RESEARCH INSIGHTS

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NFTs and the Blockchain
The art of NFTs

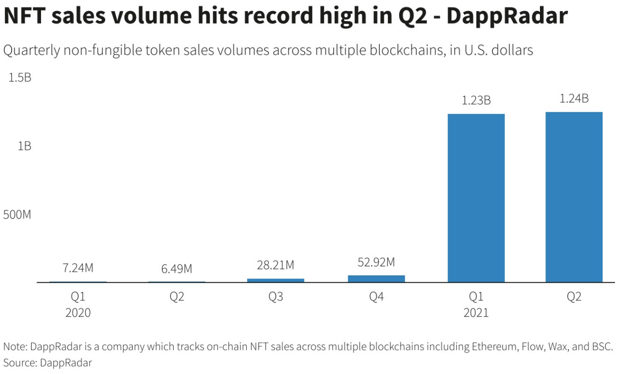
In spite of the current pandemic, one industry has been booming and that is the NFT market. Why are people so invested in NFTs? What is all the hype about? Is it just another bubble waiting to burst?

What are Non-Fungible Tokens? (NFTS)

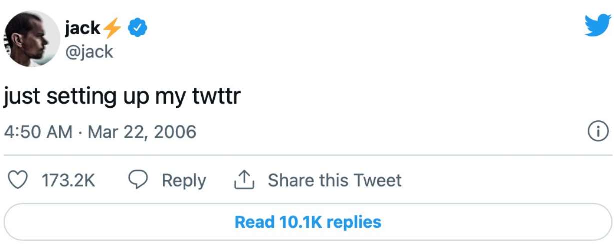
NFTs are a form of digital asset, a token that represents the right of ownership of said asset. The term non-fungible means it cannot be replaced by another and is therefore individually unique as compared to its fungible counterparts, for example cryptocurrency. The word fungible essentially is another term for the word replaceable. Since NFTs are non-fungible, each token is unique and one of a kind.

Unsurprisingly, non-fungible things are more valuable than fungible things, as its scarcity or limitations help drive up the prices. This aspect of NFTs allows the digital asset backed by it, to be primary seen and used as collectibles that can be purchased and traded online, which has resulted in the exponential growth of NFTs

NFTs also acts as a smart contract, which is an agreement between two people in the form of a computer code. Smart contracts and the transactions that occur within it will then be processed and stored on the blockchain. This can be considered as one of the more powerful features of blockchain technology. This is because smart contracts can be programmed to self-execute once the set of predefined conditions are met. This allows the transaction to be approved without the need for third party regulators.



Note: NFT sales volume in the first 2 quarters of 2021 compared to 2020
Source: Reuters



Note: Twitter founder Jack Dorsey's first ever tweet sold for 2.9 million as an NFT
Source: businessinsider

Blockchain and NFTs

Digital asset backed by the NFTs live on the internet and can still be easily replicated effortlessly and shared multiple times, this begs the question of how exactly can one prove who the original owner is. Firstly, the asset will come with the certificate of authenticity. Legal rights of the asset will exist on an exclusive, tamper-proof NFT, proving the ownership of the original piece. One way to put it would be, you are not actually buying the digital asset, but merely buying the right of ownership to the asset. All NFTs come with a unique fingerprint, token name and token symbol, which acts as a digital signature through encryption in the blockchain. This is where the blockchain technology comes in.

In simple terms, a blockchain is a database distributed amongst the nodes of a computer network. The different high-powered computers will then work to validate and approve the various transactions. All transactions in this system will be recorded on a digital ledger which is available for the public to view on the internet. Once the blockchain approves the transaction, it will be on public record as to who the buyer and owner of the NFT is.

The advantage in this system also lies in the fact that multiple computers are cross-checking each other. This ensures the security of the blockchain. If someone were to attempt to tamper the information, the various computers cross-referencing each other would be able to identify the outlier. This way, the records on the blockchain cannot be altered or destroyed, thus ensuring the authenticity of the records. This also negates the need for a third party to approve the transactions, making it fast and convenient for both the buyer and sellers.

How NFTs benefit artists

It is no secret that NFTs have taken the digital art world by storm. One of the major problems artists face when it comes to digital art is that their art can be easily copied and used on the internet. By leveraging on NFTs, digital creators to protect their rights by backing their original piece with it. This allows their work to keep its value even if there are replications all over the internet. While the NFT allows the buyer to claim ownership of the original piece, the artist still gets to retain the copy and reproduction rights to it. NFTs can also be programmed to give royalties to the original artist every time a sale is made.

