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## **SELLING DIGITAL ART FOR MILLIONS - A QUALITATIVE ANALYSIS OF NFT ART MARKETPLACES**

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# SELLING DIGITAL ART FOR MILLIONS - A QUALITATIVE ANALYSIS OF NFT ART MARKETPLACES

*Research Paper*

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## Abstract

*When a digital picture, that can be copied and distributed at zero costs, goes on sale for \$69 million, something is up: Non-Fungible-Tokens, or simply NFTs, which became one of the most exciting topics in the digital realm in 2021 due to the rise in interest in blockchain technologies and the hype generated by internet personas and celebrities. This study is a pilot and explorative approach towards understanding the motivation, needs, goals, and strategies of creating and selling non-fungible tokens by art creators. To do so we utilize a qualitative, inductive category formation methodology with nine semi-structured interviews with digital artists that sold their creations on newly established NFT marketplaces for up to \$400.000 apiece. Creators' motivations to engage in these new platform ecosystems ranged from to Social, Monetary, to Technological aspects, with classical platform aspects such as control mechanisms and network effects playing a major role in their adoption.*

*Keywords: Blockchain; Marketplaces; Digital Platforms; NFT*

## 1 Introduction

2021, a year in which a JPEG - a digital picture - went for sale for \$69 million amidst a global pandemic and a time in which the digitalization efforts made by politics and enterprises were never as prominent as before. This JPEG, which got sold, is not just "a" digital picture. It is "that" picture even though it is digital. People argue that one can "screenshot" any digital picture. Afterward, they own it as well. However, to continue the traditional art analogy, one would "own" the Mona Lisa, if one creates a high-resolution print and hang it on their wall. There might be an opportunity to solve the issue with owning non-physical assets: Non-fungible Tokens (NFTs). These tokens digitally represent the ownership of digital assets and prove their ownership with a consensus amongst millions of users within a blockchain network. At the end of 2020, NFTs received broad attention (Young, 2021) and became one of the most exciting topics in the digital realm in 2021 due to the rise in interest in blockchain technologies and the hype generated by internet personas and celebrities involved in the topic, such as Bepple (Kastrenakes, 2021). NFTs could potentially be a game-changer within the creative industry, for creatives themselves, and industries outside the creative realm, such as authentication services. It is crucial to figure out whether this technology is here to last or if the hype around NFTs is based upon a "gold rush" sentiment. NFTs offer a great variety of potential use cases and can be used in different areas for their technological benefits. Furthermore, NFTs are a new way of investing by acquiring art for value-creation, reselling, or speculation. As this industry is very young, it still lacks fundamental research towards its participants and the vast amounts of existing marketplaces. Our research question is tailored around the complementors of the new ecosystems: Art Creators. We want to explore which characteristics of NFT marketplaces are important for NFT art creators and which characteristics lead these individuals towards choosing a specific marketplace to sell their art on.

Our study follows an explorative approach, based on Mayring's detailed research on qualitative content analysis (Mayring, 2007). Nine interviews with established and upcoming NFT artists were conducted to investigate their experiences with NFT art marketplaces and the NFT space in general. Although, learnings of this study include general information about NFTs and other relating aspects, the focus of this study is to understand which factors are essential for creators and, in combination, if NFTs art marketplaces underlie the same principles and effects, that other digital platforms underlie as well. NFT marketplaces are structured as a mediator that tries to create value by enabling the users to perform transactions (Rochet and Tirole, 2003). The platform acts as an enabler or facilitator, which supports the interaction of two or more parties (Rochet and Tirole, 2006).

In this study, we tried to get first insights into these newly established marketplaces and found that many of the traditional phenomena of digital platforms are clearly at work. First, for an NFT creator to consider a platform, it needs to have a high sales volume and more preferably also high-value sales, pointing towards the classical chicken-and-egg problem and strong direct and indirect network effects (Katz and Shapiro, 1994; Parker and van Alstyne, 2005; Thies et al., 2018). Second, participants preferred a curative and exclusive environment for their art, even though initial hurdles to get in are often hard to overcome. This notion is strongly connected to the platform control literature (Boudreau, 2010; Ghazawneh and Henfridsson, 2013; Parker and van Alstyne, 2017; Tiwana, 2014; Wessel et al., 2017). As the barriers to entry are sometimes high, creator also turn towards a multi-homing strategy, offering their art on more open platforms with very little control (Koh and Fichman, 2014; Park et al., 2017).

