



Nft As New Financial And Digital Security: A Theoretical Perspective

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ABSTRACT

Satoshi Nakamoto advocated blockchains and proof-of-work to prevent bitcoin counterfeiting. Computers had to solve difficult arithmetic problems to upload only legitimate blocks to the blockchain before creating a new bitcoin. This system is built on Bitcoin, a digital currency. How about using the shared vision system's collectibles to develop something even better? All digital assets are fungible, meaning they may be traded. Because of this, the products in our collections cannot be swapped in real life. Encrypting these values created NFTs (non-fungible tokens). This paper seeks to explain the history and present uses of NFTs. The study will also examine NFTs' pros and cons in different circumstances.

Keywords: blockchain, bitcoin, digital currency, digital assets and non-fungible tokens.

1. INTRODUCTION

The idea of blockchains was presented for the first time by Satoshi Nakamoto, and the concept of proof of work was presented for the first time to ensure that the bitcoin could not be counterfeited by anybody. Computers were required to find solutions to difficult mathematical puzzles prior to the production of a new bitcoin in order to guarantee that only valid blocks would be added to the blockchain. However, the Bitcoin, which is a straightforward kind of currency, serves as the foundation around which the whole system is built. For instance, what if the idea of collectibles could be extracted from the shared vision system, and given that we are discussing digital platforms, what if it were possible to program those platforms to construct something even more impressive using the extracted concept? When this question was researched and explored, the findings revealed that all digital assets on the market shared one thing in common: they were all fungible, which means they could be traded with one another. This was discovered as a result of the investigation. The only thing that matters is how many there are in total. Because of this, we are led to assume that our collections are non-fungible, which means that the items in them cannot be exchanged for one another in the same way that they can in the actual world. NFTs came into being as a result of the cryptographic encoding of

these values (non-fungible tokens). Hence, the present study is conducted to highlight the advent of NFTs as digital tokens, its history and future applicability. Study will also explore the areas where NFTs can be used and its merits and demerits.

2. THEORITICAL BACKGROUND

2.1 What is an NFT?

A non-fungible token is a token that, due to the fact that it is unique, cannot be exchanged for another token. Because of the myriad of ways in which they vary from one another, for instance, two works of art cannot be interchanged. What is an NFT, and how exactly does it function? In light of the fact that there are already tokens based on blockchain technology that represent ownership of one-of-a-kind items known as NFTs, the question naturally arises: why make another one? When every person has a duplicate of the same digital document, it becomes far more difficult to establish who the original owner of the document was. This problem can be solved by utilizing NFTs. Here is an illustration to assist you in better comprehending the topic at hand: Imagine a JPG file as a work of digital art that you created on your computer. Producing or minting an NFT that is a representation of your artwork is possible if you use this. This NFT will include certain pieces of information, such as the files' one-of-a-kind hash, the name of the token, and the symbol of the token. You are the owner of this token in the distributed ledger, and you have unrestricted access to it at any moment. To sell tokens, you must first create a transaction on the blockchain, which not only allows you to sell tokens but also verifies their authenticity.

Even if you pay for a digital representation of the piece, you will not actually be able to buy the piece of artwork that is exhibited in an NFT. What are the advantages, if any, that having customers be able to obtain a copy of the work from any location brings to those customers? The artist retains ownership of the digital artwork even if it has been transferred to the token holder. Since the artist holds copyright and reproduction rights, they are able to sell their original artwork in the form of an NFT, but they can still send out prints. This makes matters even more complicated because the artist keeps ownership of the copyright and reproduction rights; hence, they can continue to sell their original artwork as a non-framed work of art (NFT), but they can also continue to send prints. A high-priced non-fungible token (NFT) is useless if no one wants to acquire it; also, explain how the NFT works. The amount of money that individuals are willing to spend on something is what sets the price of that thing; hence, the market establishes its value. In this context, non-fungible tokens (NFTs) can be understood to refer to smart contracts that are stored on the blockchain. These contracts protect the unique characteristics of the object while also allowing the current owner and any previous owners of the item to be identified. It is feasible to construct non-exchange traded funds (NFTs) in such a way that they will pay royalties to the inventors of the fund whenever the fund is traded.