NFTs also allows buyers to enjoy and own a piece of digital art like they would in the physical context. Similar to the branded goods industry, while there may be a booming counterfeit market, real ones made by the original creators will still be high in demand amongst consumers. This demand allows these assets to fetch high prices as well as a booming secondhand market.

With that said, some artists are still on the fence about supporting NFTs, due to environmental concerns, even if it may be beneficial for them. Some artists are also reluctant to support NFTs as they view it as a bubble waiting to pop. They would rather not benefit from the booming NFT market than to see people lose their hard-earned savings over a hype.

Play-to-Earn and NFTs

In order to understand how the play-to-earn model works, first we need to look into the traditional business model of gaming companies. Gaming companies offer special currency like gems that make it easier and faster for users to level up and navigate through the game. Some other ways in which gaming companies earn money, would be to come up with different characters, character skins, new and improved in-game items like weapons that users would have to purchase to enjoy them. Of course, once these items are purchased, they belong to the user in the gaming world's ecosystem.

However, the downside to this system is that if the game developers were to shut down the game, all the items would be lost, along with their perceived value. Developers can even simply change a certain feature of a game that can render your item useless, making it lose its value. To counter this downside of online gaming, some developers have turned to the play-to-earn model.

The play-to-earn model relies on rewarding users with crypto tokens like NFTs. Since these incentives are stored on and rely on blockchain technology, users do not have to worry about the security of these items. Once the asset is issued by the developers to the user, it would be established on the public ledger that the user is the owner of the asset. Therefore, the developer will have no right of ownership once the asset has been passed to the user. Hence, even if the game were to be shut down or altered, the items still have the ability to hold on to their value and be traded in our real-world ecoystem, in other marketplaces instead of just in the game.

Many games already implement NFTs and blockchain into their play. Games like Axie Infinity allow players to create digital NFT creatures that can be traded for real cryptocurrency to other players. Another example would be property-trading game, Upland. It allows users to participate in a virtual real estate market where NFTs represent parcels mapped to real world locations. CryptoKitties is another example of a blockchain-based virtual game that allows players to adopt, breed and trade virtual cats.

Note: Nyan Cat, a meme that sold for more than half a million dollars
Source: Good Morning China Post

NFTs and the metaverse

Metaverses have existed for decades on the internet in the form of multiplayer online games. However, in our ever-changing world, this form of metaverse is seemingly becoming outdated and companies are working towards building metaverses that can provide immersive experiences hardly distinguishable from the real world. Some examples of next-generation metaverses include Decentraland and Somnium Space. These worlds are already beginning to successfully replicate true society, with individuals settling lands, interacting socially, exchanging goods, asserting ownership rights, etc, making up a functional economy in these virtual worlds. For such a virtual economy to work, the metaverse has to depend on the authentication of digital properties.

This is where the blockchain technology and NFTs come in to bridge the metaverse and the real world, the linchpin to the success of a virtual society. Since NFTs cannot be changed, replicated, or destroyed and is non-fungible, it enables the users to claim right of ownership of digital possessions in the metaverse. The blockchain technology behind NFTs also helps to ensure the security of such a system, further reinforcing the vision behind metaverse.

While NFTs may have initially started out with the digital art side of the internet, the significance of it may lie in its ability to sanction the beginnings of something resembling real-world human societal behaviors online. In addition, people are bullish about its potential impact in helping to change and maximise the current landscape of the internet, welcoming a new era.

Scource: CryptoKitties

Are NFTs just another bubble?

Despite the pros and benefits that NFTs offer to the economy and protection of artist rights, it also comes with its own set of cons. Some critics are wary that the hype surrounding NFTs may just be a bubble in the making. Why do critics remain skeptical and claim that the concept of NFTs may just be a pipe dream, an illusion waiting to disappoint? There is no doubt that NFTs are a new and exciting concept. Some people are simply intrigued by the blockchain technology and believe it is the next big thing since the inception of the internet. Needless to say, it is human nature to be enticed into being part of a possible technological evolution. All these exciting notions can spur people on and encourage the increasing demand for NFTs.

However, when the high and excitement of purchasing an NFT dies down, some people may realise that the value of their asset relies on its demand in the secondhand market. Low demand would result in a lower perceived value and vice versa in times of high demand. There is no actual way to determine the value of an NFT besides through demand. There are no technical calculations that investors can use to price the asset. This makes it a highly volatile asset that will be vulnerable to price swings.

