

The Chainalysis 2021 NFT Market Report

Everything You Need to Know About the NFT Market
and Its Most Successful Collectors





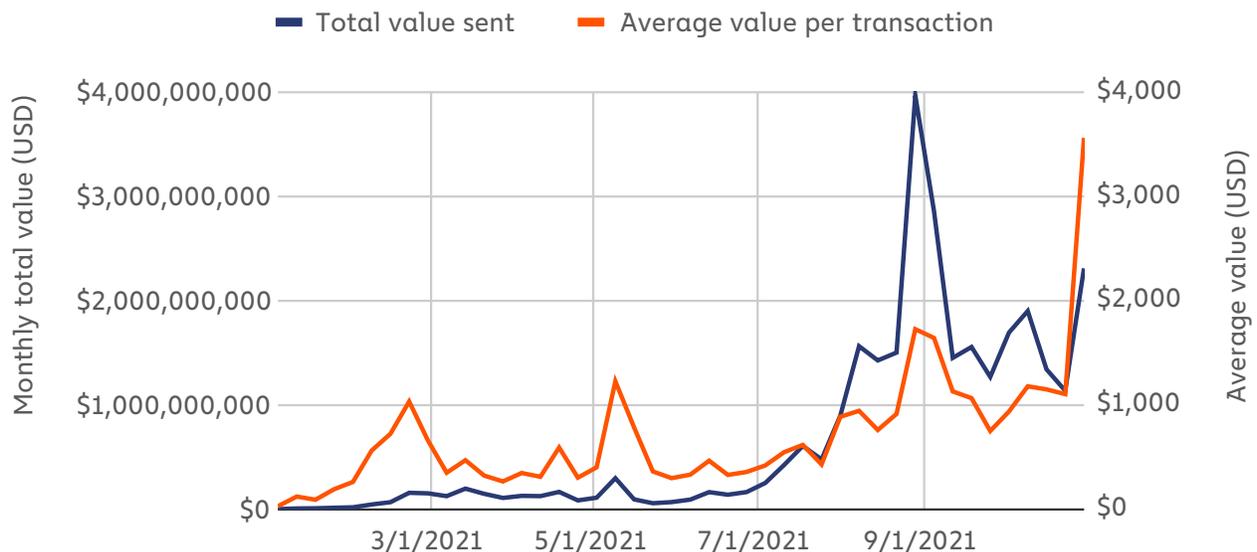
Introduction

Non-fungible tokens (NFTs) have skyrocketed in popularity over the last year. NFTs are blockchain-based digital items whose units are designed to be unique, unlike traditional cryptocurrencies whose units are meant to be interchangeable. NFTs can store data on blockchains – with most NFT projects built on the Ethereum blockchain – and that data can be associated with files containing media such as images, videos, and audio, or even in some cases physical objects. NFTs typically give the holder ownership over the data, media, or object the token is associated with, and are commonly bought and sold on specialized marketplaces, which we'll explore in more detail later on in the report.

So far in 2021, users have sent at least \$26.9 billion worth of cryptocurrency to ERC-721 and ERC-1155 contracts, the two types of Ethereum smart contracts associated with NFT marketplaces and collections.

Weekly total cryptocurrency value and average value per transaction sent to NFT platforms

| Jan '21–Oct '21



Notably, we see significant increases in both total value sent and average transaction size, suggesting that NFTs as an asset category are gaining value as they attract new users. There's also a noticeable spike beginning in the last week

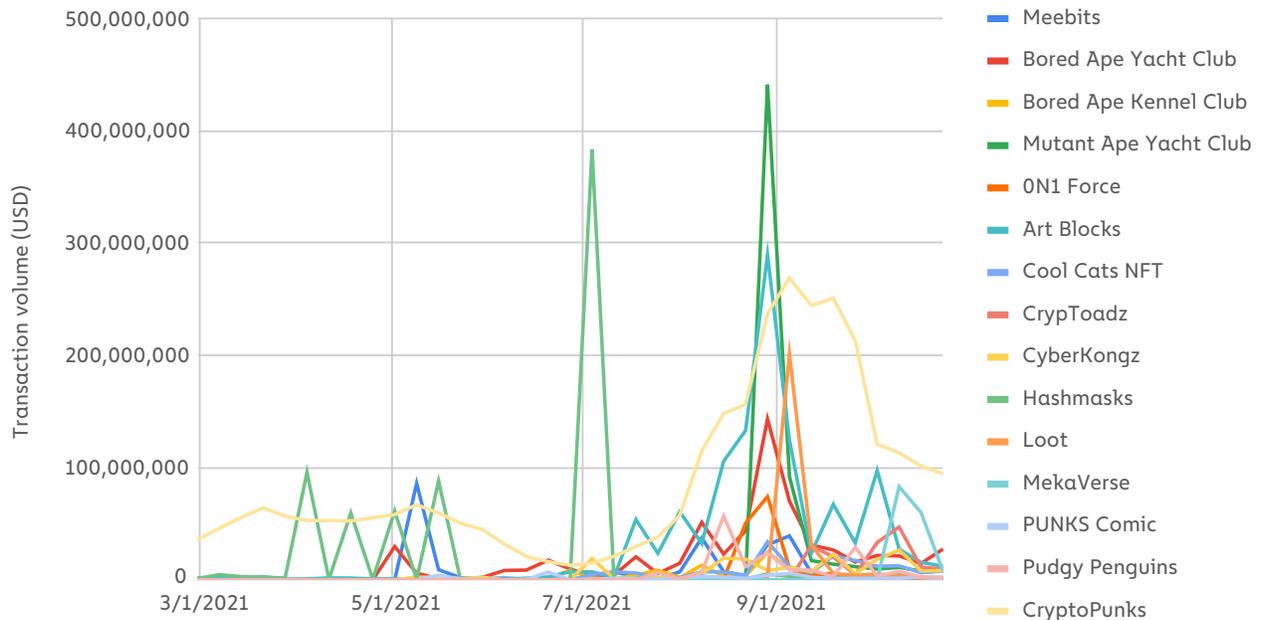


of August, which appears to have been largely driven by the **release of a new collection** from the popular NFT creator group Bored Ape Yacht Club. We'll explore the rising value of NFT investments in more detail later in this report.

Most users buy NFTs on dedicated marketplaces, similarly to how they might buy conventional cryptocurrencies on an exchange. Many NFT marketplaces, such as OpenSea, don't custody users' NFTs for them, instead allowing users to transfer NFTs directly between their own wallets – in this way, those marketplaces are similar to decentralized exchanges or P2P exchanges. Others, however, like Dapper Labs, handle custody on behalf of users. OpenSea is the most popular marketplace by a wide margin, with over \$16 billion worth of cryptocurrency received so far in 2021. The chart below shows the most popular NFT collections being traded on these marketplaces over time.