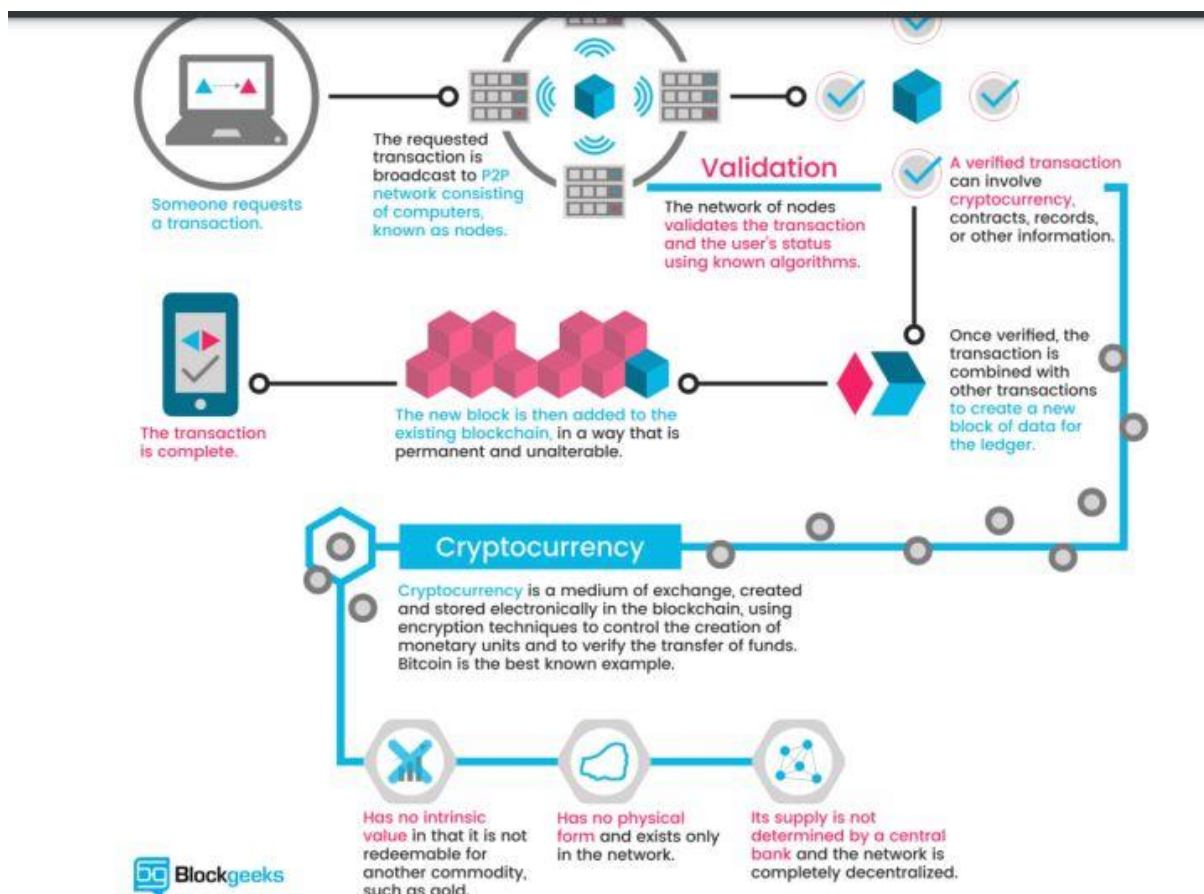


Figure 1: Basic structure of the blockchain on which the NFT works

2.2 Invention of NFT

NFTs are more than just a method for purchasing digital assets; rather, they are a way of thinking about how our ideas of value are shifting as a direct result of the advancement of technological innovation. Currency was offered for purchase on the market, but this presented a dilemma because it was fungible, which meant that it could be exchanged for something else. The process of digitizing these non-transferable artifacts is now being attempted.

Prior to 2018, it was possible to transfer currency via the well-known asset wallet known as the coin prism; however, the wallet was shut down in 2018 and there are not as many colored coins available as there were previously. The following is a list of key properties of these shades: It was the first application of the idea that any asset could be issued and transferred via the Bitcoin blockchain (0.00000001 BTC).

Aside from its usefulness as a mode of transportation, it did not undergo any significant changes over the course of time. The COUNTERPARTY (2014) wallet, which was introduced in 2014, is currently considered to be one of the most popular wallets. Nevertheless, it was made available to the general public in the first three months of 2014. It is possible for individuals to transfer money and assets to one another using a peer-to-peer financial platform that is built on the blockchain for bitcoin. Bitcoin was the first decentralized cryptocurrency, and its counterparty took advantage of the bitcoin blockchain in the same way that they did.