## 2 Theoretical background

### 2.1 Digital Platforms

A large and increasing number of industries are structured and organized around platforms (Hagiu, 2009). These platforms enable the actors to interact with and provide value by buying and selling goods and services. The parties involved in interacting in a platform are often referred to as demand- and supply-side participants, also referred to as consumer and complementors (Veisdal, 2020). An example of such complementary services are third-party mobile applications for Apple's IOS operating system platform. Currently, many of today's businesses, which operate in and as digital platform businesses, are finding themselves within two-sided markets dominated by "network externalities" (Alt and Zimmermann, 2019; Katz et al., 1983; Rochet and Tirole, 2003) and platforms trading NFTs are no exception. Network effects are crucial for understanding platform economy (McGee and Sammut-Bonnici, 2015). Direct network effects are generally defined as "the increasing utility that a user derives from consumption of a product as the number of other users who consume the same product increases" (McGee and Sammut-Bonnici, 2015). Indirect network effects are present when this effect is thought to operate through a complementary good (Clements, 2004). Network effects are deeply rooted within the users using and adopting a platform. It is even claimed that the size of the installed base is the most "strategically valuable asset in networked industries" (Schmalensee and Evans, 2007). Although there have been cases of platforms that provide a large enough installed base, they still got threatened by new entries because the perceived value of these platforms is higher (Zhu and Iansiti, 2011). Even though critical mass is one of the most prominent challenges platforms face during their launch time, often termed as "Chicken-and-Egg Problem" (Stummer et al., 2018), it is essential to state that the literature also suggests that the "qualitative aspects of supply" should not be underestimated as they seem to create new market dynamics and help platforms succeed within their competition (Liebowitz and Margolis, 1994; McIntyre, 2010; Schilling, 2002; Thies et al., 2018). Hence, platforms need to establish a critical mass while providing sufficient quality of their services/products to succeed during their launch phase. Once a user has chosen a platform, "Lock-in-Effects" come into play, which create hurdles to switch to another platform, once they used it at least one time. These lock-in effects are defined by Liebowitz and Margolis, as reasons or factors, which make the users unable or unwilling to switch to a new service or product (Liebowitz and Margolis, 1994). Lock-in effects are also commonly referred to as "switching costs" (Klemperer, 1995). Still almost any platform competing within a platform-specific market is faced

with users and suppliers potentially multi-homing, and therefore crucial to be considered within the platform's strategies, as the platform competition between two-sided platforms is influenced by the possibility of multi-homing (Park et al., 2017).

## 2.2 Ethereum as a platform

Vitalik Buterin introduced Ethereum as a concept in a white paper in 2013 to the general public (Buterin, 2014). He explains that he wanted to create a blockchain with "a built-in Turing-complete programming language, allowing anyone to write Smart Contracts and decentralized applications where they can create their own arbitrary rules for ownership, transaction formats, and state transition functions" (Buterin, 2014). Similar to the Bitcoin blockchain, the network is powered by its users - or nodes. In 2021, Ether, the cryptocurrency builds on Ethereum, reached a market capitalization of over 400 billion \$ US-Dollars, making it the second highest, following Bitcoin. Ethereum is mostly implemented due to its programmable nature. It was the first Turing complete blockchain at the launch, enabling developers from all industries to program highly complex "Smart Contracts" on the Ethereum blockchain, making it more versatile than other blockchains. Ethereum "has created a lot of excitement for its programmable platform capabilities" within the blockchain community (Crosby et al., 2016). Therefore, many new technological advancements, business, and licensing ideas have risen (Stevens, 2020). Industries such as the creative industry, especially art, music, gaming, and the collection of digital assets, could be revolutionized (Pawczuk et al., 2021). Ethereum is already used in many traditional applications and industries such as governance, autonomous banks, keyless access, crowdfunding, financial derivatives trading, and settlement (Crosby et al., 2016). As the majority of Non-fungible Tokens are stored on the Ethereum blockchain (Cryptopedia, 2021), this study will focus on highlighting this specific type of blockchain.

## 2.3 Non-fungible Tokens

Non-fungible Tokens (NFTs) describe tokens stored on a blockchain that represent ownership of unique items. These tokens are used to tokenize assets such as art, collectibles, or in some cases, even real estate. Also, NFTs can be seen as a "type of cryptocurrency, that is derived by the Smart Contracts of Ethereum" (Wang et al., 2021). The term "Non-fungible Token" is a representation of the properties it represents. Fungible items such as currencies like the US-Dollar or the EURO can be exchanged indifferently since one Dollar is worth as much as another one Dollar and does not represent any unique features that distinguish it from all the other money in circulation. A fungible asset can be described as interchangeable with another asset of the same category. In the token's domain, some of them are purely equal and thus perfectly fungible (Glatz, 2016). Contrary, non-fungible items are unique. They can vary from representing a car, a bed, a painting, a file, or a passport. All these items can only exist once. Even when there are many cars with the same model type, there is only one individual car. NFTs take these economic properties and try to tokenize the digital world, including pictures, songs, videos, in-game assets, and more. NFTs are built upon the notion that their owners can truly own digital assets, even though it can easily be replicated. NFTs are described as "tokens where each token is distinct [...] and thus enables the tracking of distinguishable assets. Each asset must have its ownership individually and atomically tracked (di Angelo and Salzer, 2020).

Meni Rosenfeld introduced the idea of color-coding/tokenizing Bitcoins on the Bitcoin blockchain to represent different types of assets such as property, subscriptions, and others (Rosenfeld, 2013). From that point on, new endeavors such as "Counterparty", a financial platform enabling its users to create and tokenize assets on top of the blockchain, were founded and built the way towards introducing a "meme culture". In 2016, "Rare Pepes" were launched on Counterparty (Leung, 2016; Mapperson, 2021). People created, tokenized, sold, and celebrated unique creations of the "meme" Pepe the Frog (Frank, 2016). This movement showed the potential of introducing NFTs to the art scene, making it possible to sell and collect digital art. Later, "Rare Pepes" were also available on the Ethereum blockchain. In the same year of 2017, Cryptopunks Larva Labs emerged (Abbruzzese, 2017). "Crypto

Punks" are 24x24 Pixel-sized - at the time - randomly generated avatars with different properties such as hairstyles, clothing, accessories, and more. These avatars have a unique address linked to the Ethereum blockchain on which they are "stored". In the beginning, 10.000 of these Avatars could be redeemed without any costs and later got sold on the secondary market for 50\$ - 100\$ (Dowling, 2021).

