

NFT's revolutionizing art and entertainment industry

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While over-inflation of value has long been a part of the art world's business model, Non-fungible tokens(NFT) may provide new options for small artists. One of the advantages of NFTs is that royalties are always paid to the creator, even if the value of the artwork or music increases when it is resold.

Let's start to imagine a world without the money-grabbing middlemen of corporate labels in the music industry, where artists make the majority of sales. It is also a life-changing tool for creators of meme culture content. For example, monetizing an art movement that your parents would most likely dismiss as "wasting time."

Everyone welcomes a new era of monetized and digitized comedy. The NFT makes waves, whether you love them or despise them, whether you want to buy them or add your own music and art. Too many people are on the lookout for a chance to get rich quickly or an impending disaster that could happen in the early stages of the concept. This paper discusses problems with NFTs, and why they're not long-term problems. Researcher discuss factors limiting the mass adoption of NFTs related to the technology itself and market conditions.

❖ Introduction

➤ What are NFTs?

NFTs are pieces of digital art that live on the blockchain network, which can come in several forms. An NFT is a digital asset that represents real-world objects like art, music, in-game items, and videos. They are bought and sold online, frequently with cryptocurrency, and they are generally encoded with the same underlying software as many cryptos.

NFTs are created with a similar concept, but their existence is in the digital world. NFTs can allow any video, MP3, image, GIF, or any other file format and certify it as one-of-a-kind. Earlier, there was no technology available for the ownership of digital assets. You can now claim ownership of your digital assets because of blockchain technology.

Non-fungible tokens (NFTs) are a story of human psychology. Fungible means replaceable, and non-fungible means non-replaceable. Items that cannot be replaced are more valuable than replaceable items. A Non-fungible token can be any digital asset that can be owned, sold, and purchased. NFTs are currently taking digital art and collectibles by storm. NFTs may revolutionize our society at the same time accelerating climate disasters. Digital artists see their lives change thanks to a huge sale to a new-crypto audience. NFTs can be anything digital (such as drawings, music, videos, and even our brain downloaded and converted into AI). NFTs are digital items that can be bought using blockchain technology.

➤ **Why are NFTs exciting?**

It has been quite difficult to sell things digitally while also keeping control. Each NFT acts like a digital passport to the assets on the blockchain. NFTs have created excitement among digital artists and creators because it opens the possibilities for forever royalty payments on their digital creations.

➤ **How do NFTs work? And why would anyone want to own an NFT?**

At a very high level, most NFTs are part of the Ethereum blockchain. Ethereum is a cryptocurrency, like bitcoin or dogecoin, but its blockchain also supports these NFTs, which store extra information that makes them work differently from, say, an ETH coin. It is worth noting that other blockchains can implement their versions of NFTs.

NFTs are like any other physical collector's item, only digital. So instead of getting an actual painting to hang on the wall, the buyer gets a digital file and he owns the digital file. The buyer pays e.g., \$2 million (INR 20,00,000) for a digital file! NFTs are a way of showing people that you own something digitally. There is a royalty contract with NFTs. The owner of the NFTs gets a royalty when someone buys and sells the NFT.

The transaction of a purchase of an NFT is recorded on the blockchain. A block containing various transactions is created and verified by the nodes on the network. Then the block is added to a blockchain, and the transaction is complete. Each NFT contains a code for the identification of that particular NFT.

Any digital asset, such as a painting, drawing, music, video, etc., that needs to be sold as an NFT has to be registered on a platform that is selling NFTs. The digital asset owner can go to a platform such as App.rarible.com, opensea.io, niftygateway.com, superrare.com, and more. The digital asset owner can upload the digital art, then they can set the details such as description, the price, etc. If the digital asset is sold, the buyer will pay using a digital wallet that is used by the website.

The most prominent aspect of buying and owning an NFT is that other people also know that you own it. This creates a certain level of social status.

