



UNIVERSITA' DEGLI STUDI DI PADOVA

**DIPARTIMENTO DI SCIENZE ECONOMICHE ED AZIENDALI
"M.FANNO"**

**CORSO DI LAUREA MAGISTRALE / SPECIALISTICA IN
ENTREPRENEURSHIP AND INNOVATION**

TESI DI LAUREA

"The use of Non-Fungible Tokens (NFT) as an innovative process in the art industry - Benefits and drawbacks of using NFT platforms for the artists"

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ANNO ACCADEMICO 2021 – 2022

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A handwritten signature in black ink, appearing to read 'Gasparino', is written above a horizontal line.

TABLE OF CONTENTS

CHAPTER 1 - INTRODUCTION.....	7
INTRODUCTION	7
RESEARCH GOAL AND STRUCTURE	8
CHAPTER 2 - LITERATURE REVIEW.....	10
INTRODUCTION	10
INNOVATION	10
INNOVATION IN THE ART INDUSTRY.....	11
DEVELOPMENT OF THE INTERNET AND THE WEB.....	12
WEB 1.0 (PUSH)	13
WEB 2.0 (SHARE).....	13
WEB 3.0 (LIVE)	13
LIVING IN AN ONLINE AND DIGITAL WORLD	14
ART IN THE AGE OF SMART DEVICES AND THE INTERNET.....	16
DIGITAL ART	16
BLOCKCHAIN.....	17
HISTORY AND DEFINITIONS.....	17
BLOCKCHAIN PLATFORMS	18
SMART CONTRACT.....	18
BLOCKCHAIN CHARACTERISTIC.....	18
BLOCKCHAIN IN THE ART MARKET	19
BENEFITS OF BLOCKCHAIN-ENABLED ART MARKETPLACE.....	19
NON-FUNGIBLE TOKENS (NFT)	20
CREATING AN NFT.....	22
THE IMPACT OF NFT ON THE ART MARKET	22
THE IMPACT OF THE CRYPTO MARKET ON THE NFT MARKET.....	23
CONCLUSION.....	24
CHAPTER 3 - METHODOLOGY.....	26
INTRODUCTION	26
INTERVIEW QUESTIONNAIRE	27
PRELIMINARY QUESTIONS.....	27
PLTAFORM USAGE AND PREFERENCES	28
TECHNICAL QUESTIONS.....	28
DEMOGRAPHIC INFORMATION OF INTERVIEWEES.....	28
INTRODUCTION TO INTERVIEWEES AND STATISTIC DATA RESOURCES	29
INTERVIEWEES.....	29
STATISTIC DATA	30
CONCLUSION.....	31
CHAPTER 4 - RESULTS AND DISCUSSION.....	33
INTRODUCTION	33
NFT, FROM THEORY TO PRACTICE	33
NFT MARKETPLACES	33

BENEFITS, DRAWBACKS, AND LIMITATIONS	36
ACCESS TO THE GLOBAL MARKET	36
ROYALTY RECEIPTS	37
NFT COMMUNITIES	37
GAS FEES.....	38
SCAMS AND FRAUDS	38
DECENTRALISATION.....	39
ECONOMIC BEHAVIOR IN THE ONLINE ART MARKET	39
NFT MARKET SHARE AND REVENUE	41
PRIMARY AND SECONDARY SALES ON THE NFT MARKETPLACE.....	42
NFT VS TRADITIONAL ART IN TERMS OF VALUE.....	44
SCEPTICISM AND CRITICISM OF NFT.....	45
CONCLUSION.....	46
<i>CHAPTER 5 - CONCLUSION.....</i>	49
RESEARCH AIM.....	49
FINDINGS.....	49
FUTURE OF THE MARKET.....	51
RECOMMENDATIONS	52
<i>APPENDIX.....</i>	54
INTERVIEWS.....	54
Jakk Vega.....	54
Paragone from Celestial Productions	56
Nabi Sarvi	58
AliLand.....	60
Sina Bozorgvar	62
<i>BIBLIOGRAPHY.....</i>	66

List of Figures

Figure. 1	11
Figure. 2	21
Figure. 3	21
Figure. 4	21
Figure. 5	21
Figure. 6	23

List of Tables

Table. 1	15
Table. 2	15
Table. 3	22
Table. 4	39
Table. 5	40
Table. 6	42
Table. 7	42
Table. 8	43

CHAPTER 1 - INTRODUCTION

INTRODUCTION

In general, the way businesses and industries offer their products and services has constantly been changing by developing the Web and the Internet alongside digital technologies. In the last three decades, with the emergence of the Internet, our lives and understanding of the world have changed. These changes will continue and accepting and accompanying them is one of the things that will form the successful people and businesses of the future, in this research case, the art industry.

The development of digital technologies is not only limited to objects but also concerns changes in techniques and trends. Over the last decade, the innovation process focused more on the methods than the objects. In 2007 when Amazon released Kindle, they introduced a new service to the world: accessing content instead of ownership. Amazon started this path by providing access to millions of books. After that, other platforms in different industries did the same, like Netflix, which provided access to movies, and Spotify, providing access to tons of music. Today the art industry is in a position that can bring a similar revolution for art accessibility and redefine the ownership of artworks in different kinds of arts through NFTs.

The Non-Fungible Token (NFT) is a unique digital identifier on the Ethereum blockchain that can play the main role in the digital art industry. NFT has some unique intrinsic characteristics compared to classical cryptocurrencies such as Bitcoins. Bitcoins and other cryptocurrencies are standard coins in which all the coins are equivalent and indistinguishable. However, NFTs are uniquely identifiable and are not interchangeable like-for-like, making them suitable for identifying something or someone in a unique way. Specifically, by using NFTs on smart contracts on the Ethereum blockchain, a creator can easily prove the existence and ownership of digital assets in the form of videos, images, arts, etc. (Wang et al., 2021).

From the moment a new technology or platform like NFT is introduced until it has grown into its mature form, it follows an evolutionary process, from introduction to maturity. Since the emergence of the Non-Fungible Tokens in the known context, this market has garnered remarkable attention from both the industrial and scientific communities. Since understanding

NFTs need high technical knowledge, most of the academic papers and other educational content are regarding the nature of the NFTs and blockchain and their functionality. While there are conflicting views about the value of NFTs and the best way to use and develop them to benefit artists, there is a lack of research regarding how to do so.

