NFTs in Finance: A Comparative Analysis of NFTfi and Figure Technologies through Distributed Innovation

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# Abstract

This report explores….

# Introduction

In the past few years, Non-Fungible Tokens (NFTs) have become widely known for digital art and collectibles. However, their potential use in the financial industry is now gaining more attention. Because each NFT is unique and can be verified on the blockchain, this technology is starting to be used in financial services—for example, in lending, tokenizing assets, and proving ownership.

This report looks at how NFT technology is being used in finance by comparing two real-world companies: NFTfi and Figure Technologies. NFTfi is part of the crypto and DeFi ecosystem, where people use NFTs as collateral to borrow cryptocurrencies. On the other hand, Figure Technologies is a fintech company that uses blockchain to manage traditional financial products like loans and real estate. Although they focus on different things, both companies use the core ideas of NFTs in their services.

To better understand how these companies innovate, based on the distributed innovation concepts studied in this course, we focus on Platform innovation and Web APIs as the two most relevant frameworks for analyzing how NFTfi and Figure Technologies apply NFT technology in the finance industry.

# Justification and Explanation

## Motivation

In this report, we have chosen to analyze NFTfi and Figure Technologies as two real-world examples of how NFT-based technology is applied in the finance industry. These companies were selected because they represent two different but complementary approaches. NFTfi works within the decentralized Web3 ecosystem, while Figure operates under regulated financial frameworks. Comparing them allows us to explore a broader spectrum of NFT use cases in finance, making our analysis more meaningful and relevant.

NFTfi, founded in 2020, is a lending platform that allows users to borrow cryptocurrency, usually ETH, by putting up their NFTs as collateral. This makes it one of the earliest and most well-known examples where NFTs are used for something beyond art or gaming. The entire process is managed by smart contracts, ensuring trustless transactions between borrowers and lenders. This reflects the core principle of decentralization, where value can be exchanged without middlemen. (Dow Jones & Company Inc, 2023)

One major reason for choosing NFTfi is its clear track record of growth and adoption. As of May 2025, the NFTfi platform has recorded over $68 million in loan volume in USDC alone, according to real-time statistics available on its official dashboard (NFTfi, n.d.). It has also expanded partnerships with popular wallets like MetaMask (MetaMask, n.d.), and it integrates with marketplaces such as OpenSea and Blur. These integrations not only demonstrate real adoption but also show how NFTs can be connected to broader financial networks.

Another reason we chose NFTfi is because of how open its ecosystem is. Everything happens on-chain, and all the transaction data can be viewed by anyone. The platform also provides open APIs and developer guides, which make it easy for others to build new tools or add new features. This matches the Web3 idea that different platforms can work together like building blocks. Since NFTfi also supports open-source projects and lets the community take part in decision-making, it serves as a strong example of how distributed and platform innovation can work in finance.

In contrast, Figure Technologies is a fintech company that applies blockchain and NFT-like tokens to institutional finance. Built on its own Provenance Blockchain, Figure provides services such as home equity loans (HELOCs), personal loans, and digital asset securitization. Each financial contract is represented by a unique token on-chain. Although these tokens aren’t officially called NFTs, they still have similar features such as being unique, traceable, and unchangeable. In this way, they follow the same logic as NFTs (Cotality, 2025).

We chose Figure because it shows how NFT principles can be adapted to a regulated, institutional setting. Unlike many DeFi platforms, Figure is registered with the SEC and works directly with banks, underwriters, and custodians. This allows us to contrast its top-down, compliance-driven innovation model with NFTfi’s bottom-up, user-led design. The contrast helps show how innovation strategy changes based on environment, target users, and regulatory constraints.

What’s more, Figure has raised over $12.5 billion in funding in just six years (Cotality, 2025). This makes it one of the most well-funded and operational blockchain startups in traditional finance. It has also partnered with major financial firms like Apollo (Apollo, 2021), showing that big institutions are beginning to take blockchain seriously in their operations.

A final motivation is the availability of high-quality public data. NFTfi’s loan data is visible on-chain and supported by dashboards like Dune Analytics. Figure provides whitepapers, use cases, and policy papers through Provenance.io, and is often cited in blockchain regulation literature. This makes both companies suitable for in-depth analysis using real examples and credible evidence.

In summary, NFTfi and Figure Technologies were selected because they offer a rich, contrastive case study on NFT adoption in finance, covering both DeFi and TradFi. Their technological models, target users, and governance structures differ, yet both demonstrate how NFT-based systems can unlock new types of financial value. Analyzing them helps us better understand how innovation is shaped by ecosystem dynamics, user needs, and regulatory environments. This analysis also aligns with the innovation concepts explored in this course, particularly the role of platform innovation and Web APIs in enabling interoperability and scalability.