Most Popular NFT collections by weekly transaction volume

| Mar '21–Oct '21



CryptoPunks, which was established in 2017 well before the current NFT craze, has been the most popular NFT collection during the time period studied, with more than \$3 billion in transaction volume since March 2021. Interestingly, we see some collections that experienced brief but large spikes in transaction activity without ever gaining consistent popularity. For instance, Hashmasks saw more than

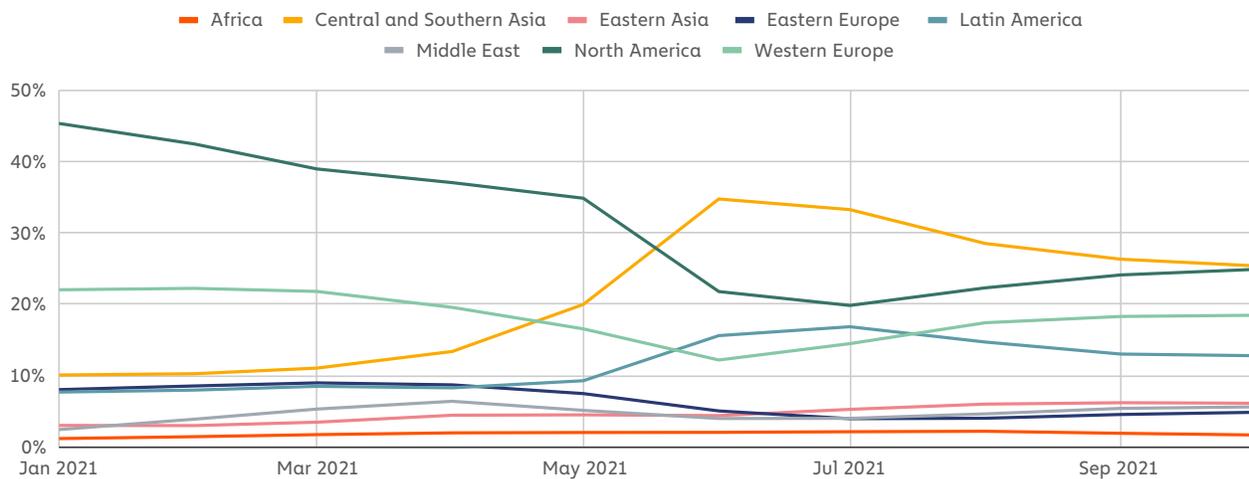


\$380 million in transaction value during the week of July 4, 2021. In no other week during the time period studied did the collection see more than \$95.7 million, and its average weekly transaction volume for the entire time period studied was just under \$21 million. We see a similar pattern with Mutant Ape Yacht Club.

We can also look at web traffic data for popular NFT marketplaces to examine where in the world most NFT users are located.

Monthly share of web traffic to NFT marketplaces by region

| Jan '21–Oct '21



We see a strong mix of web visits from several regions, with Central & Southern Asia, North America, Western Europe, and Latin America leading the pack. The numbers suggest that like conventional cryptocurrency, NFTs have achieved global popularity, with no region making up more than 40% of monthly web visits since March 2021.

As the most popular NFT marketplace, analysis of OpenSea can tell us a great deal about NFT growth overall. Over 6,000 NFT collections on OpenSea have undergone at least one transaction, including buying, selling, or minting. This activity is trending upwards, as the number of active NFT collections – which we define as those that have undergone at least one transaction in any given week – has risen significantly since March 2021.



Weekly number of active NFT collections on OpenSea

| Mar '21–Oct '21



The data shows that growth began to increase quickly in July 2021, rising steadily through October. The number of active NFT collections peaked at over 2,300 the week of October 24, 2021, up from just 193 at the beginning of March. Web traffic analysis shows that the United States accounts for more OpenSea users than any other country.

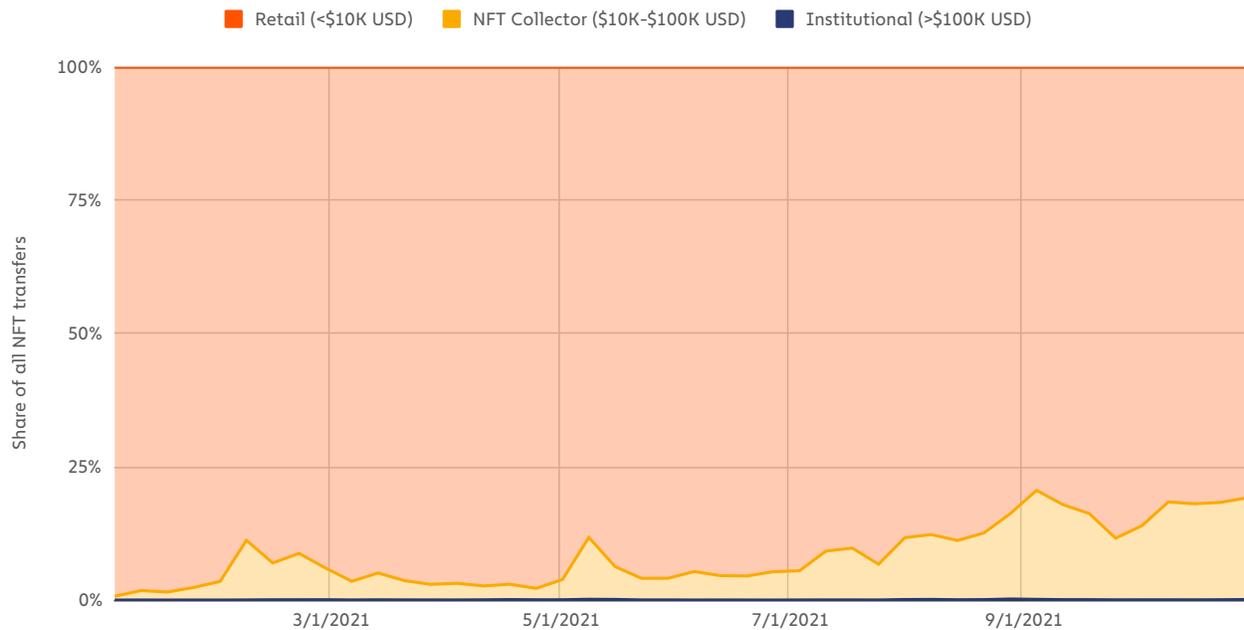


NFT trading is more retail-driven than cryptocurrency trading overall

The vast majority of NFT transactions are at the retail level, meaning below \$10,000 worth of cryptocurrency.

Share of NFT transactions by transfer size

| Jan '21–Oct '21



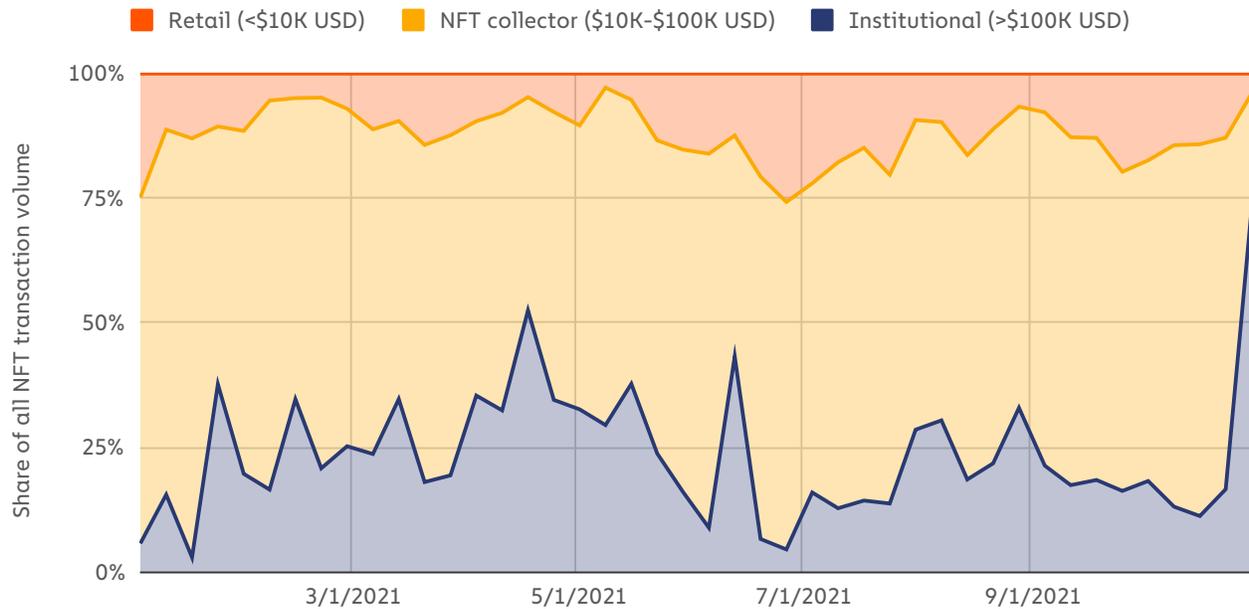
However, as we see above, larger NFT transactions are becoming more and more common. As of the week of October 31, 2021, NFT collector-sized transactions, meaning those between \$10,000 and \$100,000 worth of cryptocurrency, have risen to account for 19% of all NFT transactions, compared to just 6% at the beginning of March. With an average number of just under 500 per week, institutional-sized transactions account for well under 1% of all transfers.

