Non-Fungible Tokens (NFTs): 201

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In recent and brief history, an alternative space of blockchain-based assets known as Non-fungible tokens (NFTs) has made a huge splash in the art industry. While the technology to support NFTs has been around since 2010, it wasn't until Cryptokitties, a blockchain-based cat breeding and trading game, entered the public arena in late 2017 that NFTs began to gain traction. Following the influx of prominent artists, musicians, celebrities, and casual speculators, the NFT market reached a new high in the second quarter of 2021, with net sales of $2.5 billion, up from $13.7 million in the first half of 2020[I].

To understand what NFT means, we must first break it down into its constituent words. In pure economics terms, fungibility refers to the ability of an asset to be interchanged with an identical asset. For instance, one could substitute a twenty-dollar bill for two ten-dollar bills as the two are "fungible". However, it would be unacceptable to exchange one house for another as each unit bears unique and distinct features. Unlike physical money, commodities, stocks, financial options, and cryptocurrencies, NFTs are "non-fungible", meaning they cannot be interchanged for one another. Similarly, the word "token" or crypto token applies to any digital certificate stored on a secure distributed database called a blockchain. Hence, NFTs are tokens that exist on a blockchain, usually Ethereum, and allow the transfer of unique digital goods like art, games, collectibles, and music. These non-divisible, non-mergeable, and non-interchangeable coins use blockchain technology to monitor ownership and verify content uniqueness.

It is important to realize that the NFT doesn't refer to the digital asset in and of itself, but rather a unique record of ownership bought and sold through smart contract, recorded on the blockchain. The market mechanism mimics the conventional market in that equilibrium is attained when demand meets supply. Anyone interested in selling an NFT can do so by converting a digital file to an NFT on auction platforms such as Nifty Gateway, SuperRare, or KnownOrigin. The digital file is then converted into a smart contract which contains a few lines of code called metadata. This metadata is a unique digital record in the blockchain that provides the file's name, a brief description, and a link to the file's information on the web. The metadata processed through a cryptographic hash enables buyers to "own" digital assets. Upon purchase, the buyer acquires the certificate of ownership stored on the blockchain that grants access to the digital asset. Because the owner still retains the copyright to the original digital file and can produce multiple copies, the buyer is deprived of the exclusive right to the file.

An NFT is essentially one of a kind intangible asset that can be collateralized to secure additional cash flow. Physical assets such as a house, vehicle, or art collection can be used as collateral in traditional financing. NFTs can be effective collateral in a Decentralized Finance (DeFi) network, which is a public decentralized blockchain network. The owner of the NFT can use the digital asset as security for a smart contract loan. Typically, the NFT is worth the same as or more than the loan, and if the borrower defaults on the loan, the NFT is liquidated to compensate the lender. On July 14th, 2021, PLeasrDAO, an investment collective, put up four of its priciest NFTs as collateral to secure a $3.5 million loan from Iron Bank, a DeFi protocol lending platform[II]. However, there are still several challenges that need to be overcome in the DeFi collateral, some of which include copyright, appraisal and storage issues.

The recent popularity of NFTs is driven by the search for digital uniqueness in the digital age. After Beeple sold his digital collage, "Everydays: The First 500 Days", in March 2021 for a record $69.3 million, the news whipped up a frenzy of interest within the digital sphere. Following the fine art model, CEOs, celebrities, artists, and speculators have embraced and capitalized on the NFT in the form of tweets, memes, video clips, collectibles, and GIFs-proving to the world that there is indeed no set limit to anything that can be sold as an NFT. While not all of the artworks converted into NFTs grab the interest of online customers, virtual artists and casual observers have rushed to enroll their works on NFT exchanges in order to take advantage of the opportunity to

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monetize their work.