On March 11, 2021, a piece of unique digital art titled "Everydays: The First 5000 Days" by the artist Beeple sold for \$69 million at Christie's auction house. In the immediate aftermath of this sale, the world of art buyers, creatives, and investors became aware of the explosive growth in the market for unique digital art. It appears that digital art can be added to the growing list of uses for blockchain technology, now becoming a part of modern life. Now the question is, what do we know about this rapidly evolving market for digital art? And more importantly, how could the artists gain benefits from these platforms?

This thesis project aims to identify the next evolution of NFT platforms and opportunities in this market and evaluate how the NFT platforms could develop to benefit independent artists.

RESEARCH GOAL AND STRUCTURE

As mentioned above, this thesis project aims to analyse the impact of NFT platforms on the career of independent artists, especially in regions with limited accessibility to the global art market. Before the widespread adoption of Non-Fungible Tokens and their potential to disrupt the new Internet era, it is necessary to identify and overcome the limitations of these platforms. There are five chapters in this thesis project to achieve the research goal.

- Chapter 1, Introduction: provides an overall view of the thesis aims and structure.
- Chapter 2, Literature Review: explores the evolution of the Web, Internet, and digital technologies like blockchain and introduces and explains the NFT platforms.
- Chapter 3, Methodology: explains the research method and its processes and introduces the resources and the interviewees.
- Chapter 4, Results and Discussion: Presents the interviewees' experiments and analyses the statistical data from resources.
- Chapter 5, Conclusion: Analyse the outputs of the result chapter and discuss the future of digital property and conclude the thesis.

CHAPTER 2 - LITERATURE REVIEW

INTRODUCTION

The competition among businesses increases to meet society's changing needs. It is essential to understand that in most industries, including the art industry, the creativity and innovative ideas of the enterprises are crucial to gain a competitive advantage and guarantee their success. However, the risks and costs associated with R&D and creative ideas might not be affordable for small and individual-based businesses, especially in the art industry, which requires fresh approaches to business world concepts. In recent years, the growth rate of technology and internet development has constantly been increasing; as a result, from one side, we are witnessing the changing interests and lifestyles of people day by day. On the other side, individuals, artists, and small businesses can use these emerging technologies as a haven for implementing creativity and innovation.

The technological advances in the art industry have changed how artists create and share art; today, artists don't merely use technology to assist their creative process as was the case in the past. The art world is experiencing a paradigm shift as artists and art professionals leverage technological innovations and tools as art and design mediums (How Technology Is Changing the Art World – ARTDEX).

INNOVATION

In 2022, in the era of start-ups, digital technologies, and high-speed Internet, businesses are in a race with their competitors to gain more market share; innovation is an inevitable part of organisations in most industries. Companies increasingly use innovation as their mission, vision, and objectives statements (Kahn, 2018).

In general, innovation can be defined as the process of creating something new or changing something that already exists, whether it is a product, idea, or context (Merriam-Webster, 2022). In different industries, based on the kind of the business, innovative ideas can be implemented in various forms, including innovation in process, final product, management techniques, Business model, etc. (Kahn, 2018).

INNOVATION IN THE ART INDUSTRY

In the face of challenges in the business world, innovation plays a crucial role in gaining a competitive advantage and enhancing growth prospects in most industries, and art is no exception. However, it is essential to give new meaning to business terminologies used in the business world, such as competitive advantage, product and process development, and business models, to understand them in a fresh and relevant way for art institutions. In fact, when these definitions are applied to art organisations, concepts like innovation are not well defined (Bakhshi & Throsby, 2009). Art organisations have a greater degree of integration and connection with their audiences, and innovation often emerges through interactions between art creators and audiences; due to that, Miles & Green (2008) discuss five general areas of innovation in creative businesses relevant to arts organisations: creative firm innovation, innovation in production and pre-production, product innovation, innovation in communications, and user experience innovation (*Figure 1*).

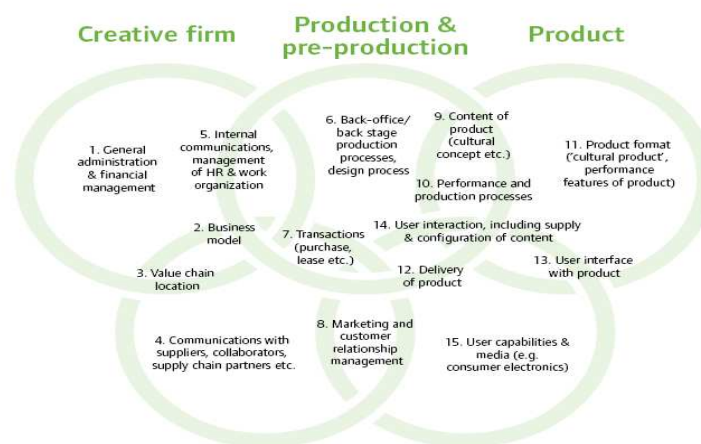


Figure. 1

Even though what the model (Miles & Green, 2008) suggests is effective for many traditional forms of art, and cultural organisations are well known through external publicity. Still, there are significant differences in how newbie art organisations and digital native artists can benefit. To fix this gap, Bakhshi & Throsby (2009) outline four categories of innovation that can be implemented in both traditional and modern art institutions:

1. Innovation in audience reach
2. Innovation in artform development

3. Innovation in value creation
4. Innovation in business management and governance

With the development of the Internet and Web services such as social media, art organisations and artists can reach digital audiences more quickly. The evolution of mobile and smart devices enables artists to create new art forms, such as digital art. The use of technologies like Blockchain, on the one hand, allows art organisations and artists to create value for their work in ways that never were possible and, on the other hand, provides a democratic form of management and governance in the art industry.

DEVELOPMENT OF THE INTERNET AND THE WEB

Undoubtedly, the Internet has been one of the most revolutionary inventions of the 21st century and has touched almost every aspect of human life. Behind what nowadays is known as the Internet, there are two separate but related concepts: the Internet and the Web.