➤ **Sudden surge for NFTs**

Although NFTs have been around since 2014, NFTs are gaining notoriety now because they are becoming an increasingly popular way to buy and sell digital artwork. Some say that the pandemic has a role in this surge for NFTs. As people were forced to stay indoors, they were not allowed to buy stuff in the real world.

For the seller, this means more opportunities for selling digital art, and the buyer has a choice to spend or bid on how much money they want. NFTs have created a flexible market where creators can sell their digital art, buyers can buy them, and sellers can sell them for whatever amount they want.

NFTs can function like membership cards or tickets, providing access to events, special merchandise, and special discounts- as well as serving as digital keys to online spaces where holders can engage with each other. Moreover, because blockchain is public, it is even possible to send additional gifts publicly to anyone who owns a given token. All of this gives NFT holders value over and above simple ownership and provides creators with a medium to build a highly engaged community around their brands.

NFTs also must leverage a community of users: Like with any new product, early adopters serve as product preachers and a source of early feedback. But with NFTs, these users also serve an even more essential role: their decision to embrace the NFTs quite literally gives those NFTs their meaning and establishes initial value.

NFTs are becoming the way creators can monetize their art and build a name for themselves through these emerging digital assets. Numerous studies and articles have shown that NFTs can change the way people perceive creativity. Through the purchases that are happening in the NFT marketplace, we can also learn that there are endless possibilities for creators and artists to create value through their art. Observing people's buying behavior in the NFT space has given a new perspective to learn how a picture, video, meme, or even a tweet on the internet could be seen as valuable by some people who are willing to pay huge amounts of money to own that piece.

NFTs were first introduced by Kevin Mc Coy in 2014. NFTs are currently taking digital art and collectibles by storm. Digital artists are seeing their lives change thanks to a huge sale to a new-crypto audience. NFTs are digital items that can be bought using blockchain technology. Researcher has found that while NFTs are booming and blowing people's minds and their digital wallets, simultaneously the process of minting NFTs, the requirements of computers that can calculate the numbers on the blockchain, does impact the environment. Not only that, the immense growth opportunities, and several advantages of NFTs generate unrealistic possibilities in people's minds. This could make them ignore the possible risks and fraud that can happen. Even though there are very few scenarios where cyber frauds with NFTs take place, it is still necessary to be aware of the other side of this emerging market.

Research in common parlance refers to the search for knowledge. It can be also defined as a scientific and systematic search for pertinent information on a specific topic. Exploratory research is chosen because there are various studies on NFTs that have been considered, which includes different aspects of non-fungible tokens, blockchains, etc. Researching from various case studies provide exposure to a lot of new information relating to aspects of NFTs about which researcher was not aware. Also, case studies provided the views and experiences of experts in this market. This paper is largely based on the secondary data available in the public domain.

The data is collected from various sources such as articles, case studies, podcasts, YouTube, and websites. The information has been gathered from websites, studies, podcasts, and video content about NFTs, how they work, how NFTs affect the digital world, and how are NFTs affecting the environment. While collecting information, the Researcher has used both quantitative and qualitative approaches for conducting my research. Quantitative research gives freedom to consume information about **non-fungible tokens (NFTs) and other related information** through various means such as articles, podcasts, journals, videos, etc. Using this approach, the Researcher is able to gather information from various sources that complement other sources for not having that specific information in the respective article/podcast/video. Access to a lot of information helped me to choose the information that was relevant and necessary to complete my research objectives.

The qualitative research method helped to pick and choose the data that is relevant to my research problem, and research objectives. Both methods have contributed to adding as much information as possible while also focusing on the quality of the information that is added.

➤ **Impact of NFTs on the Environment**

This section includes the energy consumed by Ethereum , which is one type of cryptocurrency. It begins by explaining how the NFT data is stored, checked and validated, and how much energy do these processes consume. And further, this entire section is divided into four points. Point no.1- Carbon footprint calculation, 2- carbon footprint data, 3- how NFTs are impacting the environment, 4- includes the solutions to this problem.