As with popular internet culture, an asset could easily go viral and become a meme, causing its price to skyrocket. However, as easy and random it is to become buzzworthy on the internet, it is also as easy to become embroiled in controversy. With increased literacy and education rates around the world, people are becoming more aware and sensitive, which can result in controversial assets getting cancelled. This would cause the price to drop exponentially.

Environmental controversy

Another common issue that comes up during conversations surrounding NFTs are its impact on the environment. Environmentalists have been protesting and showing their disdain towards the increased acceptance and popularity of NFTs. That said, NFTs being bad for the environment may not come as obvious to most people. However, with environment issues being the hot debate topic lately, environmentalists were quick to make the link.

The concept of NFTs and its security relies heavily on blockchain technology which relies heavily on computer networks. The computers in these networks work to perform intense calculations to approve transactions. To carry out these calculations, computers use a lot of energy which mostly still comes from the burning of fossil fuels. This act releases a lot of carbon into our atmosphere, which will contribute to global warming.

Some people may question why this is an issue since our society is already so heavily reliant on burning fossil fuels. However, environmentalists would beg to differ, arguing that the energy spent on keeping the blockchain system up and running can be diverted into more useful things like production or transport, on things that are tangible and real. This is an example of how something that is non-tangible can have real world effects on our planet, that at the end of the day can be detrimental to humans and other forms of life.

Others who support NFTs may argue that we can simply turn to natural sources of renewable energy, that there may also be other potentially more environmentally friendly solutions for NFTs and the blockchain in general. However, the truth remains that more research and advancement in technology is needed before renewable energy can truly be sufficient to support the blockchain system at its current scale.

Writer's Opinions

Psychology behind NFTs

People who have yet to jump on the bandwagon may feel that the concept of NFTs seems alien. This may be because NFTs are non-tangible and can be easily replicated on the internet. Why then, are there still people who are keen on owning one, some even going as far as to spend millions on it? Firstly, people could be enticed by the concept of irrefutable rights to the ownership of a digital asset. As NFTs are backed by the blockchain technology, the validated transaction would appear on the digital public ledger proving your ownership of the original piece. This gives the owner digital bragging rights.

Secondly, people may just be looking for something new and exciting. To explore this theory, we need to look at Maslow's Hierarchy of Needs. The 5 needs in ascending order are, psychological, safety, belonging and love, esteem and lastly, self-actualization. In most developed countries, all basic humans needs like food, water, clothing, sleep and shelter, are met. This fulfils the psychological and safety needs of the Maslow's Hierarchy of Needs, allowing humans to explore the other levels, looking for the next exciting thing that can satisfy those needs.

In the case of NFTs, because it is such a new and exciting concept, people are willing to create value in something that is non-tangible and has no measure of intrinsic value, unless given one through demand. Like how the current physical art industry works, people are the ones who give value to a painting through demand. Since it cannot be replicated, its value continues to rise as people yearn to have ownership over something exclusive.

Are NFTs here to stay?

In my humble opinion I would dare say that the current NFT hype can be compared to the dotcom bubble of the late 90s to early 2000s. That bubble grew due to a combination of speculative investing, the abundance of venture capital funding and the failure of dotcom companies reaping a profit. Retail investors were just buying tech stocks without properly understanding what they were buying. People were pumping money into these internet-based startups without properly analyzing if these companies had any actual potential for growth.

Companies saw this as an opportunity and threw in copious amounts of money into marketing and advertising to set them apart from the competition, creating a lot of buzz amongst investors. People were sucked into the hype as it was something new and novel, making it seem exciting and appeal to us humans who are constantly seeking for the next thing. By the end of 2001, the dotcom bubble went bust. Share prices of blue-chip stocks lost more than 80% of their value.

NFTs are similar to the dotcom bubble in the aspect that both concepts sound very enticing and feasible. However, people may be paying too much for some NFTs, like those priced in the millions. Especially if one were to think about how NFTs attain their value through perception. Like playing a game of hot potato, eventually the one holding the asset when the music stops and the excitement dies down, will be the one who loses out in the end. Nevertheless, NFTs do have the potential in helping to shape a new digital landscape for the future as we move forward into a world that is becoming more and more irreversibly reliant on technology. Slowly but surely, it seems to be proving itself as a vital piece to the progress of our society as we move further into the digital era of humanity.

Source: UK Parliament, House of Common Library