The Internet enables communication and commerce worldwide by connecting various computer networks. Although the Internet, sometimes referred to as a "network of networks," was developed in the United States in the 1970s, it did not become widely known until the early 1990s. Approximately 4.5 billion people, or about half of the world's population, were expected to have Internet access by 2020 (Dennis, 2021).

A web service is a software system designed to allow users and their computers to interact with each other over the Internet. Web services are a relatively old concept and generally contain an API or Application Programming Interface. Information exchange and effective communication are essential components in today's highly competitive business world. The Web is becoming increasingly important in almost every aspect of our lives, including education, employment, government, commerce, health care, recreation, etc. Web browsers allow users to view web pages that may contain text, images, videos, and other multimedia and navigate between them using hyperlinks (Naik & Shivalingaiah, 2005).

At the beginning of the birth of the Internet, the World Wide Web was not like what we are experiencing now, it started with web 1.0 in 1989, continued with web 2.0 from 2004 till the present, and by emerging technologies, it may develop to web 3.0.

WEB 1.0 (PUSH)

It is the origin of the Web, which Tim Berners-Lee invented in 1989 (Nath et al., 2014); it was during this time when the Web was mostly a collection of static pages, meaning they loaded whenever you clicked on them, Known as Read-Only; there were not many interaction options, and the use of the web pages was so simple; also from the economic perspective, it was not profitable for advertisements. In general, during web 1.0, Internet users were consumers of information.

WEB 2.0 (SHARE)

From what was referred to as the read-only Web before 2004, it has evolved to what is referred to as the read-write Web since 2004. It is now possible for users to receive information from the Web, as well as for them to write, modify, and update the data online. Consequently, web pages now have the ability to receive information from their users.

As Web 2.0 has developed into a tool for targeting advertising, companies like Google and Facebook have emerged. They have not taken long to become centralised companies collecting vast amounts of data about users. Users share various information on their Facebook profiles, including photos, contact information, and favourite movies and books (Jones & Soltren, 2005); they search on google for everything they need and use Google Maps for daily navigation. In exchange for using the websites and applications and for a more personalised news feed, users freely share a massive amount of information with the websites. Overall, in the web 2.0 world, users willingly sell their information in exchange for the services they receive from websites and content producers; however, they might be exposed to misuse of their data in this transaction.

WEB 3.0 (LIVE)

The World Wide Web has now reached version 3.0, but it is difficult to define the technologies that makeup Web 3.0 in detail; basically, Web 3.0 is a set of technologies that have been around for quite some time now, like streaming services, virtual and cloud services, social media, blockchain technology, etc., as a result of these technologies coming together, the next generation of the Web will be structured.

The experts in the world of technology and media have different points of view about web 3.0; according to Yahoo founder Jerry Yang, web 3.0 will blur the line between professionals, semi-professionals, and consumers, creating a network effect of business and applications.

Netflix founder, Reed Hastings, defines web 3.0 according to available bandwidth. He believes that the increased available bandwidth will allow the development of a video-based web (Nath et al., 2014).

Blockchain experts believe Web 3.0 is an evolution of the Internet by implementing blockchain technology and tools of decentralisation that aim to solve many of the issues users have today on the Internet. A blockchain-based platform can pixelate platform businesses, allowing them to own the data collectively. Instead of having a large company like Facebook own the data that belongs to each individual, the users can claim ownership of their data rather than being a product sold to companies by marketers (Whitaker, 2019).

Web 3.0 provides users with a governance layer on the Internet that they lack and enables them to engage in peer-to-peer transactions without intermediaries or any centralised company (Voshmgir Shermin, 2018), which somehow solves the privacy issue caused by web 2.0.

In the web 3.0 era, with the development of digital technologies and applications, users are experiencing that their real life is becoming more and more integrated with their virtual life.

Advances in technology allow the transmission of ever more complex data. The performance of internet connections is constantly improving, which provides infrastructures for online video streams, online games, and visual arts (Charlesworth, 2009).

As we are still at the beginning of this evolution, it might not be clear how we can use and take advantage of platforms like Metaverse and other virtual reality worlds. Still, our experience from the beginning of web 2.0 tells us that, step-by-step, users learn how to customise these platforms based on their needs and interests.

LIVING IN AN ONLINE AND DIGITAL WORLD

The development of digital technologies and, following that, the birth and growth of the Internet brought us into a new era and has changed our lives in several dimensions. For most people, the digital revolution happened relatively overnight, although many in the industry had predicted it (Charlesworth, 2009). Unlike other media, such as television and radio, which took

decades and generations to develop, the Internet has appeared suddenly and become an integral part of our lives in just a few years (Charlesworth, 2009). The growth rate of using the Internet and digital technologies increases daily. Based on the statistics, almost 15 billion mobile devices worldwide were operating in 2021, up from just over 14 billion the previous year. By 2025, there will be 18.22 billion mobile devices, an increase of 4.2 billion devices compared to 2020 (table 1) (The Radicati Group, 2022). Estimates for 2026 indicate that 47.26 million people will have access to the Internet in Italy. By the end of 2021, the number of internet users in Italy stood at 44.56 million (table 2) (Statista, 2021b).