At the occasion, mementos like uncommon Pepe memes were routinely traded with one another (A type of crypto art created by various artist worldwide which were based on the pepe the Frog and trade d as the NFTs). Before they are made available on the website, the curators assess whether or not these pepes are considered "unusual enough." If this turns out to be the case, a picture of Pepe will be put up for sale on the internet as part of a system, and it will also be available for download. The tokens needed to acquire each of the unusual pepes shown in the screenshot are incredibly hard to come by.

If you do not have authorization from the network to produce a new token or to forge an existing one, you will not be successful with the token. Tokens that are associated with Rare pepes can be purchased; however, there is a finite number of each token. The token that is affixed to a rare Pepe act as both evidence of ownership and the digital signature of the Pepe's creator.

The movies Crypto Kitties (2017) and CryptoPunks (2017), which played a big role in increasing public acceptance of the technology, contributed greatly to the development of the NFT industry in 2017.

Because of its support for smart contracts, we are transitioning away from bitcoin and toward Ethereum. In fact, Ethereum is a platform that supports smart contracts. Cryptopunks was the first Ethereum-based NFT to be deployed in the wild. Following the launch of Crypto Kitties, widespread adoption of the ERC721 token standard occurred. This standard is now the one that is utilized in NFTs to the greatest extent. Because it adheres to the ERc721 token standard, Crypto Kitties has quickly risen to become one of the most successful NFT applications from which to conduct business. Following that, we have the 2017 film DECENTRALLAND: It is a platform for virtual reality that makes use of Ethereum. Users can acquire property in Decentraland using NFTs, and as soon as they log into the virtual world, the land they purchased is legally considered to be theirs. It took less than a minute for the initial coin offering (ICO) to raise over \$26 million dollars, making it a huge success story for the requirement of having an asset that can be exchanged on this platform, Ethereum. This makes it a huge success story for the requirement of having an asset that can be exchanged on this platform.

2.3 Understanding Ethereum Blockchains Technology

Bitcoin is a form of decentralized money, which means that it does not need to be issued by a central authority like banks or governments. Bitcoin completely upended the traditional financial system by enabling individuals to conduct transactions directly with one another, without the need for a third party to function as an intermediary. It is important to gain a solid understanding of Bitcoins before moving on to Ethereum because Bitcoins are where Ethereum got its start. Blockchain technology was established as a direct result of the introduction of bitcoin. This technology makes use of encryption, proof of work, and a decentralized network design in order to establish a system that is capable of drawing conclusions without the utilization of a centralized authority. There was no such thing as blockchain technology prior to the introduction of bitcoin.

The blockchain can be thought of as the mobile equivalent of the internet when it comes to the development of applications and programs, with bitcoin serving as just one of the possible alternatives. After this, people started to question what other aspects of their lives could be decentralized, and they expressed satisfaction with the outcomes. On the other hand, in order to be considered decentralized, a system needs to be managed by a significant number of individual computers. Some of the instructions that bitcoin could understand at the time were who transmitted how much money to whom and how much was sent to whom. This is just one example of the types of information. As a direct consequence of this, the network had very few resources. You have been tasked with learning how to construct a decentralized application using the "SOLIDITY" programming language that can be controlled by neither you nor anyone else, including Ethereum. Because it's hosted on hundreds of computers, the Ethereum network maintains its true decentralized nature. After a software has been launched on the Ethereum network, the individual computers and "nodes" on the network are referred to as "computers" or "ethereum nodes," respectively. Ethereum, which is more of a platform than a money, serves as the foundation for the development of decentralized applications that can be used anywhere in the globe (Dapps). The reward for all of the hard labor done on the Ethereum network is ether. The Ethereum project aspires to achieve decentralization of the underlying infrastructure of the internet. The majority of transactions conducted online involve the participation of a third party; nevertheless, the decentralization of the digital platform made possible by bitcoin ushered in an altogether new era of possibility. The majority of the internet as we know it on a global scale is controlled by a handful of private corporations, including Amazon, Google, Netflix, and others. Ethereum is able to build direct connections between users because it is powered by decentralized supercomputers.

2.3.1 How the Ethereum Works?

Solidity is required in order to build Bitcoin Smart contracts, which are the logic that powers decentralized applications (Dapps). The smart contract that is part of the Ethereum platform takes care of all of the terms that the developer wrote there. It manages all parts of the performance of the contract, including payment, management, and contract enforcement. When a lawyer seeks out loopholes to secure their purpose of avoiding any liabilities and amends are made after this loophole is found, just like in actual contracts when a lawyer seeks for loopholes to secure their purpose of avoiding any liabilities and amends are made after this loophole is found. When a lawyer tries to find a loophole in a contract in order to escape any obligations, modifications are made after the loophole is identified. As a direct consequence of this, the processing power of the Ethereum network is not squandered on jobs that serve no purpose, and individuals are incentivized to develop and improve upon effective systems. The value of Ethereum's first initial coin offering (ICO) has increased to the point where it is now worth millions of dollars, having increased from forty cents when it was first offered.