However, if we think in terms of transaction volume rather than raw transfers, NFT collector-sized and institutional-sized transactions have accounted for a significant portion of NFT activity since March 2021. Specifically, NFT collector-sized transactions account for the majority of NFT transaction volume during the time period studied at 63%. Institutional transactions (above \$100,000) make up 26% of activity, while retail-sized transactions make up 11%.



Share of NFT transaction volume by transfer size

| Jan '21–Oct '21



The data shows that the NFT market is far more retail-driven than the traditional cryptocurrency market, where retail transactions make up a negligible share of transaction volume. But how are NFT investors faring in the market?

NFT investor performance: What makes a good NFT collector?

Anyone paying attention to the NFT market knows that investors have flocked in part because they believe they can achieve a high return on investment by purchasing NFTs – either during the minting process or by purchasing them from another user – and selling them later for a profit. The data suggests that NFTs are far from a surefire investment, however. Transaction data from the OpenSea marketplace shows that just 28.5% of NFTs purchased during minting and then sold on the platform result in a profit. Buying NFTs on the secondary market from other users and flipping them, however, leads to profit 65.1% of the time. Below we'll dive deeper into the data to analyze what tactics lead to more success for NFT collectors.

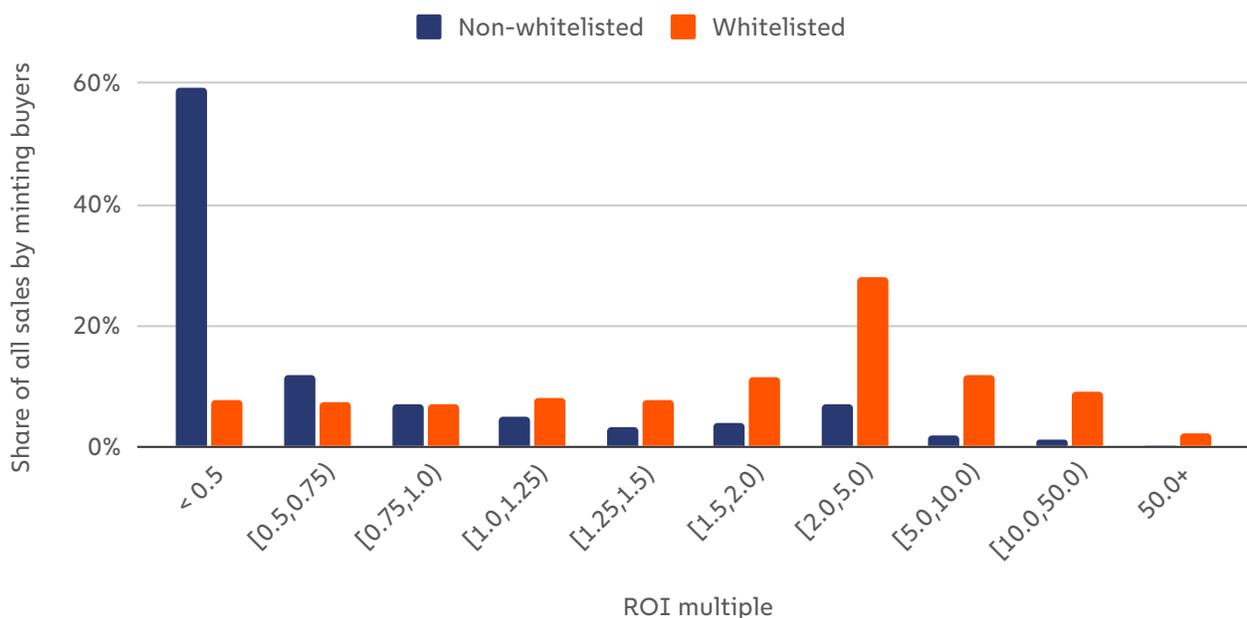


Whitelisting is key to success in trading newly-minted NFTs

More than anything else, NFTs run on community and word of mouth growth. Look at virtually any successful NFT project, and you'll likely find Discord servers and Twitter threads full of enthusiasts promoting the project. This is by design. NFT creators typically begin building interest in new projects long before the first assets are released, gathering a core of dedicated followers who help promote the project from the outset. NFT creators will then reward those dedicated followers by adding them to a "whitelist," allowing them to purchase new NFTs at a much lower price than other users during minting events.

Whitelisting isn't just some nominal reward – it translates to dramatically better investing results. OpenSea data shows that users who make the whitelist and later sell their newly-minted NFT gain a profit 75.7% of the time, versus just 20.8% for users who do so without being whitelisted. Not only that, but the data suggests it's nearly impossible to achieve outsized returns on minting purchases without being whitelisted. The chart below breaks down sales of newly-minted NFTs into buckets based on the ROI the collector achieved, expressed in multiples of the original investment, with whitelisted collectors who bought during minting compared to those who did so without being whitelisted.

Share of NFT minting purchases by ROI range: Whitelisted vs. Non-whitelisted buyers on OpenSea





Overall, 78% of sales by unwhitelisted buyers later result in a loss on resale, with 59% resulting in a loss equal to or below 0.5x their initial investment. 78% of sales by whitelisted buyers, on the other hand, result in a profit, with 51% resulting in a profit of 2x or more the initial investment. The data is clear: Whitelisting provides a significant financial reward for those who play a role in an NFT project's success by seeding its early community growth efforts.

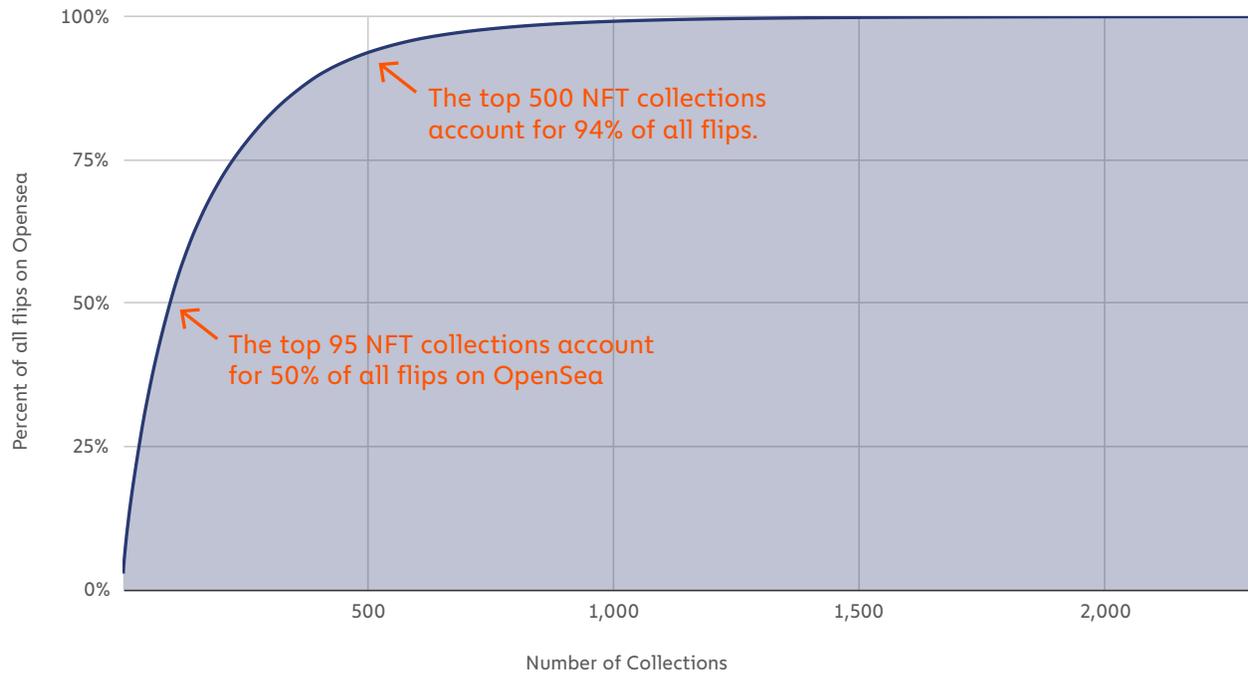
However, if you're not on the whitelist, it's significantly harder to turn a profit after buying a newly-minted NFT. Of course, keep in mind that these numbers don't account for NFTs that have been minted, bought, and never resold. It's possible that some of those NFTs will be sold and ultimately turn a profit in the future, meaning the 28.5% figure – representing NFTs minted and then sold at a profit – could rise over time.