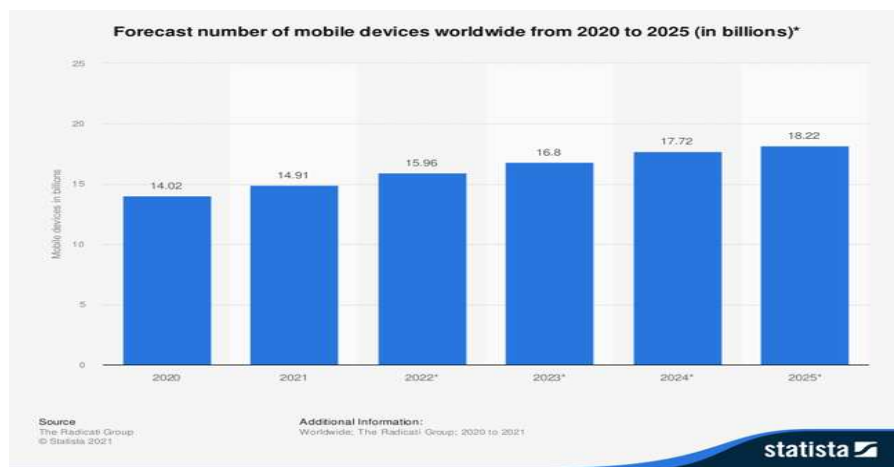


Table 1

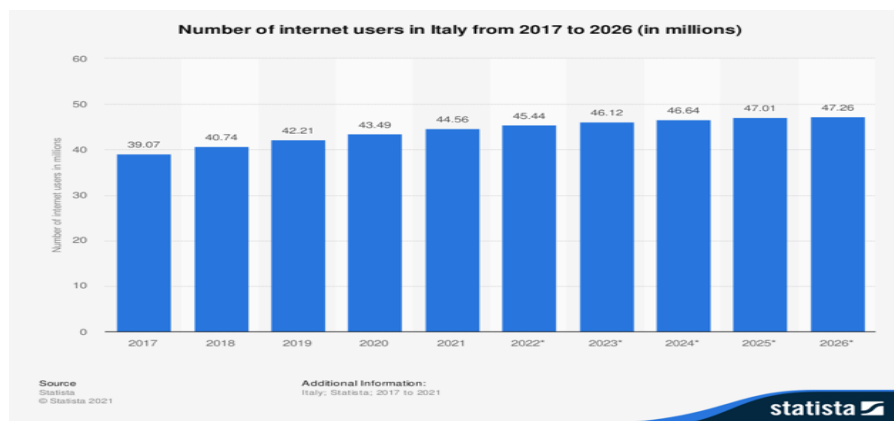


Table 2

ART IN THE AGE OF SMART DEVICES AND THE INTERNET

In a straightforward way, art can be defined as an expression developed in the context of skills or imagination, which results in creating aesthetic objects, environments, or experiences that can be shared with others (Britannica, 2018). As Bakhshi & Throsby (2009) states, "The arts industry is made up of creative enterprises ranging from small individual-based artistic firms to large-scale cultural organisations operating in both commercial and non-profit sectors" (P.1)

From the marketing aspect, one of the most challenging processes after creating a work of art is to expose it to new audiences (Vaughn, 2018). Before the digital era, artists' reputation and growth depended on finding a marketing agency and an investor who wanted to invest in their work and promote them; otherwise, it was difficult, if not impossible, to keep an artist's name in the public's mind.

In the last few years, the world saw that entrepreneurs have come up with new business models that directly link producers and customers in some industries with the advent of digital technology. Since copyright protection and ownership of artworks are essential factors in the art industry, traditional art businesses are slowly embracing digital technologies to reach new markets and deliver more excellent value to clients and audiences (Samdanis, 2016). But today, because of the increase in the development rate of technology, smart and mobile devices, Web 3.0, and social media growth, the art industry is experiencing a dramatic change. On the one hand, art institutions are increasingly using new media and Internet tools for displaying, promoting, and conserving art collections (Samdanis, 2016) which have increased the accessibility of artworks (ben Yehuda, 2015). On the other hand, these changes allow artists to share their works of art directly with their target audience through Facebook, Instagram, YouTube, Twitter, and Flickr. In parallel, advancing digital technologies and services such as blogs, social media, and virtual worlds enable artists to develop an existing form of artwork called "Digital Art" (Christodoulou & Styliaras, 2008).

DIGITAL ART

'Digital art' was first used in the 1980s to describe a painting program developed on a computer. Digital art can be defined in multiple ways, but in short, it is a merger between art and technology (Przybylek, 2018). It can also be described as consuming, transforming, and

creating digital information (García & Montero Vilar, 2010). Digital art allows artists to create many new artworks, including video art or photographs, illustration, and digital painting.

One of the most critical issues in digital arts is the ownership of artworks. In most cases, online digital files lack metadata that identifies who owns the content, if it is possible to use the work, limitations, and the payment mechanisms. Additionally, the rights holders and creators cannot see how, where, and to what extent their work is being used (McConaghy et al., 2017).

Copyright laws protect creative works such as art, literature, music, and film. These laws apply to digital and traditional artworks, but their effectiveness has been limited in the digital world (McConaghy et al., 2017). Although many people, including clients and artists, are involved in digital art, there are no exclusive strategies for this art category's ownership and copyright. Most of the documentation and conservation proposals of contemporary art only pay attention to those works that don't use digital technology (García & Montero Vilar, 2010). Among all the new technologies that could address this issue in the art industry, many organisations are finding the solution by using Blockchain technology (Namasudra et al., 2021)

BLOCKCHAIN

HISTORY AND DEFINITIONS

In the late 1980s and early 1990s, for the first time, Stuart Haber and Scott Stornetta developed the core idea of the technology of timestamping structure. This concept was combined and applied to electronic cash in 2008 and described in the paper, Bitcoin: A Peer-to-Peer Electronic Cash System (Nakamoto, 2008) and in 2009, it became widely known as Blockchain by Satoshi Nakamoto's Bitcoin white paper (Whitaker, 2019) as the core mechanism for worldwide payment systems through cryptocurrency.

According to Yaga (2019), Blockchains can be informally defined as a digital ledger of cryptographically signed transactions that are grouped into blocks. Following validation and a consensus process, blocks are cryptographically linked. By adding new blocks, older blocks become more difficult to modify. Any conflict will be resolved automatically, using established rules, as blocks are replicated across copies of the ledger.

With blockchain technology, users are assured of security, reliability, and integrity. As a result of cutting out the third party, transaction costs are reduced, and transaction processes can be

accelerated. Moreover, besides financial transactions, Blockchain opens up a range of use cases (Rouhani & Deters, 2017).

BLOCKCHAIN PLATFORMS

Many blockchain platforms are available, each with different programming languages and tools. The Bitcoin protocol was the first blockchain network based around crypto-currency with an electronic cash mechanism that was entirely peer-to-peer. The Bitcoin white paper was announced by Nakamoto in 2008 and launched in 2009 (Holotescu, 2018).

