



Navigating the adoption of NFTs

Understanding the challenges and opportunities for corporate institutions



Non-Fungible Tokens, or NFTs, are seemingly gaining mainstream traction by the day. But for many, knowing where to start when it comes to NFTs can be difficult. For this reason, our team has developed the following guide to help you understand the emergence of the NFT industry, recent trends, institutional adoption, key challenges, and how KPMG in Canada can help organizations throughout the digital asset journey.

Overview

What is an NFT?

An NFT is a unique digital certificate of ownership that is assigned to an object (real-world or digital). This novel cryptographic asset is enabled by blockchain technology: a distributed, immutable ledger that keeps track of data in real-time. Non-fungibility refers to the fact that NFTs are not interchangeable: each token is a one-of-a-kind asset because of embedded identity codes and metadata.

The first NFTs were largely focused on art and collectibles, however the underlying technology enables broad applications. Further, NFTs embrace a Web 3.0 culture wherein stakeholders have ownership of the community they participate in alongside its key components rather than being passive participants as seen in Web 2.0 applications. This applies to governance as well – users and community members are empowered to have influence over how the ecosystem evolves.

Crypto-native NFTs

Examples of three successful art collectives include, Bored Ape Yacht Club (BAYC), CryptoPunks (Punks), and Art Blocks. BAYC and Punks are limited edition Profile Picture (PPF) collectives each consisting of 10,000 unique NFTs, whereas Art Blocks is a “programmable art” platform that uses an algorithm to randomly generate digital content.

In the collectibles space, sports have taken the spotlight: founders have tokenized basketball milestones and viral highlights into officially licensed NFTs called “Moments” which are categorized by scarcity, starting from over 50,000 to fewer than 99. Global fantasy soccer fans can now collect cards of

NFTs by the numbers

\$31.9B Cumulative trade volume¹

5.6M Cumulative wallets that have ever owned an NFT²

athletes as NFTs and create virtual teams to compete or trade; scores are obtained according to the real-life performance of athletes and those who pick the best lineups earn rewards.

Gaming NFTs have captured significant market share; take for example *Axie Infinity*. Players of this blockchain game collect creatures called Axie’s as NFTs. The universe has a virtual economy where players own, and trade Axie’s or other resources earned either through gameplay or contributions to the ecosystem.

Play-to-Earn (P2E) games such as Axie have emerged as a new business model. In a nutshell, P2E is a win-win: it empowers players to earn real value in exchange for their time as well as to experience interoperability of their assets. On the other hand, developers are now able to oversee in-game assets and monetize by charging fees for secondary transactions.

As the popularity of a game increases, assets necessary for play can become more expensive. For example, new *Axie Infinity* players must purchase at least three creatures before starting to play. This could reach upwards of \$500 – a barrier to entry for many. This has led to the emergence of **gaming**

Financial opportunities

Private equity and capital markets

Investments within the NFT and gaming space increased drastically in 2021 and the momentum has continued into 2022. Gaming represented 67% of all NFT/Gaming deals during Q4'21 and 68% during Q1'22⁴. NFT marketplaces and related infrastructure projects in particular have been making headlines. *OpenSea*, the most dominant NFT marketplace on the Ethereum network by volume, closed a \$300 million series C, putting the firm's valuation at \$13.3 billion and *Immutable X*, an NFT focused layer-2 scaling solution for Ethereum, raised \$200M at a \$2.5B valuation⁴.

NFT culture is becoming more prevalent and continues to attract new investors and participants. As NFTs continue to evolve, issuers will look to develop brand equity in order to compete with the influx of projects coming to the market. The latest marquee NFT acquisition was led by *Yuga Labs* who acquired *Larva Labs*' IP rights. The two firms are the creators of some of the most valuable NFT projects by market cap, including *BAYC*, *Punks*, and *Meebits*. More recently, The *APE Foundation* released ApeCoin, a governance and utility token, to increase their brand presence, allow holders to participate in the ApeCoin DAO, and transact in the APE ecosystem.

Demand for blue chip NFT projects such as *BAYC* has driven the cost so high that many retail investors are priced out of the popular collections. More recently, NFT **fractionalization** protocols have emerged with the goal of producing a divisible token that derives value from the underlying NFT. Fractionalized NFTs provide greater access to retail investors and can also provide better price discovery and liquidity. In order to fractionalize an NFT, the NFT owner will create a vault which will custody the NFT, and in return, the original owner will receive fungible tokens (fractions) representing 100% of the NFT ownership. The owner can then distribute the tokens as they please; the most common practice is through a decentralized exchange.

DeFi and NFTs

The non-fungible property of NFTs is essential for establishing the uniqueness of assets; however, it opens the door to some problems. Unlike cryptocurrencies, NFTs cannot be staked to generate yield. Investors typically cannot do anything with their NFTs other than sell them to make a profit, which makes NFTs highly illiquid and infrequently traded. NFT-backed loans and fractionalized NFT ownership are some of the solutions introduced by DeFi protocols to address these problems.

guilds which provide a range of supporting activities to players such as onboarding and lending necessary assets in return for a compensatory share of in-game earnings³. Majority of gaming guilds are structured as **DAOs (Decentralized Autonomous Organizations)**.