Large investments, more attempts, and a diversity of collections correlate with success in NFT flipping

Flipping NFTs with a prior sales history, on the other hand, has a much higher success rate than reselling NFTs bought during minting. As we stated above, OpenSea data shows that users following this strategy make a profit on 65.1% of resales. NFT flipping activity is quite concentrated. Over 2,000 individual NFT collections on OpenSea have had a secondary sale, but just 250 collections account for 80% of those secondary sales.

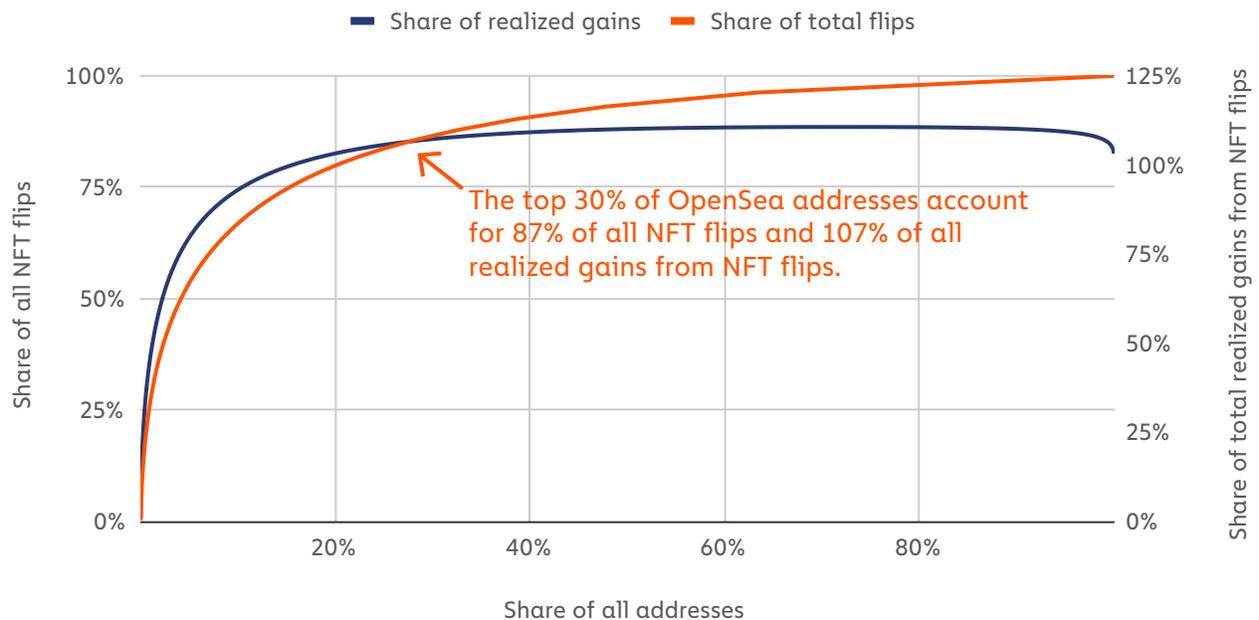


NFT collections by percentage of all NFT flips accounted for on OpenSea



This concentration isn't limited just to collections, but also includes the addresses doing the flipping.

Concentration in share of NFT flips vs. share of gains from NFT flips by address on OpenSea



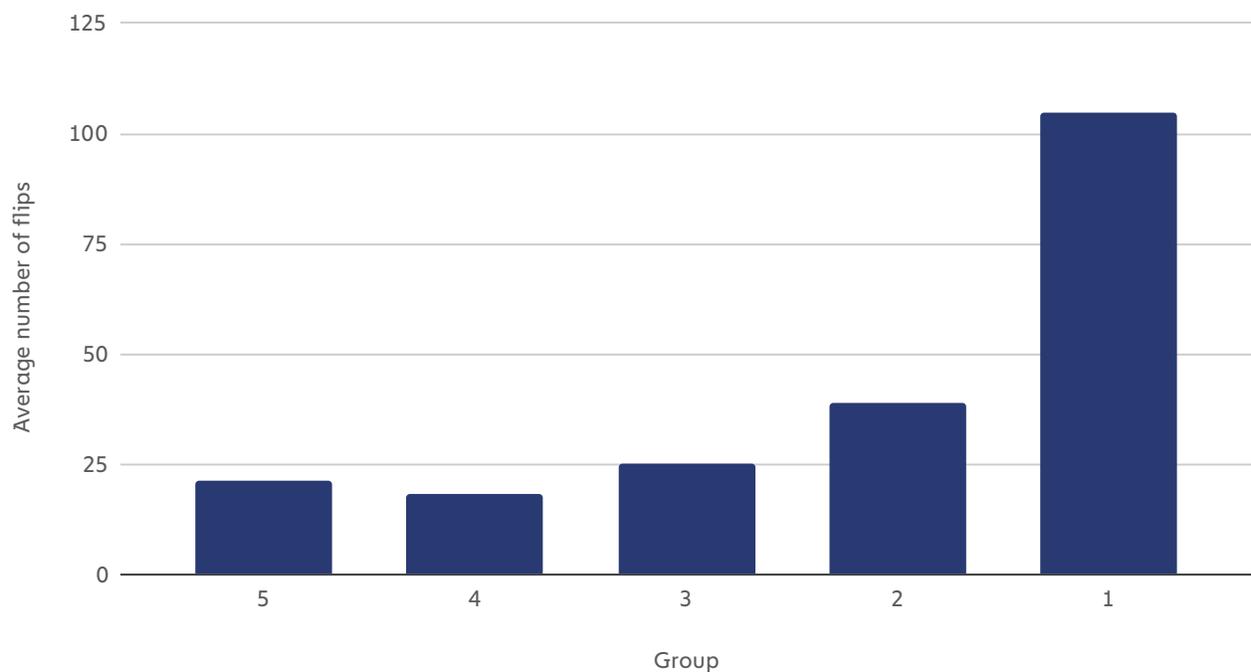


20% of user addresses on OpenSea account for 80% of secondary NFT sales, while just 5% of all addresses account for 80% of profits made on secondary sales.

In order to investigate what separates the most successful NFT flippers from the rest, in the next few charts, we separate all 23,000+ OpenSea user addresses that have ever flipped 10 or more NFTs on the secondary market – meaning all sales of NFTs post-purchase but not post-minting – into five quintiles based on the the percentage of all profits realized from NFT flipping that they account for. Group 1 is the most successful quintile, accounting for 85% of total profits made through NFT flipping, while Group 5 is the least successful.

The first thing we notice is somewhat unsurprising: The most successful NFT flippers buy and sell significantly more NFTs than other investors.