## Technology Explanation

As we discussed in our mid-term report, NFTs are unique digital assets stored on a blockchain. Unlike fungible tokens like Bitcoin or Ether, which are interchangeable and equal in value, each NFT is unique and can’t be swapped directly for another (Popescu, 2021). This property makes them well-suited for situations where you need to show ownership of something specific, prove that it’s real, or keep a clear record of transactions. In finance, these qualities enable NFTs or similar tokens can be used to represent things like contracts, identity records, or financial products in a secure and programmable way.

NFTfi is a good example of how NFTs can be used in decentralized finance (DeFi). On this platform, users can borrow cryptocurrency by offering their NFTs as collateral. The borrower lists an NFT, and lenders make offers. Once both sides agree on the loan terms, the NFT gets locked in a smart contract until the loan is paid back. If the borrower fails to repay, the NFT automatically goes to the lender.

This whole process is fully decentralized and runs on the Ethereum blockchain. There’s no need for a bank or middleman to approve anything. Smart contracts handle everything, from locking the NFT to sending the loan and releasing the NFT after repayment. Users stay in control of their crypto wallets and use tools like MetaMask to interact with the platform. Every transaction is public on the blockchain, so it’s transparent and easy to track.

NFTfi supports common token standards such as ERC-721 and ERC-1155, which makes it compatible with a wide variety of NFTs from different marketplaces. These standards ensure that NFTs can be easily transferred, validated, and integrated into other Web3 services. NFTfi also offers public APIs and developer tools, allowing analytics platforms and third-party applications to interact with its lending data (Musan., 2020).

Through this approach, NFTfi is changing the way people see NFTs. Instead of just being seen as collectibles or digital art, they are now being used as tools for real financial purposes. However, the system still depends on how people value these NFTs, and that value can change a lot and is hard to make consistent. Most lenders on the platform are already familiar with crypto and know how to judge digital assets, which makes it harder for more traditional users to get involved.

On the other hand, Figure Technologies offers a more institutional application of NFT-like technology. It runs on Provenance Blockchain, a permissioned public blockchain designed specifically for financial services. Figure uses this system to tokenize real-world financial agreements like home equity lines of credit (HELOCs), personal loans, and asset-backed securities (Cotality, 2025). Each loan issued on the platform is represented as a unique token that captures ownership, payment terms, and transaction history.

These tokens aren’t always called NFTs, but they work in a similar way, and in some cases they are sold as NFTs, such as Figure’s sale of eNote mortgages in a blockchain marketplace (Martinez, 2022). Each one is unique, can be tracked, and can’t be changed once it’s on the blockchain. Even though they don’t use standard NFT formats like ERC-721, they follow the same idea and play a similar role in finance. That’s why they can be seen as a version of NFT technology made for institutions. This setup works well for financial agreements that need to be clearly recorded, checked, and traced over time. For example, when someone takes out a loan using Figure, a token is made to represent that specific contract. The token is kept on the blockchain and can be moved or traded if needed.

Figure’s system follows all the necessary regulations. Users have to go through steps like identity checks (KYC), credit reviews, and other background processes. Unlike NFTfi, which is open to anyone, Figure only allows approved users to take part. This makes it possible for Figure to work with banks, investment firms, and other big financial institutions that need everything to follow strict rules and be easy to audit.

The use of smart contracts in Figure’s system improves efficiency. They take care of issuing loans, setting repayment schedules, and handling asset transfers automatically. Everything is recorded on the Provenance blockchain, so each token has a clear and complete history (Provenance Blockchain, n.d.). This is really useful when assets are later grouped together or sold on secondary markets.

Another key innovation is that Figure supports splitting up loans into smaller parts. These smaller shares can be sold to different investors, and each investor gets their share of the repayments. This makes it easier for more people to join in on financial deals that are usually only for large institutions, like private loans or mortgage-backed securities.

Figure also provides a software development kit (SDK) and APIs, enabling banks and fintechs to build their own applications on the Provenance network (Provenance Blockchain, n.d.), which is in line with the platform-based innovation logic introduced in lecture. These tools allow partners to automate loan servicing, monitor repayments, and manage compliance workflows directly on-chain.

While NFTfi and Figure differ in their target users and environments, where NFTfi serves crypto-native individuals and Figure supports institutional finance, they both show how NFT-based tokens can represent complex financial agreements in a secure, automated way. NFTfi emphasizes peer-to-peer lending and user control, while Figure focuses on scale, compliance, and enterprise infrastructure.

Ultimately, both companies use NFT principles to build digital trust. For example, a gaming NFT can be used as loan collateral, while a real estate loan can be turned into a token for investors. In both cases, these systems are changing how value and ownership are recorded, shared, and used in the financial world. As they evolve, such models may shape the future direction of digital finance, bridging gaps between decentralized networks and traditional institutions.

# Concept

## Relevance of Concepts

关注点是“为什么重要” ，强调\*\*“使用这个概念对公司有什么价值”\*\***简要提及概念名称和本质**（一两句话，不深入）

Part1: 先简要介绍Web APIs 和 Platform Ecosystems。

From Lecture 4, we know that a Web API is an "interface for web-based services to interact." In other words, users can not only access services through a website directly, but also interact with those services programmatically via the backend (i.e., by using code to access the services directly).