Non-fungible tokens provide creators the chance to acquire value in unparalleled ways for their efforts. Middlemen and intermediaries abound in the creative industries, taking huge chunks of artist's earnings in exchange for distribution, marketing, or scale. By enabling its creator to convert an electronic file into unique smart contracts, an NFT verifies and tracks the digital asset's original provenance, and ownership trails as the asset changes hands. In simple terms, NFTs can be thought of as the first edition of a book signed by the author. The author can create multiple copies of a work or a single piece-whoever then owns it can only transfer it and never replicate it. Original artists can now use NFTs to monetize their music, eliminate the costs associated with copyright procedures, and ensure that they receive royalties each time their work is sold in the secondary market. This is terrific news for both the sports and music industries. With NFTs, musicians and players may keep around 80-90% of revenues, thereby eliminating piracy and the need for expensive gatekeepers[III]. Artists can now utilize NFTs to monetize their brand and fan following. This will allow artists to bridge the gap between the value of their labor and the price they are actually paid.

'Kings of Leon' was the first band to release an NFT album, "When You See Yourself," in 2021. Because of their celebrity status, well-known musicians may appear to have the ability to sell NFTs for a hefty premium. As it stands now, NFTs are more of a novelty that people buy for bragging rights. As a result, well-known musicians may very easily create and sell their music on a variety of exciting platforms, as well as to a select group of diehard fans at a reasonable price. Although the benefits to new and emerging artists may be less obvious, NFTs have the potential to enhance ties between musicians and their audience, in which fans may start collecting royalties in perpetuity and be rewarded for supporting music if they own a portion or a whole NFT. This phenomenon would aid in the launch of new campaigns and the promotion of their music.

NFTs allow creators to define scarcity, making digital assets seem more valuable. The notion of Augmented Reality (AR) has been gathering steam in the NFT market. Through AR, creators can add more depth and context to any digital artwork. In essence, AR allows digital content to be combined with the virtual world. Krista Kim, a contemporary artist, recently sold the world's first 3D produced digital model of Mars House as an NFT for over $500,000[IV]. Similarly, the Decentraland foundation sold a piece of virtual land for more than $900,000 in the blockchain-based online world[V]. The buyer of virtual real estate gains the authority to upload the file into the metaverse (3D immersive world) that allows users to interact with digital estates. People may travel around, visit sites, and even virtually interact with their NFT art collections in these virtual environments.

As we talk about the virtual possibilities of real estate deals on NFTs, we should not overlook the potential impact of NFTs on tangible real estate deals. NFTs imprint a unique record on the blockchain and enable anything to be tokenized. The NFT is similar to a deed in real estate transactions in many respects. Deeds serve as confirmation of title, terms and conditions, and a basis for purchasing and selling property. Smart contracts may eventually function as a one-stop shop for real estate transactions by performing all those functions, and they can even offer better value by automating inefficiencies in the legal and real estate world. NFTs provide irreversible ownership confirmation in a digital format which is a huge step forward in terms of process automation. Furthermore, real estate investors may one day utilize NFTs to offer title insurance for both banks and transactional parties. Decentralized finance (DeFi) based on blockchain technology may even open the door to innovative lending and borrowing techniques through virtual real estate leasing.

Source: Nonfungible.com

As demonstrated in the graphs above, the NFT market is characterized by extreme volatility. The weekly selling transaction volume for the NFT market peaked at $176 million in the second week of May 2021. By mid-June, the number had fallen to about $10.4 million, a drop of over 95% from the market's peak in May. As of July 15, 2021, the sales volume has increased from June to hover at $47.5 million, signifying a 356% monthly gain. According to several investment professionals, the recent crypto crash was a key reason for the NFT meltdown. With the majority of NFT purchases being in cryptocurrencies, a decline in the value of crypto means a natural decline in the NFT buying power. Yet another explanation is that the recent NFT boom was accompanied by a rush of mainstream personalities and inexperienced speculators in search of quick gains rather than genuine faith in the technology. This is best explained by the ancient theory of the greater fool, which claims that people can profit by purchasing overvalued assets in the hope of selling them to a bigger fool who is prepared to pay even more. Whatever the case maybe, the market volatility has instilled a tremendous degree of anxiety, fear, and uncertainty among both present and new users in the NFT space.