## 2.4 NFT-Art Marketplaces

In the following, some properties of NFT art marketplaces will be explained using a representative sample: Makersplace. In 2018, Yash Nelapati founded Makersplace and since then establishing the platform as an enabler for a vibrant and sustainable future for digital creativity. The platform has seen a lot of increasing engagement due to the overall hype within the NFT community and following the collaboration with the auction house "Christies", in which the Digital Creator Mike "Beeple" Winkelmann sold the NFT: "EVERYDAYS: THE FIRST 5000 DAYS" for 69,346,250 USD. Besides increasing interests as a premium NFT art marketplace for buyers and collectors, Makersplace can also








							
Blockchain	Ethereum	Ethereum	Ethereum	Ethereum	Ethereum	Tezos	Ethereum
Fees	Seller: 2,5%	Seller: 2,5% Buyer: 2,5%	Seller: 15%	Seller: 15%	Seller: 15%; Secondary Market: 12,5%	Seller: 2,5%	Seller 15%; Secondary Market: 3%
Currencies	\$ETH \$WETH \$DAI	\$ETH \$WETH \$DAI \$ATRI \$RARI	\$ETH	\$ETH	\$ETH \$DEFI (Paypal/Stripe)	\$XTZ	\$ETH
Auction Styles & Listing Types	Timed Auction, Fixed Price	Auction; Fixed price;	Timed Auction; Fixed Price; Open-ended Offers	Reserve price to be met, then 24 hr Auction	Fixed Price; Open Ended Offers; Reserve Prices; Auctions	Fixed price	Auction without countdown; Fixed Price
Accepted Types	Image; Audio; Video	Image; Audio; Video	Image	Image	Image	Image; Audio; Video	Image
Categories & Dominant Genres	Art; Music; Utility; Collectibles; Trading Cards; Sports, etc.	Art; Gaming Collectibles; Trading cards; Music; Photography; Metaverse	Fine Digital Art	Fine Digital Art, Crypto Art	Fine Digital Art	Fine Digital Art; Collectibles; Trading Cards; Photography	Fine Digital Art, Crypto Art
Launch	2018	2020	2018	2020	2018	2021	2020
All Time Volume	€ 4.018B	€ 169.002M	€ 93.324M	€ 58.512M	€ 18.882M	€ 19.046M	€ 5.608M
All Time Traders	447,804	71,058	4,612	15,559	4,090	23,546	5,003
Royalties	Choice of artist	Choice of artist	10% on secondary sales	10% on secondary sales	10% on secondary sales	10% on secondary sales	10% on secondary sales

Table 1: Comparison of prominent NFT Art Marketplaces as of July 2021

attract investors. In August 2021, Makersplace raised 30 Million USD in funding, backed by the venture capital firm "Bessemer Venture Partners" (Wolpow, 2021). Makersplace is a blockchain-based art marketplace that enables creators to publish and sell their art (Digital Drawings, Photographs, 3D-Art, [...]). Besides acting as an intermediary between buyers and sellers, Makersplace provides the tools to upload the creations to the Ethereum blockchain. In addition, Makersplace highly emphasizes

collaboration with its creators. After getting accepted as a creator (the creator needs to apply and can only sell art on the platform after being accepted), the creator can create custom stylized digital

storefronts to communicate his/her brand identity according to his/her wishes. Makersplace uses the open ERC-721 standard to ensure additional visibility on third party digital marketplaces such as OpenSea.io. On Makersplace, creators sell an NFT which is electronically signed by the creator using his/her public Ethereum address.

Table 1 is intended to give an overview of the most prominent art trading marketplace within the NFT art industry, showing similarities and highlighting differences. The comparison is not intended and should not be seen as complete. The sales volume data and the number of active traders are based on dappadar.com. The categories are based, and their information is adapted from VisionaryArt.io. This comparison should not be used to state which platform is better to sell NFT art on, but more so, to understand the possibilities within the industry. The table also shows that curated marketplaces such as SuperRare.co and Makersplace demand higher fees, accept lesser payment methods, and focus on picture, videos and in general "fine digital art". In addition, the relation from traders to sales volume shows, that many of these platforms have a fewer number of artworks sold, but these artworks get traded for higher prices (i.e., Makersplace vs. Hic et Nunc). The only platforms demanding fees on the secondary market within this overview are Makersplace and KnownOrigin. In addition, the only exception regarding the blockchain of these platforms are selling and minting NFTs on is "Hic et Nunc", which is based on the "Tezos" blockchain. All other platforms use Ethereum as their blockchain of choice. This alternative might be interesting for smaller creators, as Gas fees within the Tezos blockchain are lower, which leads to an increase in the creation of NFTs.