NFTs by the numbers

\$16B Q1'22 capital raises⁴

\$50B 2021 Market cap⁵

NFT-backed loans create a market where holders can use their NFTs as collateral to obtain funds in cryptocurrencies or fiat. The NFTs are sent to a smart contract, which acts as an impartial, automated third party facilitating the process. Both parties agree on a fair value of the NFT, usually based on the floor price of similar NFTs, before the NFT is transferred to an escrow account, and then the smart contract facilitates the loan. The borrower could get a loan equal to approximately a third of the NFT's value, with interest rates ranging from 2% to 10% depending on the popularity of the NFT and risk parameters of the lending application. An example application is JPEG'd, which enables users to mint a stablecoin pUSD against their CryptoPunks, BAYC, MAYC and EtherRocks. Through using this application, borrowers can obtain liquidity in stablecoins while retaining ownership of their NFTs locked in vaults managed by the JPEG'd protocol.

NFT funds

NFT Funds are crypto funds that invest solely in NFT collectibles, platforms, and protocols. The asset allocation may differ between different funds. These funds focus on high-net-worth investors with suitable risk profiles who want to get exposure to this new asset class. Since this is a brand-new, highly volatile, and mostly unproven asset class, it is one of the riskiest in the market. Therefore, institutional investors have been slower to allocate to these funds as limited partners relative to funds specializing in Decentralized Finance. Furthermore, since the total value of all NFTs is only a small share of the overall cryptoasset industry, the set of investible opportunities is significantly smaller and this limits the number and size of NFT funds.

Deeper dive on NFTs

Fair launch protocols

NFTs are the largest growing space in the blockchain ecosystem. The beginning of an NFT journey starts at its **mint** when a new collection is first created and sold to be distributed to buyers' wallets. NFT launches may take place on a public blockchain, an environment prone to exploitation. To be considered fair, a launch should have the following characteristics⁶.

- **Unexploitable fairness:** Collections should hide metadata properly and establish true entropy in randomly generated images. This will ensure that users cannot unfairly target and mint rarer NFTs.
- **Gas efficient:** Transactions on the blockchain can be expensive and form a barrier to entry for many users.
- **Time-zone considerate:** NFT collections may face a global user base. It is therefore important for launch protocols to accommodate users in different time zones for most to be able to mint.
- **Inclusivity and spam-resistant:** It is important to ensure that the collection has a relatively unconcentrated distribution of holders - for example, there should be measures in place to stop users from minting large quantities at once. Verification to ensure that only "whitelisted" users and wallets can mint is also possible.

Sector-specific use cases

In the **healthcare industry**, tokenized medical records are used to hold and share sensitive information efficiently, yet securely. One such example is blood donations, where the blood is represented by NFTs in the blockchain and tracked through hospitals, into a blood bank, then directed efficiently to where it is most needed. A UK-based blockchain company seeks to integrate this idea by creating a digital blood bank that tracks supply and meets demand.

In **real estate**, NFTs can either represent real homes or be virtual spaces in the Metaverse. February 2022 marked the first successful house to be traded as an NFT in the US. On the other hand, virtual lands have been traded since 2016. In 2019, a plot of land was sold for nearly \$1 million, which is more expensive than many estates in the real-world⁸.

IP ownership

With blockchain technology, proof of ownership has never been more public and verifiable. Among many other use cases, a blockchain can serve as an IP registry, enabling owners of the IP to prove ownership or even collect royalties through the use of **smart contracts**.

- NFT platforms for music artists to sell IP ownership in their songs to collectors/fans as an NFT. As a song accrues royalties through streaming or licensing, collectors can claim their proportional share.
- *NFT founders have partnered* with renowned Hollywood talent agencies as to provide holders of blue chip NFTs the ability to license the IP attached to their unique NFT for use in an upcoming novel, as well as other media in future.

ERC standards

- **ERC-20:** Most popular fungible token standard. Units of any token built on it have the same value at a given point in time. Allows for implementation of standard API within smart contracts.
- **ERC-721:** Non-fungible token standard. Allows for implementation of standard API for NFTs within smart contracts and functionality to transfer and track NFTs.
- **ERC-1155:** Semi-fungible token standard. Allows users to create multiple tokens in a single contract and is compatible for both fungible and non-fungible use cases. Better at storage management and relatively more cost-effective.

In **retail**, several projects have linked together digital NFTs and physical goods. As an example, a company sold a "Loot Box" containing several NFTs. Not only did customers receive the NFTs, they also received a real-life fridge. Another example is issuing NFTs as representative vouchers for shoes, luxury clothing and collectables. Customers are invited to trade these NFTs instead of the real goods and can redeem them when they wish.

NFTs can be applied to **supply-chain management** to reduce costs, streamline trade and increase transparency within supply networks. NFTs leave an immutable trail on the blockchain that updates in real-time, allowing any disruptions to be picked up, communicated and worked around efficiently. In specific, NFTs can improve food supply chains from harvest to the shelf, and increases sustainability through tracking food waste and manipulating allocation accordingly.