One of the most contentious points being made about NFT is that purchasing an NFT does not offer "ownership" in a conventional sense. The value lies in generating an artificial scarcity that originates inside the network. One may think it is a one-of-a-kind signature before it is linked to the chain. However, altering a single pixel or even a single piece of metadata in the digital asset will change the resultant hash. Thus, as previously mentioned, opportunistic artists may create multiple hashes and tokens of the same digital asset as multiple NFTs to maximize earnings. The fact remains that there is currently no simple technique to guarantee that the work has been previously hashed or tokenized. The token's object, like as a jpeg, can be freely copied, viewed, and distributed. As a result, paying astronomical prices for non-exclusive digital assets is futile when virtually anyone with internet access can get the same work for free elsewhere. So, what determines the value of an NFT in the first place? Perhaps, the value of an NFT is determined by how much money people are willing to spend on “uniqueness” of the asset. Among other factors, the value might be influenced by the creator's and the NFT's qualities. Since NFTs do not support any conventional valuation techniques used to value private firms or traditional investments such as stocks and options, we currently lack a precise method for valuing NFTs.

It is also important to remember that NFTs exist on the internet before they exist on the blockchain. As a result, the issues that affect the internet are guaranteed to reoccur with NFTs. For instance, traditional URLs are quite inconvenient for NFTs. NFTs employ links to take users to another location where the digital asset is stored. These links can and do die, as anybody who has ever surfed the internet knows. The domain owner may either reroute the URL to somewhere else or simply fail to pay their hosting costs, and the entire asset dissipates. Many NFTs have turned to the InterPlanetary File System (IPFS) to resolve this challenge. Rather than identifying a single file in a certain domain, IPFS addresses allow users to locate a piece of material as long as it is hosted somewhere on the IPFS network. However, there are weaknesses in IPFS. "Check My NFT", a platform that provides asset storage ratings, has been searching within NFTs to verify if IPFS addresses function, and they have discovered files that just won't load in some circumstances.

The problem of origination in other crypto spaces follows NFT as well. Any digital asset that is placed on the blockchain as a token can be transformed to an NFT. Anyone can claim a digital photo or artwork as their own by adding a token to it, even if they did not produce it. Because the NFT method does not need copyright ownership, it is ripe for market fraud. There is almost no way to ensure that someone else does not reproduce the file. To prevent copyright-related fraud, an ideal solution would be to authenticate the original creator of the work. NFTs are equally vulnerable to hacking, just like other crypto instruments such as Decentralized Autonomous Organizations (DAOs). Owners may open their wallets one day to discover that the smart code has been misplaced or just disappeared. Some NFT standards are more robust in terms of retaining NFT integrity, but the threat of hacking still persists. In March 2021, there were several reports of Nifty Gateway account breaches, with hackers stealing thousands of dollars in NFTs[VI]. The lack of a centralized authority and the irreversible nature of the blockchain ledger add fuel to the fire by making every transaction that passes through the blockchain permanent, including theft.

The economics of the Covid-19 crisis, especially the enormous amount of stimulus money printed to prop up economies, had a significant influence in determining the era in which NFTs gained prominence. Some believe that there is enormous amount of financial capital sloshing around in the economy in contrast to what can be produced and consumed, giving rise to unnecessary market volatility. This begs the question of whether NFTs are simply a deployment of surplus money to experiment with the market, or whether they truly represent a fundamental paradigm shift. While it is simple to construct an argument for digital tulip mania using NFTs, it is important to remember that assets are not bubbles until they burst. Moreover, the early days of cryptocurrencies were surrounded by similar concerns, but cryptos eventually gained traction. Thus, it might not be an appropriate time to make that decision just yet. The rise in transaction volumes and the number of unique active market wallets used to trade NFTs promises well for their future. While it is evident that NFT applications may offer attractive revenue opportunities, they are, nevertheless, vulnerable to several setbacks. With a better knowledge of NFTs and their potential, NFTs may emerge as forerunners of widespread adoption and an attractive asset class in the coming years.

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