Average number of flips by NFT Flip Group on OpenSea



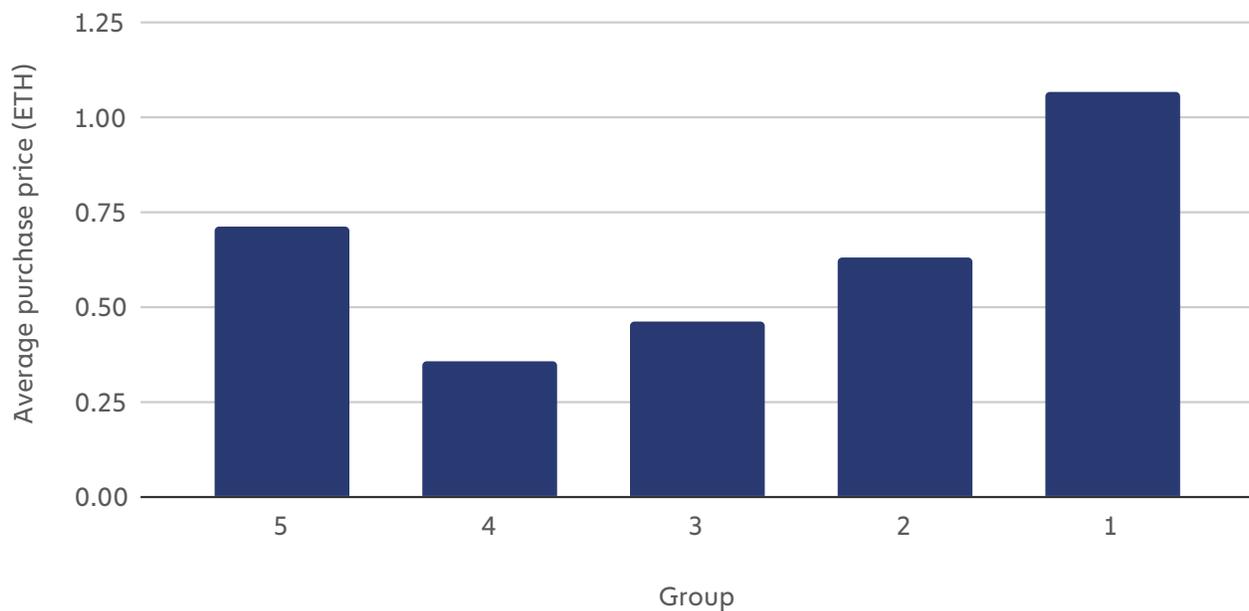
Addresses in Group 1 have bought and resold 105 NFTs on average, more than double the average for Group 2 at 39. Interestingly, the relationship between investing success and number of flips stops with Group 5, whose addresses have on average flipped slightly more than addresses in Group 4, at 21 versus 18.



The data suggests that experience and practice may help investors become better at spotting market inefficiencies and finding NFTs that are likely to increase in value. Another reason for this finding may be that investors in Group 1 have more capital – either when starting out or accumulated over time from successful flips, or perhaps a mix of both – allowing them to buy and sell more frequently than other investors.

Another data point that seems counterintuitive but supports the idea that more up front capital results in more NFT resale success: The most successful NFT flippers pay significantly more on average for their initial purchase before selling.

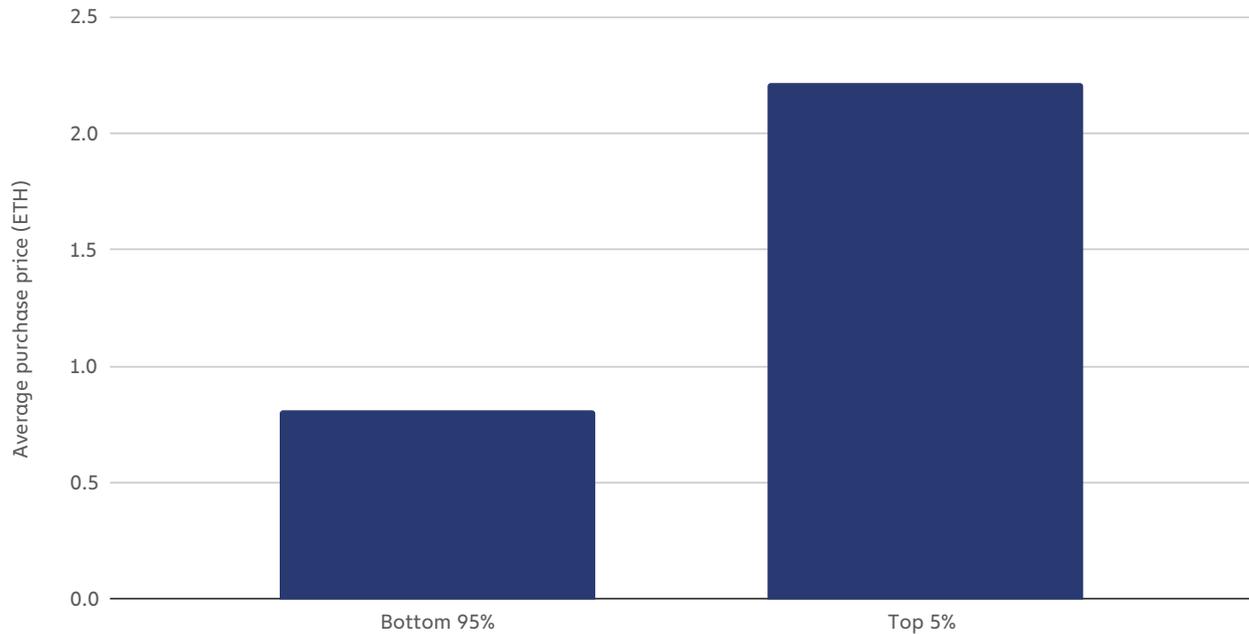
Average purchase price for NFT to be flipped by NFT Flip Group on OpenSea



At 1.07 ETH per NFT, investors in Group 1 pay significantly more up front for NFTs they plan to flip than those in any other group. Interestingly, Group 5 pays the second-highest up front price per NFT at 0.71 ETH. The trend becomes even more pronounced if we focus on the top 5% of NFT collector addresses, who account for 80% of all profits from NFT flipping.



Average purchase price for NFT to be flipped: Top 5% of NFT flippers by gains vs. Bottom 95% on OpenSea

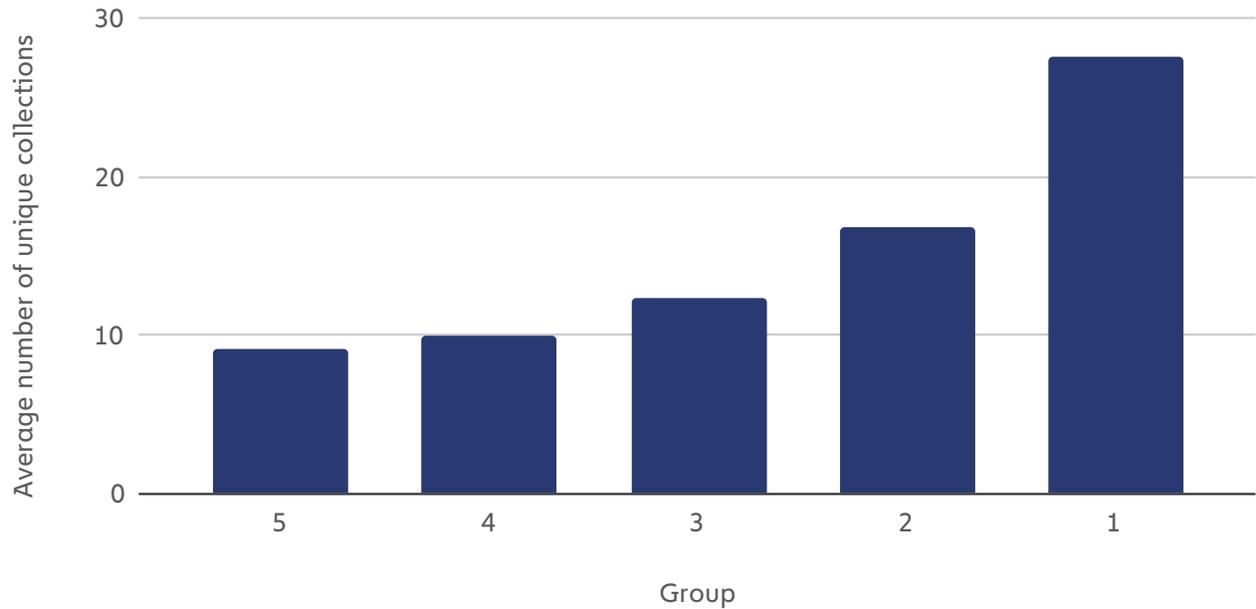


The top 5% of NFT flippers on average pay 2.2 ETH for the NFTs they later resell, more than double the average purchase price of the top quintile. Overall though, the data shows that deploying capital isn't enough on its own to be a successful NFT investor. While high purchase prices appear to correlate with success for the top NFT collectors, this strategy is catastrophic for the least successful collectors in Group 5, whose losses are compounded by the fact that they're spending large amounts on their initial purchases. Group 1 appears to use better judgment on where to deploy capital, and more consistently spots NFTs that will rise in value.



