

# CHAPTER 1

## INTRODUCTION

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Non-Fungible Token (NFT) has become a significant part of the digital economy, facilitating the trade of diverse assets, including art, music, in-game items, and collectibles across digital platforms (Lennart Ante, 2021). NFT is notable for their unique and valuable assets, enabling ownership, purchase, and exchange across various digital platforms (Lennart Ante, 2021). The NFT ecosystem includes a linked network of various entities, such as artists, collectors, investors, developers, and technology service providers (The Open Platform, 2023). Understanding the Non-Fungible Token (NFT) ecosystem and its characteristics affords us new insights into the ownership of digital assets. This comprehensively analyses how such tokens are distributed across various owners.

The NFT ecosystem built upon blockchain technology, fostered transparent and secure ownership, thus simplifying the verification of the NFT ownership that can be traced and authenticated by owners (Conti, 2023). Additionally, NFT marks a significant shift towards creator empowerment within the digital economy, underscored by Web 3.0's decentralized and trust less ledger technology (Conlon & Corbet, 2023). This transition integrates seamlessly with the broader digital economy, enhancing control and transparency for creators in the evolving Web 3.0 landscape.

The rise of NFT has revolutionized the digital asset landscape, presenting novel opportunities for ownership and trading preference (Golomb, 2021). Motivated by the need for an in-depth understanding of market characteristics, this study addresses the existing gap by exploring the dynamics of NFT ownership movement. This exploration is crucial for investors, collectors, and buyers to grasp the market's complexities (Alamsyah et al., 2018). We focus on observing trends in community formations and networks analysis, shedding light on the intricate nature of the NFT ecosystem.

We collected data in selecting top five NFT marketplaces from November 2017 to April 2021, a period during public attention towards NFT significantly increased and trading volumes peaked (Nadini et al., 2021) (Mekacher et al., 2022). Firstly, Cryptokitties a platform combining digital art and gaming elements, notably reached a trading volume of \$8.1M in 2021, highlighting its impact on the digital collectibles. Secondly, OpenSea, the world's largest NFT marketplace is renowned for its wide array of digital assets including art, collectibles, and virtual real estates, achieving a trade volume of \$234M in 2021. Thirdly, Decentraland has pioneered utilizing NFT for trading virtual land, underscoring the value of NFT in virtual real-estate. Next, Atomic known for its art and collectibles. Lastly, GodsUnchained has leveraged NFT within gaming industry. These marketplaces play crucial role in providing comprehensive data for analysing NFT ownership dynamics and market characteristics.

We conducted a network analysis of 2.8 million transactions from the top five NFT marketplaces to identify dynamic clustering and wallet patterns in ownership distribution. This methodological approach revealed that 'Games' and 'Art' sectors are current focal points of market interest, demonstrating distinct patterns of market concentration and diversification. Our findings underscore the complex structure of NFT ownership and its impact on the characteristics of the digital asset market, providing valuable insights into the evolving landscape of the digital economy