### 3 Methodology and research strategy

This part will describe the strategy and methodology we employed to assess the question guiding our research: "Which characteristics of NFT marketplaces are important for NFT art creators and how do these individuals choose a specific marketplace to sell their art on?" We wanted to understand the creator's perspective in this field, which can be done by analyzing their opinions, statements, and potential concern regarding different aspects of this ever-evolving technology. The central element of such an explorative approach is that the state of the research connected to the research subject is still rudimentary. Therefore, one cannot formulate precise questions or use descriptive analyses methods (Mayring, 2014). Within the area of NFTs, there is no grounded theory yet to build research on, which is why this study tries to contribute to building this theory by following an explorative strategy. This methodology is highly based on Mayring's work as it is one of the most critical pieces of literature regarding this aspect of research. By doing so, we can potentially contribute to understanding the artists perspective on NFT art platforms and provide information towards future research in this relatively new field. In order to use a methodology, which is both efficient and beneficial toward qualitative content analysis, an "inductive category formation" is utilized, meaning that category formation is based on the logic of summarizing, while not all material needs to be regarded for the analysis (Mayring, 2014). Inductive category formation is often referred to as "central" for building grounded theory (Corbin and Strauss, 1990; Strauss, 1987). To proceed with inductive category formation, one must define categories in the beginning (based on the aim of the analysis), which then will be used to work through the interview/coding material line by line (Mayring, 2014). If aspects within the material are found, which suit these established categories, they are coded as such. If no criteria are matching the material, a new category has to be created. During the process of coding the material, the categories must be reevaluated if there are no overlaps and if the level of abstraction is fitting the overall aim of the analysis (Mayring, 2014). Still, this explorative approach does not guarantee a comprehensive assessment of the research question.

We conducted nine semi-structured interviews with NFT artists from various NFT art marketplaces such as Makersplace, SuperRare, KnownOrigin and more. The backgrounds of these artists vary in notoriety, art style, personal upcoming, the pricing of artworks and other factors. The achieved prices of the artworks of these artists range from 200\$ to up to 400.000\$. In order to create a certain degree of reliability, we decided to contact various artists going through the artist's pages on SuperRare.co and Makersplace. There were several factors needed to be considered as a potential study participant. The

potential participants needed to offer NFT art pieces, such as creations like digital artworks, 3D Renderings, drawings, videos, [...] on at least one NFT art selling platform, to ensure diversity across platforms and avoid artists talking about topics the artists did not experience themselves. In addition, the creations needed to be limited to art creations, hence utility assets such as in-game-items etc. were excluded in the research. The NFT artists had to sell a minimum of three individual pieces, ensuring they would have had experiences with the mechanisms of the respective marketplace they are selling on, such as promotion strategies, pricing structures, interaction with collectors and other related aspects. There was no sampling strategy towards demographic data, such as gender, age, and other aspects due to the fact, that it is not relevant to the research question. Artists were primarily contacted via e-mail and were identified directly through the platforms and their visibility. Many of the participants were contacted by going through the "Featured"-list within Makersplace and SuperRare. All interviewees accepted to use their data and record the process. The interviews varied in length between 45 and 90 minutes, and the authors followed an interview guide which was created beforehand, to ensure comparability, yet provide flexibility to follow certain directions given by the participants. After transcribing, the coding software used for the qualitative content analysis was QCAmap (Mayring, 2020). To ensure, that there is no, and if reduced researcher bias impacting the results of the coding, an inductive category formation technique was used (Mayring, 2014). The majority of the creators described themselves as digital artists (44%). Some of the participants went into detail, describing their art and came up with definitions such as "Multi-disciplinary Artist" or "Visual storyteller", while three of the participants used the terminology "crypto artist" in one way or another. Eight out of nine participants stated that they are selling art on Makersplace. The other mentioned platforms are Foundation (22%), SuperRare (33%), Nifty Gateway (11%), Async (11%), Known Origin (33%), Rarible (11%), hic et nunc (11%), and NFT Showroom (11%).

## 4 Data Analysis

The authors of this study went through all the transcribed interviews. While reading through the transcript, new categories were formulated. After every interview, the criteria were revisited and potentially combined within main categories. After completing the coding, the authors ended up with six main categories (Figure 1) that include 14 subcategories with a total of 72 criteria, coded within the interview transcripts of the study. The categories were streamlined to summarize topics and criteria that inherit the same meaning and reduce the number of potential doublings within the coding phase.

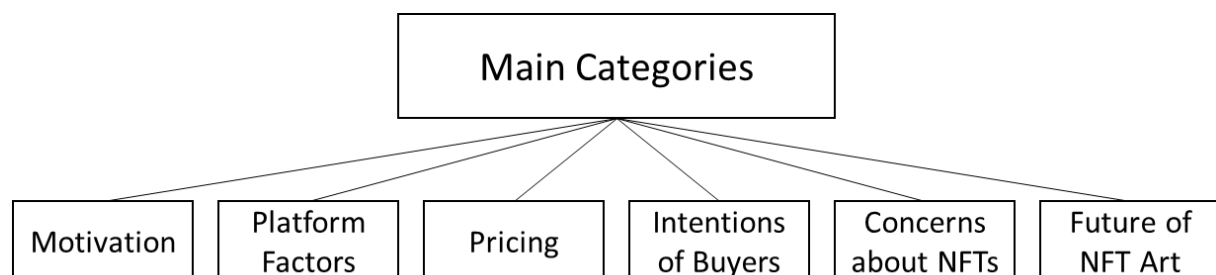


Figure 1: Category Framework: Main Categories

The main categories, *Motivation* and *NFT Art Platform Factors*, will go into detail answering the research question on the characteristics of NFT Marketplaces, while the other categories reflect the more explorative approach of this piloting study.

### 4.1 Motivation

We categorized different aspects within subcategories to allow a better understanding, yet enable a detailed analysis of answers given by the participants. Motivation was therefore divided in three categories, namely, *Social*, *Monetary* and *Technology*.

The subcategory "Social" includes social aspects that motivate the NFT artists to create and sell NFT art. 33% of the participants stated that social cues lead to their NFT career. One individual can be quoted, saying: **"So there is a very welcoming and warm community, which is not something I ever expected to come from anonymous people on the internet. Usually, that has not been my experience. However, I have been pleasantly surprised"**. Besides that, some artists told the authors that their "influential bubble" attracted them and got them into the NFT industry.