Many marketplaces for NFT art, use the cryptocurrency, Ether. As per Time Magazine, Ethereum mining consumes about 33 terawatts of electricity annually. This can be compared to the amount of electricity required by Ireland, which has a population of 5 million people.

1- Carbon footprint calculation

A carbon footprint is the sum of all carbon emissions released throughout a product's manufacturing process and use. Here, in the case of calculating the carbon footprint of NFTs, there are several phases in the process that have no carbon footprint and there are few peer-reviewed publications on the topic. Hence, estimating the carbon footprint of creating an NFT is difficult and at this moment relies on estimations.

2- Carbon footprint data

In a study, 80,000 transactions were examined, involving 18,000 NFT transactions on the super-rare marketplace. A single NFT may include many transactions including minting, bidding, canceling, sales, and ownership transfer

It is also important to remember that each time an NFT is created or sold, it's a new transaction. One single addition of NFTs costs an energy usage of 340 kWh and emissions of 211 kg of carbon. A single artist is very likely to sell multiple NFTs which would multiply those numbers proportionately.

3- How NFTs are affecting the environment

According to research, 67% of 633 artists on super-rare have NFTs with a carbon footprint greater than 10 tons. To put it in context, this is the equivalent of a 5-year supply of electricity for a European resident.

A note to keep in mind that these numbers are only for one of many NFT marketplaces and are based on numbers at the beginning of the NFT revolution.

4- Solution

Lower-carbon NFTs: Blockchain variants that offer NFT support such as Tezos, Symbol, and Polygon, all make use of an improved proof-of-work mechanism that does not require a large amount of computing power, and therefore, uses less electricity.

➤ **How do you assess the Value of an NFT?**

There is no rule book on how to assess an NFT valuation. The metrics you use for evaluating private companies or conventional investment vehicles such as shares are simply not applicable to NFTs. Usually, the payment rolled out by the last buyer gives some indication of the value. For NFTs, however, it is hard to guess what the next buyer might pay, depending on their estimates.

An example can bring home the point even better. An artwork NFT might be in great demand for a certain time, with possible buyers assuming it is rare and expecting to derive value in near future. Then, suddenly, they may discover that the digital image is available on the Internet for

free and there might be no buyers left for the NFT.

❖ **Discussions and Implications**

NFTs are unique and being scarce becomes the feature of NFTs that influence buyers to buy them. However, people talk about the scarcity of these NFTs on the blockchain. You can set a few tokens and that's it, the NFT is scarce on the blockchain. That is true only if we consider that the current blockchain will be the only blockchain that exists. So if the original seller decides to sell that digital asset on another blockchain then there will not be any scarcity of that asset. Let's take an example of the Mona Lisa painting. Why is the Mona Lisa painting scarce? It is scarce because there is only one Mona Lisa painting on Earth and there is only one planet Earth. Additionally, the Mona Lisa painting cannot be recreated again because the creator of the Mona Lisa has passed away, so it is scarce.

Factors that determine the value for NFTs are Rarity, Utility, Tangibility, Ownership history, Interoperability, Social Proof, Continual change in the NFT eco-system

❖ **Conclusion and Recommendation**

Today, NFTs are emerging as a valuable trade commodity. As soon as you buy them, you can resell them. A factor that distinguishes NFTs from traditional art is smart contracts. The creator can earn commissions on subsequent sales.

The scope of an NFT is not limited to a certain type of media. NBA top shot is an example. People are willing to pay crazy amounts of money for the best show moments at the NBA. Another example is 9 blocks of virtual land were bought for around \$1.5 million and the world's first digital house was sold for half a million dollars. The potential for NFTs is immense.

As with any novel asset class, the future of NFT is uncertain. In the long run, the market will need to contend with the transaction and environmental costs associated with using crypto technology. There is a need to establish more explicit legal frameworks around NFT ownership and clarify how NFTs relate to existing forms of ownership rights, especially around intellectual property.

NFT is still in its infancy, but its promise is already considerable, and it gives creators benefits they have never seen before. That's why it's certain that more artists will eagerly enter the NFT sector in the not-too-distant future.

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