That finding is reinforced by our next comparison: Below, we look at the number of unique collections purchased by each group of NFT flippers.

Average number of unique NFT collections purchased by NFT Flipping Group on OpenSea

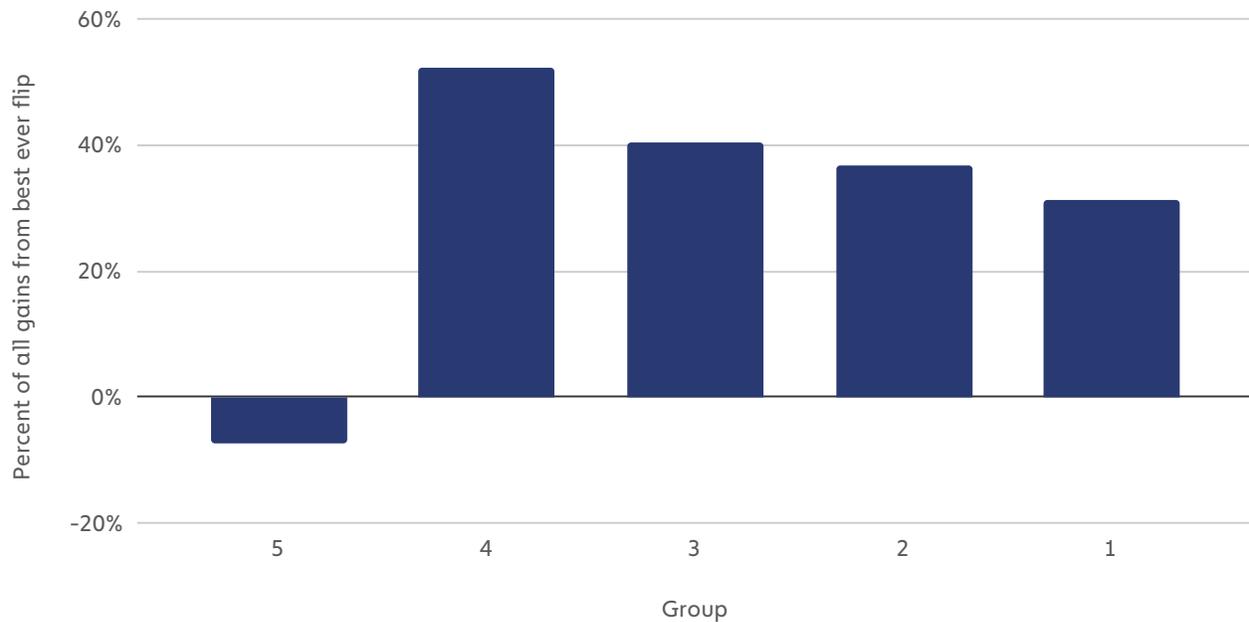


The most successful NFT flippers invest in a diverse array of NFT collections. Addresses in Group 1 have bought NFTs from 28 unique collections on average, compared to 17 for Group 2. Unlike with the amount spent per purchase, the relationship between investor success and number of unique collections purchased is perfectly linear – the number of unique collections decreases as we look at each less successful group, with addresses in Group 5 purchasing from just nine collections on average. This could be another function of successful NFT collectors having more capital to deploy on a wider variety of collections, but also suggests they may be better at surveying the market as a whole to spot more opportunities.



The most successful NFT collectors' strategy of investing in many different collections appears to be paying off, in that their gains are relatively evenly spread across more of their trades compared to others.

Average share of total gains derived from best ever NFT flip by NFT Flipping Group on OpenSea

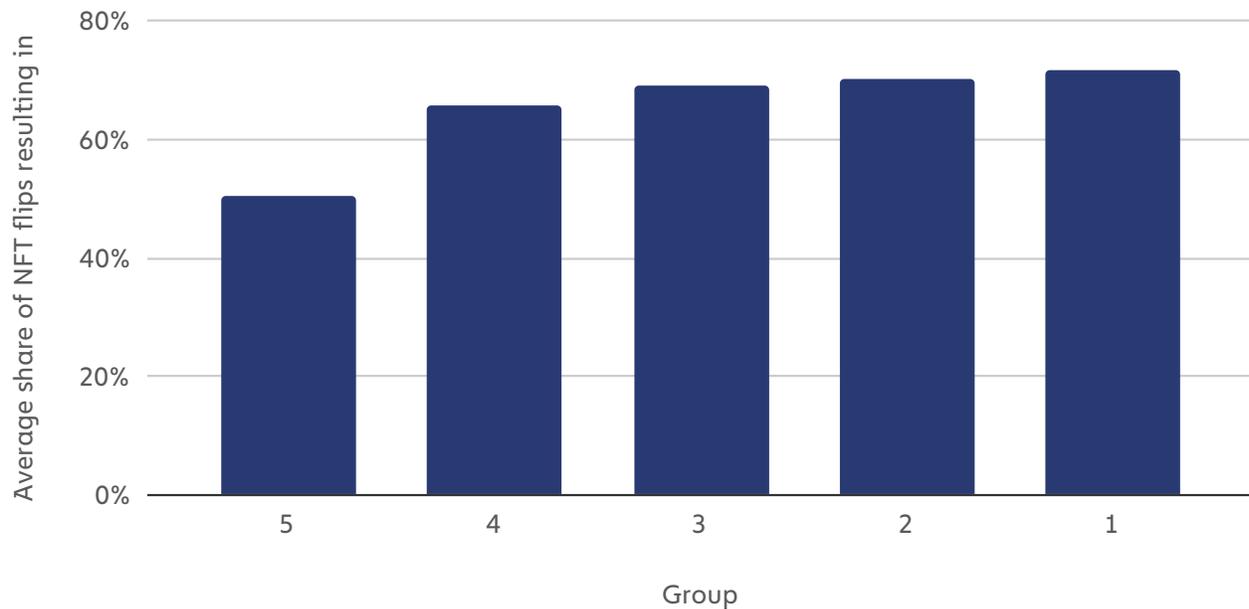


On average, Group 1 addresses' have achieved 31% of their overall NFT gains from their most successful flip, compared to 37% for Group 2. The less successful the investor, the higher a percentage of their overall gains we see coming from their most successful flip, with Group 4 receiving 52% of all gains from their most successful flip on average. Group 5 as a whole is not profiting, hence why the group's figure on this chart is negative.



Finally, perhaps our most interesting finding is this: The most successful NFT investors actually don't have a significantly higher hit rate than others. The chart below shows the percentage of flips that result in a profit for each flipping group.