Within the category "Motivation to sell NFTs", more than half of the participants stated, the monetary aspect of creating and selling NFTs is essential for them. Within this category, the authors also differ between *COVID-19* and *Monetary motivation: New streams of income*. *COVID-19* (RQ1-8; 22%) refers to the individuals, which stated that the global pandemic at the beginning of 2020 led them to search for alternative income as one individual recalls: **"It is also due to Corona because I lost a lot of client projects in March because I was a lot in the tourism and the dance industry. So, for festivals, I created a lot of visuals and added some videoing, and during Corona, that all stopped"**. Where *Monetary motivation: New income streams* (RQ1-10; 55%) describe the NFT creators' wish to achieve new ways of income as digital artists. This is one of the most important categories, as many creators named this a factor within the conversations. An example being: **"Well, I'll be honest when he showed me these art pieces selling in the thousands (dollars), I was like "(Swearing)". I was like, "This is insane!" And, yeah, obviously, the money was the thing that kind of initially drew me to it [...]"**.

The criteria bracket *Technology* describes all motivational aspects for starting the creation and selling of NFTs mentioned by the interviewees, which are related to the technology of blockchain, Ethereum, Smart Contracts, NFTs in general, or others. *Experimental interest in technology* (RQ1-9; 11%) shows that some NFT artists just started to try out creating NFT art, to try out working with the technology and described the decision as experimental, without a specific goal: **"And if it doesn't, then I just tried it. So, it was more an experiment, and I was like, it looks like hype, so probably I can join the right and but I never expected that it would explode like this"**. The central aspect of NFTs, its ability to create digital non-fungible assets (*Ability to have unique digital assets* (RQ1-68; 33%), was mentioned explicitly by two individuals as the reason they tried to work with the technology and followed up on initial try-outs. One individual pointed out that working together with traditional galleries as digital artists can be difficult due to the constraints with sending and owning digital art: **"I did because what's a problem in the digital art I'm met with this problem. I see that problem many times before. When I was at the Singapore GIF art festival in 2017, I remember talking with the galleries and collectors and how they want to buy my GIFs, but we were always talking about the same problem. I can do it again, because I can give you a USB drive or something like that with the mp4 with a file. You haven't gone the 100% ownership"**.

To summarize the motivational factors of the NFT artists participating in this study, one can state that there are probably many artists seeing a monetary chance within the NFT industry as the Non-fungible Tokens offer a new way of monetizing digital assets were not present until the introduction of this technology. Additionally, the community aspect as well as the exploration of the new technological opportunities seem to be a significant factors for creators.

## 4.2 Platform Factors

This category is fundamental to answering the research question, which factors are essential for NFT artists regarding NFT art marketplaces and which factors influence these artists to sell on their respective platforms. The factors of this criteria segment are divided into three parts. *Economics*, describing aspects such as the number of sales, the *collaboration between platform and artists*, i.e., the communication of the platform and the artists, suggesting valuing the artist's well-being and the *image and communication of the platform*, such as the expected and experienced exclusivity of the platform.

When looking into the economic factors stated by the artists, one can see that these factors are very relevant for the participants (77%). One third of the participants stated that they initially researched different marketplaces and decided to choose one particular as their primary platform by comparing

*sales*. One participant said: **"I just studied the NFT sales volume of the websites, and you could see how many artworks were sold on a website. And I saw SuperRare was the best-selling, together with Nifty Gateway and Makersplace"**. Besides the number of sales, participants also explained that they were very keen on selling their artwork on platforms with *high value of sales* (RQ1-76; 22%), **"Yeah, and if you are collector, you just gonna find art - so it is like - you don't have to sift through a lot of (Swearing)". So also from that aspect, it is better. I don't know why SuperRare is more prestigious. I just know that it is. I know that it is harder to get on there - well, at least for me. There seems to be - like the big sales mainly occur on SuperRare"**. Besides the economic factors related to the sales on a platform, artists also showed high interest in the *royalties* (RQ1-69; 44%) aspects of NFT platforms: **"It's an incredibly interesting aspect. Now, if an artist creates an audience and a solid collector base over his lifetime, he can simply pass on or bequeath his digital wallet to his grandchild. They then get the secondary revenue afterward. That could theoretically last until the world ends"**. If an artist sells an art piece for 100\$, then this piece gets sold on the secondary market for 200\$; the artist creating this piece receives 10% of the price on the secondary market due to the traceability of the blockchain. From a creator perspective, this is an exciting feature, as it tackles the continuous income within the art industry that is not given to traditional galleries and sales. Although it is essential to mention that these 10% are linked to the blockchain, the marketplace acts on, and if one tried to transfer an NFT from one blockchain to another, the royalty feature might be lost.

Many individuals participating in this study described the interaction between themselves and the platform and the people working there when discussing the essential factors of choosing an NFT art platform (66%). These subcategories are combined within a collaboration between platform and artist. The chief factor for the participant-group was the *Focus on the artist's well-being* (RQ1-46; 55%) with five mentions, one individual explained it as **"[...] I'm really happy with SuperRare, the guy named (name remove, due to privacy), who's kind of running a lot of the relations with artists and onboarding and everything like that. Once again, just an effortless process. Very easy, very gracious, like, reachable. People are coming from a good place and giving their time. So if I have a question about how does this work, or what about this or just advice about when to put something up for auction and have different strategies like that's been good"**. Besides a positive and encouraging relationship between the complementors (NFT artists) and the platform itself, one creator talked about that he thinks it is crucial to notice that the platform selling the artists artworks is *valuing the work of the artist* (RQ1-47; 11%). When talking about essential factors for choosing a particular marketplace within the NFT industry, two participants explained that they value *Ease of Use* (RQ1-64; 22%) in order to navigate the platform, create art and sell it without any technological or interface related issues or hindrances: **"It wasn't really like that great of an experience as an artist, because I had to go through many steps, but with Makersplace, I would just upload my artwork for a prize"**.