The Ethereum Blockchain is the largest Blockchain platform after Bitcoin. Ethereum's white paper was first published by Vitalik Buterin in 2013 and launched as a 100% open-source platform in 2015 (Holotescu, 2018). Several different use cases can be supported by Ethereum, including smart contracts and decentralised applications (Rouhani & Deters, 2017).

SMART CONTRACT

A smart contract, or Blockchain or digital contract as it is also known, was first proposed and developed by Nick Szabo in 1994 (Szabo, 1996) in the form of a self-executing contract with the terms of the agreement between the parties. Smart contracts are composed of code distributed over a decentralised network of Blockchains (S. Wang et al., 2018). The use of smart contracts allows transactions between untrusted parties to be conducted anonymously and without the need for a central authority (Tapscott & Tapscott, 2016)

BLOCKCHAIN CHARACTERISTIC

The Blockchain introduces an entirely new method of storing and processing data, building on the idea of peer-to-peer networks. In the network, all the computers have the same level of information, and all the data is transparent to each computer. Computers use cryptographic hash functions to reward users by solving puzzles (Yaga et al., 2019). By using cryptography, users benefit from transparency while maintaining their privacy. Blockchain technology is revolutionising the industry by introducing economic incentives to ensure that computers operate and behave correctly. Blockchain protocol assumes that everyone on the network may be corrupt, and in order to provide the network's security, it offers network tokens to reward network actors (Voshmgir Shermin, 2018).

Data and transactions in a blockchain environment are decentralised, which means third-party organisations or authorities cannot control them. Whenever a transaction is completed, it is recorded in a public ledger in a verifiable, secure, transparent, and permanent way, with a timestamp and additional details (Holotescu, 2018)

Since blockchain technology is still a new concept, organisations should find out how it could help solve their problems rather than fit them into the blockchain paradigm. Blockchain technology should be managed like any other technology and applied by organisations appropriately. (Yaga et al., 2019).

BLOCKCHAIN IN THE ART MARKET

Notwithstanding that blockchain technology is still a developing concept, several blockchain platforms, coins, and smart contracts are available based on consensus algorithms developed with various tools and programming languages (Holotescu, 2018). Most industries could benefit from this technology, but they should discover the methods and platforms that fit their work and problems.

With the increase in global online and digital art market share, the art market faces various challenges, including transparency, authenticity, and appraisal (Z. Wang et al., 2019).

From another perspective, implementing ownership and copyright laws is needed to ensure artists get adequately paid for their works of art.

BENEFITS OF BLOCKCHAIN-ENABLED ART MARKETPLACE

When collecting art, the provenance and authenticity of artwork are crucial; origin records the ownership chain, while authentication establishes the authorship (Whitaker, 2019). Authentication methods are traditionally based on personal expertise and scientific analysis of masterpieces, which can be challenged for validity.

Blockchain integrates provenance and authentication with a distributed ledger, an excellent tool for storing provenance details and other information about artworks. The validity of the data depends on the starting point of the blockchain record (Z. Wang et al., 2019). Even though this method is helpful for the registries of digital art, it may be unrealistic to expect that the information stored on blockchains will be accurate and free from misinformation in fine physical art (Whitaker, 2019).

Since art was created, there has always been a market for it (Reutter, 2001), and the artist's reputation is a critical factor in determining the value of a work of art. Adding value to an artist's work in the long term depends on that artist's career trajectory (Whitaker, 2018). As a result, the value of an artist's work in the secondary market might reach a much higher price than its value in the primary market. It is logical to allocate artists a percentage share of the upside, as this would be an accurate structural representation of their role as investors (Whitaker, 2018). In 2009 a law entitled Resale Royalty Right was passed, which provides visual artists with 5% royalty payments on the secondary market. Since tracking resales on the secondary market is challenging, artists often do not get appropriately paid (Z. Wang et al., 2019). The Blockchain might overcome this issue by recording the ownership chain and specifying the origin and destination of the transfers.

NON-FUNGIBLE TOKENS (NFT)

One of the most innovative mechanisms in the structure of digital art on the Ethereum blockchain platform is the Non-Fungible Token (NFT). NFT is a blockchain-based token that securely maps ownership rights to digital assets (Ante, 2021a); non-fungible refers to non-replaceable and unique items, and tokens refer to the digital certificate stored on a digital ledger known as a blockchain. The idea behind NFT was raised a long time before the creation of blockchain technology. Still, Blockchain provides a secure and decentralised infrastructure to map non-fungible value by executing smart contracts, storing metadata, and transferring value over the internet (Ante, 2021b).

In the digital era, NFT is a digital method of ownership of digital assets such as art, music, games, and some strange things like a top shot in a basketball game. Owning an NFT means that people own digital work in any form that no one else can possess. Depending on its value, the collector can pick whether they want to keep it in the NFT space as a collectable or trade it for a profit (Basu, 2022).

In 2021, the NFT market experienced significant growth and increased attention, which can be attributed to numerous high-profile sales and many new products. The first tweet (*Figure 2*) sold as NFT for \$2.9 million (Locke, 2021). 'Nyan cat's meme' (*Figure 3*) is a digital animation sold for \$0.6 million (Kay, 2021). 'The First 5000 Day' (*figure 4*) is a JPG file in the form of an NFT made by the digital artist Beeple that sold for \$69.3 million (Georgiev, 2022). The

most expensive and recent NFT, called "the merge" (*Figure 5*), was created by the renowned artist who goes by the pseudonym Pak and sold for \$91.8 million (Georgiev, 2022).