Trends in corporate adoption of NFTs

2021 was an explosive year as NFTs skyrocketed into the mainstream and captured significant mindshare: the world’s first ever digital art sale auctioned for \$86.5 million and institutional adoption continued with an acquisition of a CryptoPunk by a leading payments provider. Household brands started to participate in the space: over fifteen corporate NFT collection releases across many industries were observed, ranging from food & beverage, sporting goods, high-end luxury fashion, and consumer retail to social media and news companies. *OpenSea* – the world’s first and largest NFT marketplace – continues to stand as a launchpad for corporate NFTs.

Tokenomics

Supply and demand has governed the volatility of markets since the beginning of time, and this economic principle is no different

in the world of NFTs. Many NFT projects have flourished as a result of closely monitored tokenomics, whereas others have succumbed to the pitfalls of oversupply. A glaring issue with P2E NFT games is just as the name suggests – players are playing simply to earn, not unlike a job. This results in oversupplied tokens with little demand as many of the games themselves have yet to reach a point where they can compete with traditional gaming from an entertainment perspective and drive authentic demand. Alternatively, many NFT projects have had favourable tokenomics, one being *Bored Ape Yacht Club*. With a fixed and controlled supply of 10,000 non-fungible tokens, and various mechanisms that have consistently driven demand such as **airdrops** to holders, exclusive music festivals, and IP rights, the number of unique holders has grown 10%⁷. In a 24/7 open market that many consider still in its infancy, attention to detail surrounding the tokenomics are critical in developing an NFT or acquiring one.

10 Key dimensions of NFT adoption



Digital rights: Defining who has ownership of the rights to mint and sell the IP in an NFT format.



Cyber protection: Working with IT to protect the NFTs and their supporting platforms to prevent hacking and unauthorized use.



Tax and compliance: Managing and adhering to the regulatory compliance of the cryptocurrency world.



Marketing: Promoting/advertising the organization’s NFTs across social media channels and in the digital marketplace.



Governance: How NFT rights, licensing, purchases and sales are monitored and governed across overs/customer community to protect and preserve the organization’s brand.



Financial reporting: Defining the reporting needed including royalty reporting to artists when NFTs change hands.



Contracting: Defining the future contractual requirements and rights to enable NFT minting/selling.



Data: Defining what data is needed to support the NFT initiative.



Talent: Attracting the talent needed to support and maintain the NFT lifecycle within the organization.



Enabling technology: Defining the platforms, internally and externally, to support the NFT initiative.

KPMG in Canada’s World of Women Acquisition

KPMG in Canada acquired a rare piece from the highly acclaimed World of Women (WoW) NFT collection to gain valuable first-hand experience as a firm. Our journey started by identifying the key AML, ESG, and custody risks, followed by forming mitigating strategies to obtain our leadership’s buy-in.

KPMG in Canada conducted an in-depth assessment prior to completing the acquisition – key considerations included:

- **Brand fit:** does WOW align with KPMG’s values?
- **AML:** did previous owners use illicit funds?
- **Custody:** how will KPMG store the NFT?

- **Diligence:** what is the background of the collection?
- **Valuation:** is the NFT reasonably priced?
- **Rarity:** which NFT within a collection should we bid on?
- **Leadership Buy-In:** how to obtain approval for initiative?

Selecting a collection that aligns with the KPMG in Canada brand values of diversity, equity and inclusion was critical. The acquisition reflects our belief not only in the continued growth of NFTs, but in the value of WoW and its mission. WoW is a community celebrating representation, inclusivity, and equal opportunities for all in this new era of the web.

The risks and volatility of NFTs

The NFT market has been impacted due to recent fluctuations in cryptoasset markets more broadly. This current bear market cycle has shed light on concerns around the value of NFTs, profit-based motivation and environmental sustainability. However, periods of volatility and cyclicalities are to be expected with any nascent technology as it develops a product-market fit. Looking forward, the ability to assert ownership and exchange of Web3.0 assets and property is what will likely dictate the long-term value of NFTs.

Appendix

Keyword glossary

ERC: Acronym that stands for Ethereum Request for Comments. This is the name designating the token standards for the Ethereum network. An ERC allows any virtual machine to recognize it.

Play-to-Earn (P2E): An emergent business model in gaming where time spent in a game can be monetized.

Gaming guilds: Blockchain-based organizations that bring players together to earn in P2E economies.

DAO (Decentralized Autonomous Organization): Member-managed, purpose-driven community organized without central authority.

Fractionalization: Dividing the ownership of an NFT into smaller fractions, making it possible for several parties to own a single NFT.

Airdrops: Mechanism to incentivize community members' contribution to an NFT series by rewarding users' wallets with free NFTs.

Floor price: The minimum price an individual is willing to sell an NFT for.

Mint: The process of creating NFTs, either through a dedicated smart contract or one of many dedicated platforms.

Smart contract: Software program that performs actions on a blockchain automatically. A smart contract is launched when an NFT is created or traded.

Citations

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