Another important category of essential factors for NFT artists is *the Image and Communication* of a potential NFT art marketplace. Eight out of nine creators named one or more aspects related to this category as fundamental within the decision process of which NFT art marketplace to choose. The most mentioned aspect throughout this interview series is *Exclusivity* (RQ1-11; 88%). The exclusivity of an art marketplace is one of the top categories responsible for the choice of NFT art marketplace for NFT creators within this study. The exclusivity aspect was mentioned related to several topics. One artist explained: **"Well, I want to be on a platform, where you have like an invitation basis. So, you are not one of one million like on Rarible or other platforms"**. As seen, this artist named the criteria of exclusivity to the "entrance"-control performed within an NFT art marketplace. Other artists explained the concept of prestige, like **"I wanted to get on super rare because that is seen as the most prestigious one"**. Besides the above, one participant stated that he likes the idea of exclusivity through curation: **"I think the nice thing - is just - and I think that is why I prefer a lot of the curated spaces from what I have seen, what I have seen is what they will do is these guys that work for these platforms, they have a certain style or a certain preference, a certain way of going about this business. And from what I can tell, they kind of curate like-minded creatives. So, they are building communities"**. This is closely tied to the following criteria influencing the choice of NFT platform for NFT artists: *Other creators* (RQ1-16; 55%). Other creators were mentioned by more than half of the participants as the reason for

choosing a specific marketplace. This was either detailed by the participants as a wish to be on a platform where specific creators are already selling their art or as staying with a platform because certain creators are already selling their art on that platform. One example stated by an interviewee: *"So I was like, okay, then I want to get in the platform where probably the best artists go, and a lot of people I follow on Instagram are also applying on Superrare and Makersplace. So, I was like, I need to get into SuperRare, but it was really hard to get in. So yeah, then I decided to stick with Makersplace"*. Being one of the *First platforms(s)* (RQ1-44; 22%) available when beginning their NFT art creations and selling, two participants stated that this was a reason for choosing that particular platform. These artists were also early adopters within the NFT industry compared to the other artists questioned. They explained that the platforms contacted and approached them directly: *"[...] it was the first one (platform), and we also jumped in the scene early on, very early amongst the first, so they were in direct contact with them"*. The last criteria within the category *Image and Communication* are *Quality of art* (RQ1-48; 22%). This criterion is used to categorize the descriptions of artists. If they investigated the different NFT art marketplaces, they looked into the subjective quality of the art pieces already promoted and sold on the respective platform. Two out of nine artists named this factor as necessary. An example statement is: *"Whereas if we could comment [...], some might not have this curatorial orientation and this might function well and work perfectly, and many people can experiment and tokenize and that's great. But they (these platforms) are containers of artworks whereas they appreciate a lot the quality (of art) and art on SuperRare"*.

A critical aspect in this study is *Multi-Homing* (RQ1-2; 88%). Most participants stated that they multi-home in one way or another within the NFT art space. Multi-homing ranged from selling limited editions on one platform and not as exclusive assets on another, experimenting on one platform, and following a particular strategy on another platform. One individual explains: *"I want to grow because I need to grow my brand. And I am doing more things, and I need to go - maybe - just to Superrare. The last few weeks ago super I was talking with Superrare. And they told me that the Superrare community is very hyped if one day I will go (sell art) to Superrare. Maybe in the next five months I will arrive at Superrare with a huge drop - something amazing. But to be honest, I would like to work just with Superrare and Makersplace, maybe one Spanish platform, and that is all. Because now, many new platforms are growing. If I am with the big ones (platforms), I don't need the small ones"*. Besides multi-homing itself, but related to the concept of selling art in several places, is the application criteria *on several platforms* (RQ1-6; 66%). Six out of nine participants explained, they applied to several platforms at the beginning of their NFT art creation and selling career. The others, who did not do so, stated that their respective platform approached them.

Another significant category is *Network Effects*. Within this category, the author of this study combined aspects related to network effects and their workings. Three out of nine participants explained that they were individually *promoted by the NFT art platform* (RQ1-7; 33%) they were selling on – especially in the beginning, as platforms have to solve the chicken-egg problem, in which there are no buyers without suppliers and vice versa. Another aspect of these network effects mentioned during the interview phase of this study is that several of the artists explained that the platforms even were *attracting suppliers before the launch* (RQ1-49; 44%). This aspect mainly helps the platforms to build a large enough community of suppliers that will – potentially – later result in a sufficient enough installed base for the platform to be successful, again refereeing back to the chicken-and-egg problem. To summarize the platform-specific factors that lead to choosing a specific NFT art platform, one can state that there are the economic factors (i.e., volume and value of sales), the efforts of the NFT art platform to build a strong relationship with the NFT artists and the public image and therefore the communication of the platform. Especially the economic and image factors are essential because these factors are noticeable before applying on these platforms and therefore potentially impact the application rate of these platforms. Furthermore, platform openness and control mechanisms appear to play a crucial role as the exclusivity of a marketplaces seems to be a driving factor. Still, more control might hinder network effects as promising creators might not be able to get on a certain platform.