Figure. 2



Figure. 3

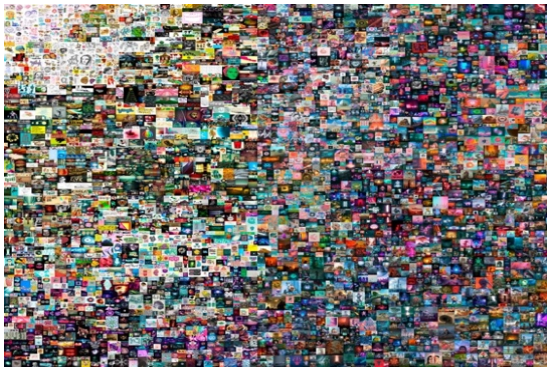


Figure. 4

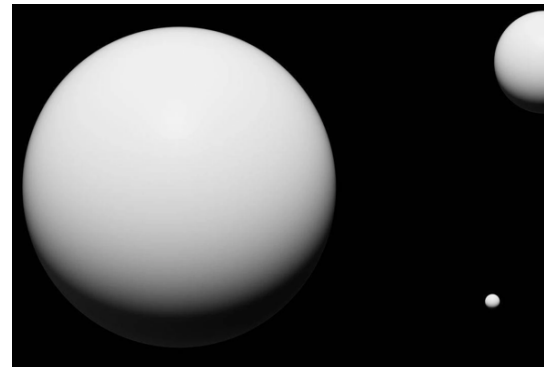


Figure. 5

All the NFTs mentioned above are worth millions of dollars and are available for anyone to access on the Internet (Ante, 2021b). In the beginning, it may come to mind that if a copy of something is accessible on the internet, why, in some cases, spend millions of dollars on them? Looking at the logic behind NFTs can provide some insight into this question. The purpose of NFTs is to secure the ownership of artworks. The item issued as an NFT must be non-fungible and unique, meaning the article belongs to the individual who possesses it. By using NFTs, non-fungible assets can be verified, which makes them special and one of a kind, like a Picasso painting (Basu, 2022). After proving that the artwork is one of a kind and minted as an NFT, the market determines the price and value; as mentioned earlier, the artist's reputation significantly affects the future price of the art pieces in the secondary market.

CREATING AN NFT

NFT is created via a process called minting. Artists, gamers, organisations, musicians, etc., can create NFT and sell it in an online marketplace. The exciting part of this process is that the artists or individuals can financially benefit from the aspects of their art that were not quickly possible before, like the NFT of a music cover, a top shot in a basketball game, or even a tweet. To pursue the Resale Royalty Right of artists, at the time of minting, the creator of the piece of work can determine a specific royalty to their work, so at any purchases in the secondary market, the creator gets a royalty (Basu, 2022).

THE IMPACT OF NFT ON THE ART MARKET

In 2020, the (Covid-19) pandemic was an accelerator for the digitalisation of the art market. Due to lockdowns and restrictions, most auctions and art fairs worldwide could not take place in person; therefore, auction houses have begun strengthening their digital departments, promoting online sales and online streaming of auctions and art fairs (Statista, 2021a). This coincidence with the advent of the non-fungible token market has led to tremendous advances in the online art market. As Table 3 illustrates, in 2020, the total online sales of the art market reached \$12.4 billion, more than doubling over 2019 (Statista, 2021a).

Total online sales of the art and antiques market worldwide from 2013 to 2020 (in billion U.S. dollars)

Global online sales of the art and antiques market 2013-2020

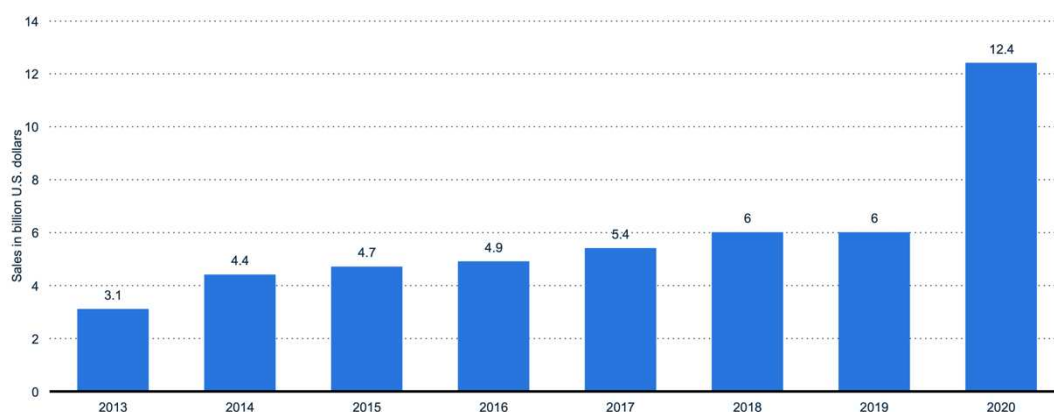


Table. 3

However, the NFT platform has not reached full maturity yet and still needs to be developed, but the experts expect this market to catch up with the traditional art market in the long term (Dailey, 2022). According to (Chainalysis, 2022), in 2021, users at least sent \$44.2 billion worth of cryptocurrency to ERC-721 and ERC-1155 contracts, both Ethereum smart contracts attached to NFT platforms; that number could even go higher if we count the NFTs that are minted in other blockchains besides Ethereum as part of this estimate (Dailey, 2022).

THE IMPACT OF THE CRYPTO MARKET ON THE NFT MARKET

The NFT value and trading activity have multiplied over the past few years for various reasons. A considerable part of this phenomenon can be attributed to technical advancements, better public awareness, and the activities of celebrities and investors. In addition, another critical factor that directly influences the value of the NFT market is the value of the cryptocurrency market. According to the discussion earlier, the NFT market primarily consists of the Ethereum chain and has witnessed a rapid rise in value and trading volumes due to the value of ether, the native token of its chain, appreciating rapidly in value (TechCrunch, 06.22). From November 2021, Bitcoin and Ethereum experienced an all-time high, respectively, 69000\$ and 4868\$; then, up to June 2022, bitcoin fell by 73.9 %, and ether by 81.9%, based on CoinMarketCap data. The blue lines in (Figure 6) also illustrate the fluctuation of Bitcoin prices from their all-time high to their lowest price since December 2021.



Figure. 6

Since the pricing of NFTs is based on cryptocurrencies like Ethereum, the fiat-based price of NFTs has a direct relation with the price of the cryptocurrencies such as Ethereum. However, according to Dowling (2022), NFT pricing appears to exhibit a distinct characteristic from cryptocurrency pricing in terms of volatility transmission. This means the NFT market does not follow the upward or downward trends of the cryptocurrency market. The low correlation of assets has important implications for investment portfolios, as they are highly valuable for diversifying characteristics.

