

Demystifying Non Fungible Tokens

Non Fungible Tokens (NFT) are the game changers in the world of decentralised digital currencies. NFT are the ownership claims of the virtual assets created by their owners. NFT is a proof that uses the blockchain to record the ownership of the digital asset. In India, the NFT craze is picking up as many celebrities have recently joined the NFT club to launch their digital memorabilia. With the increasing popularity of NFT, this paper tries to demystify these digital assets. This conceptual paper develops an understanding about NFT, their future in India and an analysis of the strength, weaknesses, opportunities and challenges these virtual assets will create. Read on...



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Introduction

In February 2021, the meme of The Nyan Cat was sold for \$600,000, Jack Dorsey founder of Twitter auctioned his first Tweet for \$2.5m. These transactions refer to the assets that existed in the virtual world. In the virtual space some assets have intrinsic individuality i.e., these assets do not have any substitution or an identical item. These virtual assets are owned by their creators. Ownership claims of the virtual assets is created through Non fungible Assets. Non fungible tokens are thus, the new assets in the virtual world. This paper studies the concept of NFT and decodes this latest evolution of the virtual world from an Indian perspective.

Understanding Non Fungible Tokens

Non Fungible Tokens represent the non-flexible assets on the blockchain. These cryptographic

tokens are built on the Ethereum blockchain (Kugler, 2021). NFT are similar to Bitcoins in the way that these are minted and sold on the internet in same manner. However, Bitcoins are fungible. An asset that can be replaced with an identical one in terms of both quality and quantity, it is deemed fungible (e.g. money). Similarly, an asset is non-fungible when it is not possible to replace it with a similar item due to the good's inherent uniqueness (e.g. a work of art. A fungible token is a token equal to every other of its kind and capable of mutual substitution. In fact, "one fungible token can be traded or exchanged for another fungible token (of the same kind)." (Panel et al., n.d.).

Objective of the Paper

1. Understanding the concept of NFT.
2. Understanding the future of NFT in India.
3. SWOC Analysis of NFT.



Research Methodology

The study is a conceptual study undertaken in three stages. The first stage is about understanding NFT. The second stage of the study looks into the way forward for NFTs in India. And in the last stage, a SWOC analysis of NFT is undertaken.

Literature Review

(Wang et al., 2021) The authors discuss the technical aspects of NFT. The paper explains NFT's as unique identifications that are tied to virtual/digital properties. According to the study, "till May 2021, the total amount spent on completed NFT sales was 34,530,649.86 USD, which was a ten-fold return on its growing market". These returns have attracted a lot of attention from all across the world. The NFT ecosystem is, however, still in its early stages of development, and NFT technologies are still in their infancy.

(Lau, 2020) Non-fungible tokens combine the greatest features of decentralised blockchain technology with non-fungible assets to generate tokens that are unique, rare and provably legitimate. The paper studies the various applications of NFTs which includes collectibles, gaming, art, virtual assets, and tokenizing real-world goods. NFT also provide a versatile approach to store, control, and safeguard personal information. The paper concludes that despite their advantages, NFT adoption is currently modest owing to inaccessibility, the newness of the technology, the unpredictability of transaction costs, the complexity of linking real-world assets to NFTs, and regulation are all barriers to widespread use of NFTs.

(Kugler, 2021) The study points at the importance of NFTs and

states that before NFTs," there was no widely accepted way to determine the "original" piece of a digital artwork. There was also no widely accepted way to prove or transfer its ownership". The paper finds potential for NFTs in the art market and beyond. The paper investigates how NFTs have changed the way artists and creators make a living while also changing how people buy, sell, and relate to art because of their ability to mint ownership of digital assets.

(Trautman, 2021) The paper is a discussion of the new and rapidly expanding market for digital art. It investigates how the digital world and virtual property have evolved. The paper also contains an explanation and history of the blockchain and virtual currencies. There is a brief discussion of unresolved concerns affecting the law of NFTs, as well as possible solutions and some ideas on the future of digital real estate.

(Valeonti et al., 2021) The paper observes that Non-fungible tokens (NFTs) make it possible to possess and exchange digital assets, for the first time introducing the concept of scarcity into the digital arena. As a result of this technological advancement, this article investigates whether they provide a means for galleries, libraries, archives, and museums (GLAM) to raise funds by selling ownership of digital copies of their holdings.

(Bao, 2021) The study highlights the meteoric rise of CryptoKitties (NFT), which led to the Ethereum network's blockage in December 2017 and the growth of the NFT market. "The NFT market remained stable until mid-2020, with an average daily trading volume of \$60,000. However, the market has been rapidly expanding since July 2020, with



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total daily volume topping 10 million in March 2021, making it 150 times greater than it was eight months prior." NFT is most commonly employed in sectors such as art, collectibles, games, metaverse, other, and utility, according to the study. However, no research on the efficiency and spill over effects of the NFT market has been conducted in any of the available articles, according to the study.