### 4.3 Pricing

Before the interview sessions, we noticed drastic variations in the sale prices for NFT art on NFT art platforms. There were occurrences in which the same platform sold NFT art pieces in the range of from 200\$ up to 300.000\$. This leads to asking the NFT artists about their respective *Pricing of NFTs* to understand which factors lead to specific price structures within the NFT art industry and on the NFT art platforms. The main factor mentioned as reasoning for their respective NFT prices by the NFT artists: *Prices are based on previous work (RQ1-18; 77%)*. Many artists agreed that the *Prices are* and should be *based on previous work*. This is particularly interesting as many artists spoke about the traditional art space as well, where this also occurs. One interviewee recalls: ***"An example would be: If you reach a certain price going lower, would not be advisable. Also, in the physical art world, it's something no one does really"***.

### 4.4 Intention of Buyers

In order to understand the NFT art space, it is crucial to understand why collectors are buying the art from the NFT artists. The following part will describe these motivational factors named by the participants when asked whether they know why their art is bought and what their collectors tell them once in contact. An influential aspect of the whole blockchain community is the generation of wealth. Within the NFT art industry, collectors tend to buy NFT art in order to sell it at a later point in time potentially. Therefore, NFTs can be seen as *Investment for Buyers (RQ1-23; 66%)*, as well as they simply *Liked the art (RQ1-24; 77%)*, as with this artist experience: ***"Yes, that is also really quite different. I hear from some of my buyers that they just like the art. [...] Others think that I will be more successful in the future and therefore invest in my art"***.

### 4.5 Concerns about NFTs

When conducting the interviews, we also wanted to highlight concerns that NFT artists have regarding NFTs in particular, the platforms they are sold on, the technology of the Ethereum blockchain, and the blockchain scene in general. An artist mentioned that he thinks it might become problematic to attract a broader range of audiences and a higher number of potential customers because the technology itself might not be understood correctly or at all. ***"I don't know if it is in Austria the same, but our (Dutch) news channels are really bad in explaining blockchain and how it works and what it is. It's only like - last time I saw it in the programs - it was like: "Yeah, cryptocurrency is like a casino; you can put money in it and hope it goes up. [...] also the education about the blockchain and NFTs is bad, so that creates uncertainty and might become a problem"***. During a hype phase of NFT art, in which also prominent names like Mike "Beeple" Winkelmann sold their artworks on platforms such as Makersplace, the artists explain that their concern lies with the stability of the platforms once there is increasing interest in the technology and concept behind NFTs: ***"The inflation, when it came, for example with Beeple's auction and how the platforms weren't ready yet to support the hype and a mass audience and the mass public. Technologically (seen), maybe it was too early to be receiving all of this hype"***.

The following concerns were stated by the interviewees, related to the industry and market itself. The category itself was not mentioned as much as others, but it is still relevant to understand potential issues from a creator's perspective. An artist explained the problem of visibility as followed: ***"[...] because it is on an invitation basis, but then I saw the invitation came so quickly, and it is really hard to get found there. So I decided to stick with Makersplace"***. This relates to NFT art marketplaces being potentially overcrowded, or in general, not making it easy to find new artists within that marketplace without additional promotion. Within the NFT industry, some people are selling NFT for high prices, which can sustain their NFT career and finance their personal life. This is not guaranteed, as one participant explains: ***"It's really hard. [...] with NFTs, there are a few people - the top 20, sell more than one million (the price of NFTs). Like 100 people make a lot of money, but everyone under it - it***

*is a really small group of people that make money with (NFTs)".* The last industry criterion of *concerns about NFTs/platforms* is the fear of "Money Making". An interviewee states: *"[...] we hope and we want for the future, that these platforms, all platforms don't become Money Machines, and maintain contact with the artist, the collector, the community"*.

The following category is related to the concerns of NFTs and the platforms they are sold on in regard to the Ethereum blockchain technology itself. These are aspects such as the "Gas Fee", the ecological impact, or the risk of losing royalties. Six out of nine participants stated that the "Gas Fee" of the Ethereum network is a consideration for them regarding their NFT artwork in one way or another. Some individuals stated that they are minting less NFTs when the Gas Fee is at a high price, others explain that they – have to – increase their NFT artwork prices in order to tackle these Gas Fees: *"[...] it is mainly the Gas fee, so it (the NFT art) would have to cover that obviously. Yeah, that's the main thing. The Gas fee" or "But, yeah - especially - Gas fees. When Ethereum went up like crazy, sometimes Gas fees were like 100 Euros, just to put it online. So that is also a thing you take into consideration, now with the price. Because in December, I minted my pieces for 20\$. And in February, I had to pay like 100 Euros to just put it online"*. Some interviewees also explained that this led them to look for other blockchain technologies such as Tezos, which are cheaper to mint on. However, they are faced with the problem of no exclusivity and lower prices due to the availability. Another vital factor for the creators interviewed was the ecological implications of using the Ethereum blockchain to create NFT art; although Ethereum 2.0 is said to solve this issue by reducing the carbonite footprint of the network by up to 99%: *"[...] for the last two months, like I haven't uploaded anything on Makersplace or anywhere, just because, I did some research and read about the environmental effects of cryptocurrencies and blockchains. So, it made me think about you, the environment, and if it's worth it. So that's the stuff I worry about, too."*

#### 4.6 Future of NFT Art

The final main category of this explorative interview-based study is an outlook of the *Future of NFT Art* based on the implications and statements the NFT artists gave during the interview sessions. Many of these criteria are based on the potential technological advancements that will be made regarding the blockchain technology itself, NFTs, and the underlying structure such as Smart Contracts.