2.4 Smart Contracts under which the NFTs Work

The fact that smart contracts are executed digitally rather than on physical paper is the primary distinction between them and conventional contracts. The blockchains really contain a very small computer program that is used for this purpose. In 1997, computer scientist NICK SZABO was the first person to use the term "smart contracts." This was well before the invention of the blockchain.

For illustration's sake, a product team might create a project on kickstarter, which is a platform for producing revenue, establish a financing target, and then start requesting donations from individuals who support the concept. Kickstarter needs to earn the people it serves and the product teams' trust in order to be successful in its role as a third-party facilitator. In the event that the project is successfully financed, the team working on the project will anticipate receiving the money from Kickstarter.

The smart contact system is now supported by a select group of blockchains, with Ethereum being the most prominent of these. Because of these guiding principles, NFTs are being moved to new locations.

3. RESEARCH METHODOLOGY

The study is conceptual in nature based on secondary data. The data is collected from journal articles, periodicals, white papers and websites of national and international agencies. Due care has been taken to review only authenticated sources to ensure reliability of information presented.

4. DISCUSSION

4.1 Different Sphere in which NFTs could be used

- 1. Art NFT's:** Non-fungible tokens that include an aesthetic component, such as those offered by the lava lab and by the crypto punks, are currently among the most sought-after and expensive sorts of non-fungible currency. This is because these tokens have a higher value as a result of the aesthetic component. The exquisite NFTs collection gives off the impression that it would be an excellent spot to store and exhibit recently created works of art. Due to the fact that the first examples of non-fungibility found within the blockchain ecosystem were tokenized representations of creative work, artistic non-fungible tokens continue to be the most important category. The history of NFTs is intertwined with the history of cryptography, which endows them with a natural historical worth and attraction.
- 2. Collectibles:** Since the days when collections stores and trade exhibits were the primary marketplaces, the art of collecting has seen a significant transformation in recent decades. NFTs have developed into a reliable ally for a wide variety of collectibles and memorables that have transitioned into the realm of the digital. Within the collectibles sector, there is a distinct application for NFTs. One of the reasons is because unique and difficult-to-replicate valuables, such as Panini football trading cards or concert tickets, are ideal candidates for the NFTs. Another

reason is that the NFTs are becoming increasingly popular. Because they've broadened the scope of what's considered to be "conventional" approaches, non-fungible tokens (NFTs) are a good fit for the collectibles market. This is because they've created new pathways for the growth of a cutting-edge market for rare digital assets.

3. **Sport moments:** The use of non-fungible tokens (NFTs) is becoming increasingly popular among high-profile sports organizations, athletes, and players in order to create unforgettable moments and immortalize gameplay on blockchains. An excellent illustration of this pattern may be seen in the company Dapper Labs. The National Basketball Association collaborated with NBA top shot to develop a market for NBA Finals Tickets in order to present basketball fans with some of the most exciting and unforgettable moments in the history of the sport. Every NBA top shot video clip is currently represented as an NFT using Dapper's very own proprietary blockchain flow. These NFTs can be purchased, sold, or traded directly on Topshop's markets.
4. **Music:** Sound recording was invented in 1877, and since then, the music industry has had a strong connection to technological developments. This modern period has seen a dramatic shift in how people create, perform, store, and consume music. It may be traced back as far as the invention of the compact disc to the rise of internet streaming services. Recent years have seen substantial progress in the music industry by streaming services like Spotify. This trend is predicted to continue.
5. **Real Estate:** The real estate market could one day be accessible and tradeable in real time, just like the stock market is now via a computer terminal. Just imagine that in the future, property ownership can be transferred electronically, with all of the appropriate documentation and fees having been fulfilled in advance. Doesn't this scenario sound too wonderful to be true? With real estate NFTs, this could soon become a reality. An outmoded model and endless paperwork are just a few of the drawbacks that come with owning a piece of real estate. There is a new generation of home buyers who are seeking alternatives to the status quo. This is due to the fact that they are unaccustomed to the expensive, time-consuming process of home purchase and the reliance on outmoded transaction techniques. NFTs may now get into the real estate market with ease thanks to the digitization of asset transfers and the creation of an on-chain, verifiable evidence of ownership over their assets. This allows the new generation a simple entry point into the real estate business. The NFT integration, on the other hand, will necessitate enough resources and time.
6. **Financial NFTs:** NFTs can be applied in any sector that would benefit from ownership that can be more quickly transferred and confirmed using blockchain technology. Because NFTs are adaptable digital certificates of authenticity, they can be used in any industry. These non-fungible assets, such as yield bearing tokens, liquidity provision tokens, lending and borrowing tokens, and collateral, are now a part of the DEFI (decentralized financial initiative), which aims to