Roadmap for NFT in India

Globally, "the total market cap of NFTs is \$18,369,471.87 as on December 1, 2021", according to a global crypto exchange coinmarketcap.com and "increased by 28.49 per cent in the last 24 hours". The NFT business in India is expanding, with Bollywood celebrities being the most recent to jump on board. These celebrities are either launching or about to launch their NFTs. This section of the paper looks into India's landscape of NFT.

Legality of NFT in India; Are they (NFT) even legal: As of today, there is no blanket limitation prohibiting an Indian resident from purchasing or selling NFTs. However, the Foreign Exchange Management Act of 1999 creates some ambiguity (FEMA). NFTs are non-fungible, but currencies, both traditional and crypto, are fungible, hence any future

rule restricting or prohibiting crypto-asset transactions should preferably exclude them. Since there is no separate legal framework for NFTs in India there is a confusion over how to classify NFT's. "Some argue that NFTs are contracts, while others argue that they are derivatives. If the latter is correct, trading in NFTs in India would be prohibited."

Double Taxation: Despite its popularity, consumers interested in purchasing digital collectibles may find themselves paying higher taxes to the government. When buying an NFT, the buyer may be subjected not just to the GST, but also to a 2% equalisation tax, which is normally reserved for enterprises based outside of India but operating in India.

Environmental Issues

There is a growing belief that NFTs are partially liable for the millions of tonnes of CO₂ emissions produced by cryptocurrencies used to buy and sell NFTs. Ethereum blockchain, are used to store NFT, one Ethereum transaction consumes approximately 178.89 kilowatts per hour, which is still more than 1,000 Visa transactions. Ethereum utilised 33 Terawatt hours of



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electricity in April 2021, which is equivalent to the whole country of Serbia, and has clocked 94.1 TWh per year as of December 2021.

Security Issues

The NFT ecosystem is in the nascent stage and it is expected to grow in the times to come. Hence the security risks involved in the NFT transactions need to be considered and appropriate defence mechanism needs to be adopted to tackle them. The risk of a blockchain based attack, Tampering, Spoofing or denial-of-service (DoS) attack are some of the security risks involved in NFT space.

SWOC Analysis

A SWOC analysis has been undertaken to create a better understanding of NFT in terms of the external and internal factors that may affect its performance. These factors create opportunities, throw light upon the strengths, weaknesses and also challenges that will be encountered by NFT.

Strengths

Non-fungible tokens combine the greatest features of decentralised blockchain technology with non-fungible assets to create blockchain based tokens that are provably unique, rare, and authentic. NFTs are:

- No two NFTs are alike. Each NFT has a unique characteristic that is frequently documented in the token information.
- NFT is stored on the blockchain network. Hence, the certificate of ownership is available on a variety of



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networks, this allows the owner of a digital asset to be identified.

- Most NFTs cannot be broken down into smaller denominations, nor can they be bought or transferred in part. NFTs are indivisible.
- These tokens guarantee the ownership of the asset transferred.
- They are fraud-proof since they are freely transferable and unaffected by fraud.

Weaknesses

- The newness and complexity of the technology makes it difficult for laymen to understand NFT.
- The unpredictability of transaction cost is a drawback of NFT.
- High and fluctuating transaction fee.
- Investing in NFT does not assure the buyer that the virtual assets acquired by him have no copies on the internet.

Opportunities

- NFTs can be used to represent all kinds of creative work in the virtual world e.g. collectibles, games, art, virtual assets, and tokenizing real-world assets are just a few examples where NFTs might be used. They also provide a flexible method of storing, controlling, and safeguarding personal information.
- Thus, these digital assets can expand a company's market and generate new revenue streams, allowing firms of all sizes to diversify their revenue streams.

Challenges

- The complexity of linking real-world assets to NFTs also defines the value of NFT.
- NFT also faces the legal challenges as till date there is no legal definition for the NFT in fact different countries across the world use different approaches to classify these assets.
- The growth of NFT has also brought in light the security concerns in the form of cyber threats for the NFT market.

- The blockchain on which NFTs function consumes a lot of energy, which has a negative impact on the environment, especially if the energy required for their operations comes from fossil fuels. These issues need to be addressed before the widespread use of NFTs.

Figure-1 SWOC Analysis of NFT

Strengths	Weaknesses	Opportunities	Challenges
• Unique • Digitally Scarce resources • Indivisible • Fraud Proof	• Technology • Accessibility • Volatile transaction fee	• Digital Art • Gaming • Fashion • Real Estate	• Security Concerns • Carbon footprints • Art Theft • Legal issues

Conclusion

NFT's are thus unique, traceable, rare and indivisible. Non-fungible assets are combined with the finest features of decentralised blockchain technology to create NFTs. Unlike traditional digital assets, which are issued and governed by centralised institutions and can be taken away at any time, NFTs can be really owned and controlled by their owners. Overall, it can identified that NFTs are a young asset class that has the potential to evolve into an uncorrelated asset class, which is a very desirable feature for investors seeking assets to store their monetary worth.

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NFT is stored on the blockchain network. Hence, the certificate of ownership is available on a variety of networks, this allows the owner of a digital asset to be identified.