One individual, when asked about the potential future of the NFT art space, mentioned that the Smart Contracts should be updated in a way in which the legacy of artwork is continuously integrated, even when display and not sold within a museum or an exhibition: *"Smart Contracts [...] should have an update that would help carry along the legacy and the journey of an artwork. Let's say it gets into a museum or an exhibition that should be embedded in the contract somehow, always updated, because it is the history of the work. And its life should be transcribed in the system, its history"*.

The legal rights of digital artwork might also become a bigger issue. A participant mentioned: *"[...] Control of rights and the fact that a work cannot be tokenized multiple times. That the creator can be easily recognizable, we know who it is, who has the rights to the work, and that there will be no possibility at all that one can tokenize a copy of a work"*. This might become a problem since many blockchains exist, but no central audit controls the authenticity of every minted piece. The same artist, who spoke about the legal rights, also mentioned the importance to provide the technological infrastructure to enable a functioning secondary market, as – if it comes to his opinion – this is one of the most important aspects of a functioning art market, digital or analog: *"[...] they have to work - all of us have to work on it - thinking of the secondary market and work on these various factors [...]"*.

Finally, several artists described the NFT art space as fast-paced and, therefore, argued that the long-term vision in this space could be one to two years of development. Future outlooks beyond this time scope were impossible due to new platforms, technologies, and ideas arising every month, as a participant described: *"[...] the interesting thing about this stuff is it seems like two years is like 20"*.

## 5 Discussion

This study is to be seen as a short-term explorative approach towards understanding the motivation, needs, goals, and strategies of creating and selling non-fungible artwork on newly created marketplaces. Creators' motivations ranged from *Social*, *Monetary*, to *Technological* aspects. The category with the most mentions during the coding phase of the interviews was the *Monetary* category. This includes the goal of gaining *New Streams of income* to achieve financial or creative freedom as a creator but was also very important during 2020/21 because of the COVID-19 pandemic, which forced exhibitions, galleries, events, and other income streams for digital artists to shut down.

Besides the above, the *Social* aspects, meaning being part of a *community* and receiving *appreciation* as an artist, were noteworthy. Lastly, the *Technological* aspect was important, particularly the *experimental interest in the technology* and the *ability to have unique digital assets*, which is ground-breaking for digital artists, who have to solve the problem of distribution of their goods in a digital society. It is also crucial to understand which *NFT art platform factors* are essential for the creators to answer the research question. The participants explained that they investigated the *number and value of sales* and judged *royalties* as an essential aspect. When discussing the *collaboration between platform and artist*, the most critical aspect was that the platform *focuses on the artist's well-being*, ensuring that the platforms supply-side is satisfied. In fact, all creators named *exclusivity* as an essential part of their relation to NFT art platforms. This was named concerning the art sold, but more importantly, the image of the NFT art platform, its curation process, and its governance structure. There was a strong focus on *Network Effects*, missing *intermediaries*, and the *publication costs* being meagre, contrary to the fees that some of these artists are used to within the traditional art space. Another critical aspect is that some of the artists were invited before the launch date of the respective platforms to solve the chicken-egg problem. Besides the above, there were no signs of noticeable lock-in mechanisms towards the creators. This might be a potential risk for platforms, as multi-homing is omnipresent.

The interviewees' *concerns about NFTs and their platforms* are mainly industry and Ethereum related. From a potential *problem of visibility* to the *risk of overcrowding and reduced value*, many creatives fear that these hype induced problems might work against the success of the technology itself. Creatives are also very concerned about the network usage and its connected "Gas Fee" as a price-increasing driver and negative impact on the environment. It appears that Art marketplaces, which sell Non-fungible Tokens, underlie many of the traditional phenomena of digital platforms. The interviews showed that platform control and vibrant network effects appear to be crucial, which is a balance not easily achieved. As seen from other studies, changing control mechanism and exclusivity can deeply disturb the dynamics of a platform ecosystem (Boudreau, 2010; Parker and van Alstyne, 2017; Thies et al., 2018; Wessel et al., 2017). On the other hand, an exclusive governance strategy might backfire, as competing platforms can appear more attractive to new and innovative artists without a track record. Also, almost all participants did not sell their art exclusively on one NFT art platform but followed many different strategies related to their art, making lock-in effects and platform dominance hard to achieve.

While we believe that this study provides new insights into an emerging and new marketplace and technology, it is exploratory in many aspects and should be seen as a pilot study in the emergent NFT realm. Limitations need to be acknowledged as well as future research directions given. First, with the qualitative approach and the limited sample, we can only provide a spotlight and no complete assessment of creators' decisions and motivations. But future studies should address this with a larger survey-based approach or observational data from the respective platforms. Also, the unfolding dynamics of the realm are hard to predict and we can only offer a spotlight assessment. Still, we hope that our research provides impetus to explore this new and dynamic ecosystem, especially quantitative approaches appear fruitful to complement this study to confirm or refute our initial findings. Second, practitioners should consider our findings, when building a platform. Even though NFT marketplaces are based on a new technology, platform literature appears to be extremely relevant for creators, buyers, and platform providers alike. Future studies should also consider pricing and ecosystem literature, which might provide additional insights and pose potential research avenues.

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