In addition, as discussed in Lecture 4, Platform Ecosystems refer to the trend of companies shifting towards platform-based businesses, where a platform business means "using platforms to give different groups of people a way to interact and generate value from these interactions."

Both of these innovation concepts are highly relevant to the two companies, and I will explain why in the following section.

Part4: 为什么Platform Ecosystems适合NFTfi

连接NFT持有者（借款方）和ETH持有者（贷方）

Firstly, the platform ecosystem is very important for NFTfi. This company primarily facilitates peer-to-peer lending between users. While the internet is one of the most convenient tools for communication today, it is still challenging for strangers to find and connect with one another effectively. Furthermore, even if two strangers do manage to connect, they are unlikely to trust each other enough to engage in lending or borrowing transactions. However, by providing a platform ecosystem, NFTfi enables potential lenders to easily find borrowers and vice versa, solving both the discovery and trust issues. Without such a platform, NFTfi would need to rely on offline services, such as opening physical branches to attract investors and borrowers. This approach would significantly reduce the number of potential users, as it is neither convenient nor scalable. Moreover, with fewer participants, the number of successful transactions would also decrease. For example, originally there might be 10 potential borrowers, but without the platform, there may be only 1, leading to a significant drop in transaction volume. Another example that highlights the importance of the platform is the NFTfi marketplace website. Users can post their loan requirements, and other users can provide loans based on the posted NFTs. Without such a platform, lenders would question the reliability of these posts. But now, they can be assured that the posts are backed by actual NFTs, and only need to evaluate the value of the NFTs themselves.

Part5: 为什么Platform Ecosystems适合Figure

Figure Connect + The loan store: <https://www.figure.com/newsroom/figure-technology-solutions-announces-figure-connect/>

Similarly, the platform ecosystem is also important for Figure. By providing this platform, Figure aims to enhance market liquidity by ensuring loan originators can be confident that borrowers have sufficient funds, which are verified through NFTs, and giving loan buyers greater clarity on collateral composition (Figure Connect). In other words, this platform is the core business. Without it, they wouldn’t be able to help loan originators connect with the right lenders. Furthermore, since Figure offers faster loan services compared to traditional financial institutions like banks, they can attract more customers. As Figure benefits from the number of transactions, efficiency becomes critical. The more customers they can attract, the more revenue they generate. A platform helps them achieve this by reaching a wider audience, rather than relying on physical branches or other traditional methods.

Part2: 为什么Web APIs 适合NFTfi

NFTf1 api request: <https://docs.google.com/forms/d/1fgwsbcg8k7Bo-R-7iUNHSO9Gj1IMIB7KCHwyFOJRarI/viewform?edit_requested=true>

Web APIs are important for NFTfi because they help promote its existing product. According to the NFTfi API request website (n.d.), the company offers free API access to developers. The purpose of providing these APIs is to encourage developers to build tools and applications on top of the NFTfi platform. By doing so, NFTfi expands its ecosystem, attracts more users, and increases engagement with its core lending service. This aligns with the 'Inside-Out Open Innovation' model, where APIs are used not for direct profit, but to grow the platform's reach and user base.

Part3: 为什么Web APIs 适合Figure

Figure API: <https://docs.figure.com/>

Similarly, Web APIs play a critical role in Figure’s platform ecosystem. Designed primarily for institutional lenders, the API aims to promote and simplify access to Figure’s digital loan platform. By integrating the API, lending institutions can process home equity loan applications with greater speed and operational efficiency. In addition, the API ensures robust data security and regulatory compliance, safeguarding sensitive borrower information (Figure API). This integration benefits both parties: lenders can utilize their own systems and underwriting workflows to evaluate applications efficiently, while borrowers enjoy a faster, more seamless lending experience.

Part6: 总结一下

In conclusion, platform ecosystems are crucial for both NFTfi and Figure, as they are closely related to their core business models. Without utilizing this innovative distribution concept, their businesses might need to undergo significant changes. Additionally, Web APIs also play an important role for both companies. Although neither of them directly profits from APIs, both have chosen to use them to provide better services, which in turn could attract more users.

## Discussion of Concepts

The concepts application within the companies are explained in a clear, detailed, and insightful manner. Provided sufficient amount of evidence. 30pts

# Comparative Analysis

The comparative analysis of the applications of the distributed innovation concepts between the two real-world companies is of high quality, providing clear, detailed, and insightful comparisons of how the two companies use their concepts. Interesting insights are provided, showcasing a deep understanding of the concepts and their applications. 20pts

# Conclusion

In this report, we ...

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# Contributions

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| 490051481 | Lihang Shen | * Relevance of Concepts |
| 540291508 | Siqi Wu | * Justification and Explanation- Motivation * Justification and Explanation- Technology Explanation |
| 540521667 | Zeyu Yang | * Discussion of Concepts * Comparative Analysis |
| 510113726 | Fanyi Meng | * Discussion of Concepts * Comparative Analysis |