increase the network's efficiency and make it easier to transfer value between users (NFTs). The NFT5 use case is a novel application of non-fungible tokens that has not received extensive publicity until now.

4.2 Benefits of NFTs

Investing in these tokens carries the same risk as investing in any other type of security because there is a possibility that their value will increase. As the owner of one-of-a-kind digital treasures, you will experience a level of fulfillment that just cannot be matched by anything else, and this is precisely what these digital collectibles are all about. At the present, there is a great deal of excitement over blockchain technology, which is the primary factor pushing the markets. There are others who believe that, much like the internet did before it, this will have a huge influence on the behaviors of consumers. When it comes to valuable works of art, keeping track of their ownership and where they came from can be a challenge. Because their existence on blockchains provides transparent ownership records for all NFTs, non-fungible tokens (NFTs) shine when it comes to digital artwork. Because of this, it is possible that your digital artwork could be questioned regarding whether or not it is theft or whether or not it is legal.

4.3 Disadvantages of NFTs

The advantages of possessing physical art as well as the advantages of owning digital art that has the appearance of being physical the allure of really being able to look at a one-of-a-kind painting is something that these tokens simply cannot compete with.

Even the most seasoned traders do not fully understand the workings of NFTs. When you buy one of these non-fungible items, it does not necessarily indicate that you are gaining the copyright to the work of art associated with that particular item. It is still feasible for anyone to discover a replica of an art piece on the internet and publish it on social media. In this way, they are basically showing off and promoting what they paid for. If you hold a token for an art piece, this is something you should be aware of. Assuming ownership of works of digital art raises the question of how much influence we are actually able to exert over the creative that they contain. Depending on how collectors respond to this question, investors who placed all of their money into tokens may be left with nothing more than a digital record of the asset, which may not have any value at all.

Because of the negative impact they have on the environment, Internet-related facilities for digital assets that require a significant amount of energy in computing are a difficult topic. To put it another way, a significant portion of the trading that occurs in NFTs and other assets based on blockchain technology is not necessarily kind to the environment.

5. CONCLUSION

The purpose of this study was to determine whether or not this is actually a new commercial route by analyzing the implications of the fact that these tokens provide an identification in the digital phase, which can be considered as the new form of decentralized asset ownership or merely a trend in technology. One of these possibilities is that this can be considered the new form of decentralized asset ownership.

On the basis of the findings of this research, we are able to reach the inference that the blockchain technology enables the creation of a new market. As a result of advancements in technology, a new kind of ownership has surfaced, and it takes the form of a digital certificate. This certificate verifies the originality of the item as well as the identity of the owner.

No matter what you want to call it—a trend, a viral frenzy, or a technology bubble—it can already be seen as a significant commercial shift. Because of the complex machinery it relies on and the lengthy process it goes through, it is difficult to dismiss it as anything other than a real deal due to the fact that it has already been seen as a significant commercial shift.

As a result of the younger generation's experience with social networking sites, digital ownership might be perceived and recognized as the new sort of ownership in today's society.

Because the entire system is run on the currency known as ether, which does not have any fees attached to it, there is no actual trading of goods or monetary value that takes place as a result of ownership of assets in blockchains.

The non-fiction tales (NFTs) that were discussed earlier are examples of the many different types of digital artforms, and they offer a fresh perspective on human psychology. They are evidence that people are driven by their needs and are willing to pay for anything that satisfies those requirements. Because of technical improvements, notably the proliferation of internet use, there is a possibility that consumer behavior could also go through a considerable shift in the near future.

Because of the blockchain technology, there is now an open-source market available to the general public, in addition to an exciting and lucrative fair for investors and collectors. The use of NFTs makes it possible to own and sell digital art in the form of binary code, which opens up a lot of doors.

Following in the footsteps of real estate and a wide variety of other collectibles like coins is the next generation of assets that consumers will own and trade: new financial technologies, abbreviated as NFTs.

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