CONCLUSION

The development of digital technologies and virtual worlds related to web 3.0, alongside the characteristics of the Blockchains, especially NFTs, and finally, an increase in online art market share compared to the traditional art market are three criteria that might encourage the artists, especially the less known ones, to enter the digital and virtual platforms and mint their work of art as an NFT. The NFT market is currently experiencing a positive side in a high-risk market since it is new and interesting for investors. Still, the potential long-term benefits of NFTs remain uncertain (Kugler, 2021). Although there are a variety of profitable projects in the NFT market, as mentioned earlier, some projects have almost entirely lost their value.

In particular, some apparent benefits must be developed and improved, and some drawbacks must be eliminated. Still, new dimensions might be discovered that have not been addressed before when it comes to practice. To find out how artists use digital platforms like Blockchain and NFT and whether using these platforms caused them to develop their work or not is the main focus of our research and will be discussed in the following chapters.

CHAPTER 3 - METHODOLOGY

INTRODUCTION

This chapter focuses on the research part of this study; the first objective is to identify the advantages and disadvantages of using NFTs as an innovative method for artists and verify which aspects of the NFT market benefit the art industry and which ones create obstacles.

Second, this study examines the projects that generated the most cash flows and market capitalisation and forecasts the next trends for artists by looking at the most profitable ones.

As the subject of this study is the use of digital technologies based on web 3.0 as an innovative process for artists, an online survey seems to be an appropriate method to collect data. Therefore, this research is also an ethnographic study that involves capturing the experiences of digital artists in a cross-sectional time horizon. Since the study discusses users' experiences and opinions, the sampling strategy was designed based on compiling data from artists who are already involved in the NFT market. This study's qualitative data collection process involves interviews with artists.

The sample population for this study was comprised of the individuals who minted an NFT at one of the marketplaces dedicated to Cryptocurrencies and NFTs. Interviewees are contacted via Twitter through a tweet inviting them to participate in this survey; the tweet was published in two of the essential NFT artist communities on Twitter. As a result of the invitation for participation in this survey, seven artists who were active in NFTs announced their interest in participating. In the end, four artists with different levels of professionalism and art methods completed the questionnaire.

Besides the qualitative aspect of this study which is based on the results of the completed interviews with experts in the NFT market, the statistical charts and data taken from the last publication of Arts Economics (The Art Market 2022) to analyse and support the outcome of this research economically and for the NFT platforms, data captured from NonFungible.com, which tracks qualified sales of all NFTs on the Ethereum, Flow, and Ronin blockchains.

Because of the nature of the cryptocurrency market, which is decentralisation and protection of the individual's identity, and the fact that this market is not yet fully developed, and many scammers are looking for an opportunity, finding the right people to interview was the most challenging part of this study. It is common for artists in this market to be hesitant to share their

contact information easily; many artists do not respond to the request after receiving it; for these issues, the research process took longer than expected. Another problem this research faced was the active presence of scammers in the crypto market. Having published the interview invitations in NFT communities as a researcher, I have received a few attempts from scammers to contact me for unknown reasons.

From the topics that have been discussed earlier, this study intends to answer the following research questions:

- How could artists benefit from this development with the emergence of web 3.0 and the need for art digitalisation?
- What are the advantages and disadvantages of using NFTs as an innovative process for artists?

INTERVIEW QUESTIONNAIRE

The purpose of this survey is to identify how artists use NFTs as a tool for protecting and publishing their works of art and the benefits and drawbacks of NFT platforms they face in practice. The survey questionnaire was conducted on five people in the USA and Iran; all the participants are artists who have already worked in the NFT market as graphic designers, digital illustrators, and music producers. Participants were asked to provide feedback on the clarity of formulation, understanding and interpretation of the questions. In addition, participants were asked to indicate any questions they felt were poorly constructed or discuss the topics not covered by the questionnaire.

After making improvements based on the participants' feedback, the survey interview was designed with eight questions in three parts:

1. Preliminary questions
2. Platform usage and preferences questions
3. Technical questions

PRELIMINARY QUESTIONS

This part refers to the general questions which focus on the artists' background, their experiences in becoming an artist, the type of art they produce, how they became familiar with the NFT market, and how they began to work in this market.

PLTAFORM USAGE AND PREFERENCES

The questions in this section ask about the opinion of the artists as the users of the NFT platforms to identify the advantages of different marketplaces for NFTs and gain a general understanding of the benefits and drawbacks of the whole NFT market and the improvements that need to be implemented for the future development of this market.

TECHNICAL QUESTIONS

This section includes the technical factors that influence the growth of the market, the digital technologies that could be an anchor for the artists and the development of the Internet. The artists' experiences and needs can be the spotlight of the path of future growth, and the innovations could make this market and related tools more effective.

DEMOGRAPHIC INFORMATION OF INTERVIEWEES

A survey requires interviewees to provide demographic information and other important details. Respondents' geographic location, age, and gender are assessed through open-ended and closed-ended questions.

Regarding geographic location, this survey tried to collect data and choose applicants from different geographical areas. As a result, two applicants are selected from users in the United States since most of the leading companies and artists in the NFT market are from that country. Two applicants were chosen from Iran to analyse the impact of the NFTs in the presence of artists from developing countries with many active users and communities in the crypto market but with limited accessibility to the international art market due to political issues.

For this survey, it was important to have Participants in different age groups. In selecting the interviewees, this issue was considered, and the participant was included in the age group between 23 and 47. Regarding the gender distribution, despite all efforts, there was no gender distribution in this survey among the final participants who completed the interview, as 100% of the participants were males.

INTRODUCTION TO INTERVIEWEES AND STATISTIC DATA RESOURCES

INTERVIEWEES

Jakk Vega, one of the interviewees, is a millennial artist from San Francisco, US. His field of work features abstract, digital painting, and co-AI; Jakk Vega was an artist from a very young age doing illustration and graffiti art. After reading an online article about NFTs, he believed his work of art was good enough to publish it as NFT. Jakk Vega minted his first NFT in late January 2022, and now he has been announced by NFT.NYC as an artist in (NFT.NYC Presents The 2022 "Diversity of NFTs" Art Collection) project, and one of his NFTs has been shown in Times Square recently.

