplaces. The Algorand blockchain is well suited to support NFTs because the blockchain is designed to never fork—or split—into duplicate versions.
- **Cardano:** Cardano is the blockchain known for being environmentally friendly. NFT marketplaces hosted on Cardano include CNFT and Galaxy of Art.
- **Tezos:** The Tezos blockchain hosts several NFT marketplaces, including Rarible, which both operates an NFT marketplace and supports artists' creation of NFTs.

### Different Industries in which NFT's can be used

#### Real Estate:

The benefits of NFT's in real estate are obvious, we all know while buying and selling the properties everyone have to go through a lot of paperwork and crazy fees that we have to pay to different brokers. NFT's have the power to clear all this process and make it simple and easily accessible for everyone. Different organizations like Propy and The Crypto Realty Group have already started using NFT's and are trying to save money and time on transactions.

#### Gaming:

NFT's can be used in Gaming industry for claiming the ownership of the assets which players get/earn while playing various games, which then can be traded with the use of NFT's.

#### Fashion and Luxury:

Different organisations in Fashion and Luxury industry started investing in NFT's. For example, Adidas recently announced and NFT collection titled "Into the Metaverse" comprising virtual wearables that buyers can use in the metaverse. Similarly, Gucci, Nike, Prada, Ralph Lauren have also invested in NFT market.

### 3. Conclusion

Non Fungible tokens are digital certificates that verify the ownership of the assets. NFT's are in the market since 2014 but recently the popularity of NFT's are rising due to ease of identifying ownership of asset and reduce frauds. NFT's are in the early stages and there are not many government regulations over transactions of NFT's. It has impact on environment but there are certain techniques which can be used to reduce the impact on environment. Non-fungible tokens are unique pieces of data that are stored on a blockchain. Digital art, music, video clips, tickets are a few examples of the digital assets that are being converted as NFTs. Some people think that this is a bubble that will burst and some people think that NFTs will drive the digital economy.

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