Hit rate: Average share of all NFT flips with gains realized by NFT Flipping Group on OpenSea

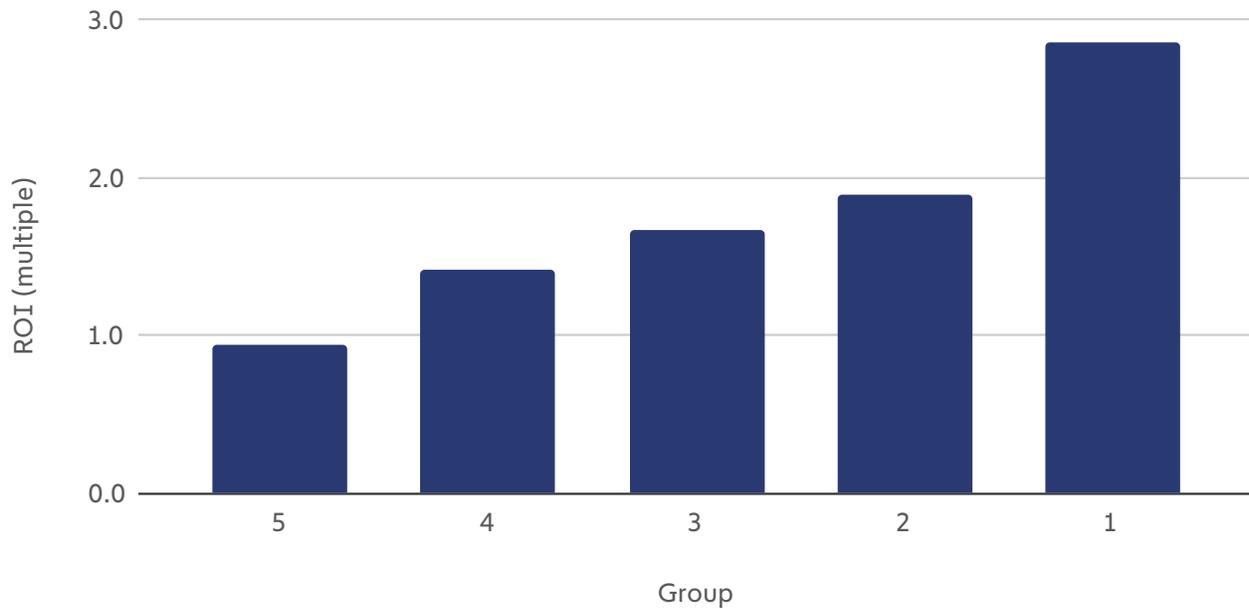


Addresses in Group 1 make a profit on 72% of NFTs they flip. Group 2 is profitable on 70% of its flips, Group 3 on 69%, and Group 4 on 66%. Group 5 sees a large drop off, making a profit on only half of its flips, but overall there's very little separation between Groups 1-4.

High hit rates aren't necessarily surprising, as many investors likely opt to hold NFTs if they know they can't flip them for a profit. However, these numbers suggest that Group 1 most separates itself not by picking successful NFTs more often, but by flipping more NFTs at a similar hit rate to the other groups. The chart below, which shows each group's average ROI on each NFT purchased, also tells us that while Groups 1-4 have similar hit rates, Group 1's hits result in significantly better returns – in other words, Group 1 is unearthing the very best NFT opportunities.



Average ROI multiple for NFT purchases by NFT Flipping Group on OpenSea

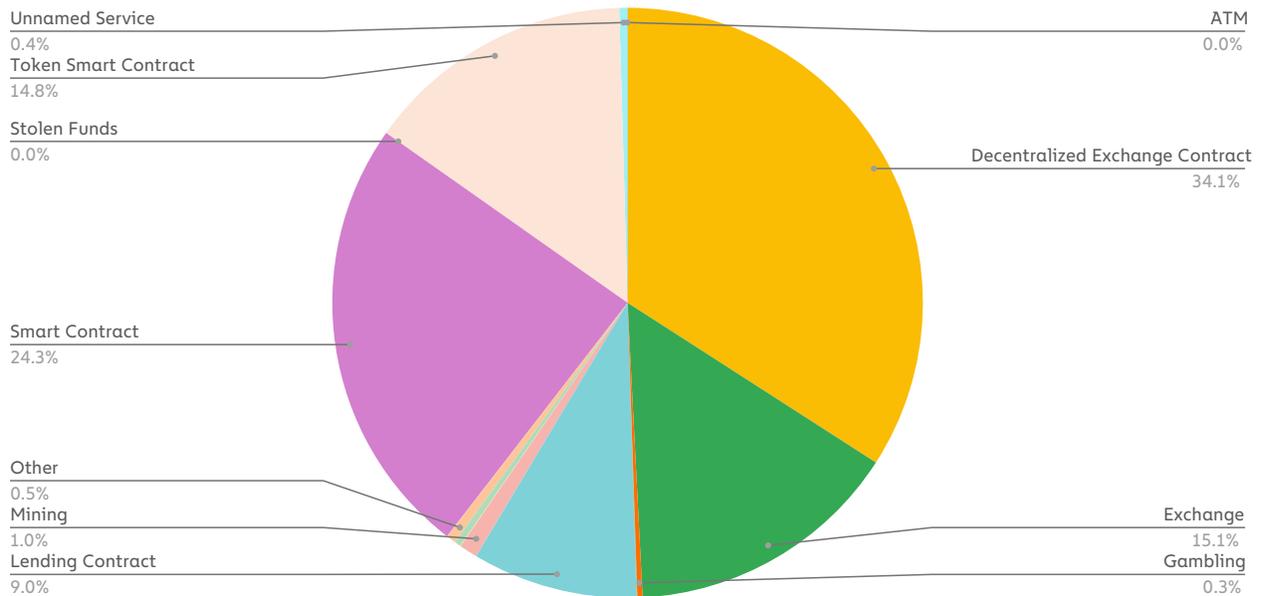


On average, the collectors in Group 1 make an ROI of 2.9x their initial investment every time they flip an NFT, compared to 1.9x for Group 2. Each group makes a successively lower multiple on each investment, with Group 5 returning a loss of 0.9x its initial investment on average.

But what else are the top NFT collectors doing? Let's go beyond NFT activity specifically and look at the overall receiving exposure for addresses in the top quintile of NFT flippers.



Origin of funds for top quintile of NFT traders on OpenSea



This doesn't look like the average wallet. Since much of the smart contract exposure is likely due to the NFT contracts themselves, we'll ignore that category. Even so, the top NFT collectors transact with decentralized exchanges at a higher rate than the average wallet, which typically has much more exposure to centralized exchanges. We also see more exposure to lending contracts and token smart contracts, which are also associated with DeFi usage. The data suggests that the most successful NFT users tend to use the cutting edge DeFi protocols favored by bigger investors. We can ascertain this by **comparing platforms' average transaction sizes** – decentralized exchanges, for example, have an average transaction size of \$26,520 worth of cryptocurrency, versus \$12,431 for centralized exchanges.

Overall, the numbers above suggest that the best NFT collectors win largely by taking more bites of the apple. By deploying more capital across a wider variety of NFT collections, these collectors are able to spot more "big wins" and compile more profits despite having a similar success rate to other collectors, save for those in the bottom quintile of NFT trading performance, who achieve significantly worse results than all other groups.



Are failed minting transactions dragging down NFT gains?

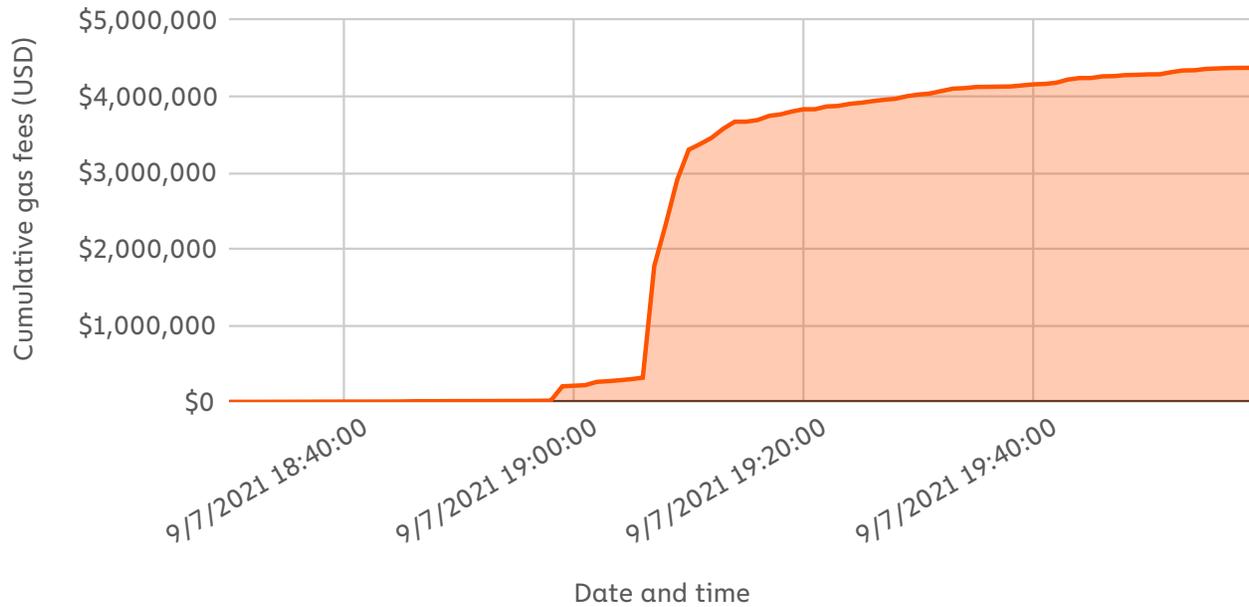
So far, we've discussed the profitability of NFT trading strictly through the lens of initial purchase price and sale price. Under that framework, we determined that collectors are better off flipping NFTs they buy on the secondary market than NFTs purchased through minting. Again, 65.1% of NFTs sold after being purchased from another user result in a profit for the collector, versus 28.5% for NFTs purchased through minting. But investing in newly-minted NFTs may be even less profitable than that figure would expect due to an understudied aspect of the minting process: The immense number of failed transaction fees.

Buying newly-minted NFTs from a highly-anticipated collection is an extremely competitive process, with thousands of users rushing to buy at the appointed minting time. They're not always successful though. Many users attempt to buy either too early, before minting has actually begun, or too late, when the collection has sold out. Unfortunately, they still must pay Ethereum gas fees on those failed transactions, which go to Ethereum miners to reimburse them for processing and validating transactions on the Ethereum blockchain, as is the case for gas fees on successful transactions too. If one includes those gas fees in profitability calculations, buying newly-minted NFTs becomes a much less attractive investment than one would initially think. It also appears that some experienced users employ bots to purchase NFTs as soon as minting begins, resulting in more failed transactions – in some cases by the bots themselves – making profitable trading even more difficult for the average user.

We saw a great example of this recently during minting for an NFT collection called [The Sevens](#). The Sevens is a collection of 7,000 NFTs that began minting on September 7, 2021 at 7pm UTC. Within just an hour after minting began, users had attempted over 26,000 failed transactions, resulting in over \$4 million in fees.

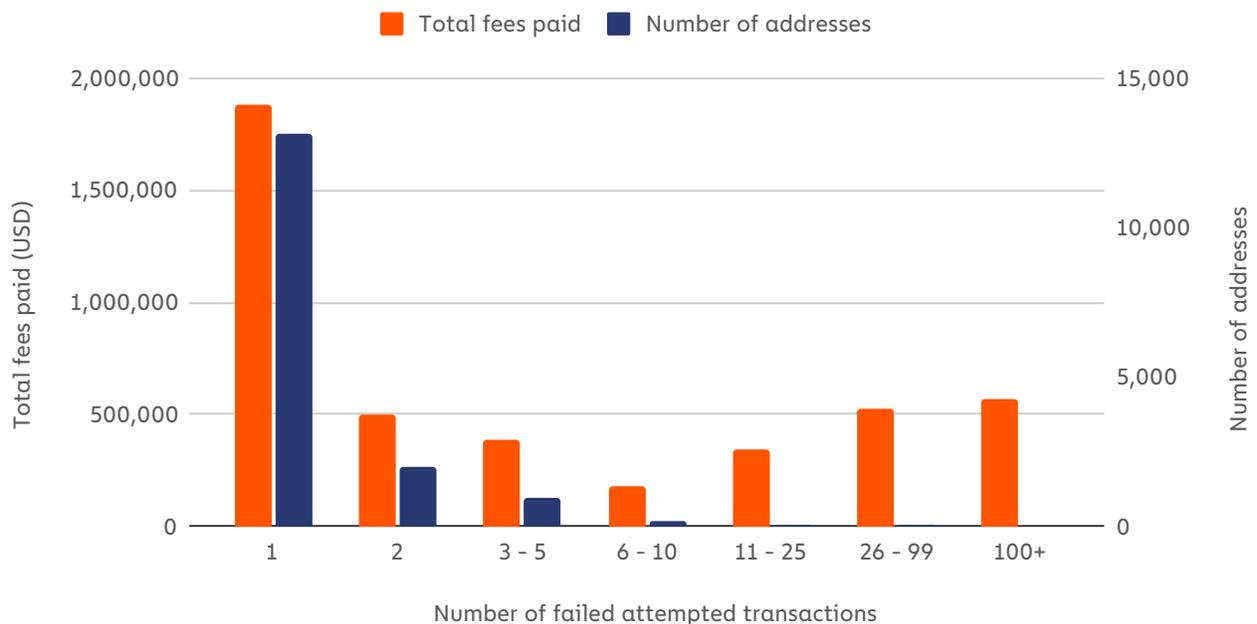


Cumulative gas fees paid on failed transactions during The Sevens minting event



Most users who attempted failed transactions didn't try again. But interestingly, several addresses failed multiple times – some addresses ended up attempting over 100 failed purchases, paying over \$100,000 in gas fees.

Number of addresses and total fees paid by addresses' number of failed attempted transactions during The Sevens minting event





That begs the question of whether live humans were controlling those addresses, or if the address owners had created bots to automatically attempt purchases as many times as possible. While that would suggest the bots were faulty, we have no way of knowing how many bots successfully bought a newly-minted NFT from the collection, shutting out less sophisticated users. But [reporting from NFT Caviar](#) suggests that one user employed bots to purchase over 1,000 NFTs from The Sevens collection during this minting event, becoming the collection's largest single holder.

In total, users who purchased NFTs during The Sevens minting event have collectively realized \$20.5 million in gains after selling the NFTs. But if we factor in the \$4 million in failed transaction fees, the collective profit falls roughly 20%.

One way NFT creators could address this problem would be to mint NFTs on Layer 2 protocols – meaning NFT marketplaces or other dedicated services built on an underlying blockchain – and then allow users who buy them to transfer them to Layer 1, which is the blockchain itself. Ethereum co-founder Vitalik Buterin outlines what such a solution could look like [here](#), though we are unaware of any major projects whose NFTs have been minted on Layer 2 today.

The NFT market is dynamic but many won't profit

NFTs represent one of the most exciting, fast-growing areas of the cryptocurrency world, and have become especially popular with retail investors. However, those looking to collect and trade NFTs must understand how competitive the market is.

The data shows that a very small group of highly sophisticated investors rake in most of the profits from NFT collecting. This is especially true in minting, where the whitelisting process gives early supporters of collection access to lower prices that result in greater profits. We also see possible evidence of the use of bots by investors looking to purchase during minting events, which could shut out less



sophisticated users, and even result in failed transactions that cost them in fees. Potential investors should be aware of all these facts before jumping into the NFT market.

Still, there are some strategies that appear to correlate with success. For instance, many investors with enough capital to deploy invest frequently in a wide array of collections, as this appears to lead to the highest profits – of course, the strategy is risky and investors must be careful not to spend beyond their means.

We look forward to seeing how the NFT market evolves as more artists, creators, celebrities, and even video game makers launch collections catering to their fans. For more information on the NFT market and how Chainalysis can work with marketplaces to ensure user safety, please [contact us here](#).

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Building trust in blockchains