Another NFT artist from the United States is Paragone, a member of generation X who became interested in hip-hop music in 1998. In the early 2000s, Paragone and his friends formed a band called Celestial Productions. As part of the music release process, graphic design was required for the album cover, and it was at this time that Paragone began to work with photoshop and other visual design tools. After that, he found himself in graphic design and illustration. A description of Paragone's artwork genre is as follows: horror, mystical beings, animals, monsters, and aliens, and as of October 2020, he has minted his first NFT.

Sina Bozorgvar, an Iranian artist from generation Z, was the third artist interviewed. Alongside the artistic experience, a more important reason for choosing Sina was his working location, Iran. Because of the political situation of this country and the sanctions and accessing limitations that people, including the artists, usually face, in conclusion, it is crucial to understand how platforms such as NFTs and digital technologies can assist them in introducing themselves to the international market in a fair and risk-free manner. Sina is a self-taught graphic designer who started to learn at a very young age. As a young artist in his 20s, he already has an acceptable portfolio and has participated in several local and international exhibitions in Iran, France, and China.

A second Iranian artist from the millennial generation, Nabi Sarvi, has twelve years of experience in the field of Architecture Visualization. In 2018, Nabi became acquainted with

blockchain, and in 2020, he entered the NFT industry by producing imaginary video art. While experimenting with different art visualisation methods and sharing them on NFT platforms, he has developed his style that combines colours and illustrations of 100 crypto projects' logos. Nabi's work culminated in a collection called The Art of Identity, which is currently valued at five Ethereum.

Ali Alidaee, known professionally as AliLand, is an Iranian artist who lives and works in England and is the last interviewee from the millennial generation. Ali started his art career in 2013, in his early twenties. Since then, he has been busy with illustration and studying different approaches and techniques. In 2018 Ali got familiar with NFT platforms and started learning about this market. In 2021 Ali minted his first NFT, and now he is working on four types of collections with different roadmaps.

STATISTIC DATA

Several factors were considered in the design of this survey, alongside the artists' practices and opinions; for the econometric analysis of this research, the statistical data and charts were taken from Arts Economics and NonFungible.Com.

Arts Economics is a research and consulting firm focused exclusively on the art economy. It was founded in 2005 by Dr. Clare McAndrew, a cultural economist specialising in the arts, antiques, and collectables market, to focus on art market research and analysis. Arts Economics works with a network of private consultants and academic scholars in providing research and consulting services to the global art trade and financial sector. One of the outcomes of Art Economics is a report titled 'Art Market', which analyses the key trends in the art market and has been published every year since 2017. And in this research, the last publication of this report, 'Art Market 2022', has been used for the econometric and art trends data.

NonFungible.com is a website that specialises in the transparency and understanding of the NFT ecosystem. In addition to tracking decentralised asset transactions on the Ethereum blockchain in real-time, this website provides tools to assist NFT enthusiasts, whales, and professionals with monitoring the development of the NFT markets. Following the objectives of this study, the data on NFT transactions and market behaviour were also gathered from NonFungible.com.

CONCLUSION

According to the interviews and econometric data, the emergence of technologies like blockchain and NFTs following the development of the Internet provides an opportunity for artists from all around the world, specifically new artists from developing countries, to participate in the competitive global art market. The market for NFTs started in 2019 based on the blockchain with the slogan of decentralisation; since then, this market has experienced ups and downs, providing some features to facilitate the artists. On the other hand, some problems and issues also need to be fixed and developed. In general, following the path of cash flows and the investments of the market leaders, and the entrance of businesses to the projects supported by companies such as Facebook, it may be concluded that NFTs can become an important aspect of the digital art market soon. In the next chapter, the benefits, limits, and drawbacks of NFTs based on the interviewees' opinions will be explained, and the market's economic behaviour will be analysed.

CHAPTER 4 - RESULTS AND DISCUSSION

INTRODUCTION

The objective of this study, as discussed in previous chapters, is to assess the impact of digital technologies and internet-based platforms, particularly non-fungible tokens, on the art industry. Furthermore, this research seeks to identify the benefits these platforms can provide for artists, the potential future opportunities, and the problems they face.

In this chapter, based on the opinion of the artists interviewed, we first examine the opportunities the NFT market provides for artists in different fields of art and the incentives that NFT platforms provide that encourage artists to enter the NFT market. We then conduct an experimental analysis of first the strengths and benefits of the NFT market for artists from both the financial and professional aspects. Second, the problems this platform faces and the obstacles in the way for artists to enter this market.

The next step in this research is to evaluate the mutual influence of the online art market and the NFT market. To do that, we examine the state of the online art market over the last few years and analyse the growth of the non-fungible token market to determine whether these two markets impact each other.

NFT, FROM THEORY TO PRACTICE

NFT MARKETPLACES

One problem that Non-Fungible Tokens try to solve through blockchain technologies is shifting the art industry's organisational design from central to decentral. As a result of direct interaction between NFTs and blockchain, NFTs technically performed the decentralisation process. As was explained in the second chapter, each computer in the blockchain network retains a complete record of what is happening with the NFTs' files without any single organisation responsible for maintaining the data. But still, it is not how decentralisation systems in NFT platforms are supposed to work. In a decentralised computing system, there is still a significant level of centralisation in the market of NFTs.

There are several marketplaces where users can take NFTs on the Ethereum network, such as Foundation, KnownOrigin, Nifty Gateway, Rarible, SuperRare, Zora, etc. Still, none of them is so well decentralised as to support any art and artist. There is only one site close to getting decentralised, which is OpenSea. Compared to other NFT platforms, such as Foundation and SuperRare, that facilitate trades only with specific, curated NFT collections, OpenSea's dominance is largely due to its role as a listing aggregator rather than a gallery. Another competitive advantage of OpenSea compared to other platforms like SuperRare and Foundation is that users can sell the NFTs of different platforms on OpenSea. At the same time, it is impossible to sell Foundation's NFT on SuperRare and vice versa. Rarible is another NFT platform with the same cross-project flexibility as OpenSea but is not as popular as OpenSea.

Among all the NFT platforms listed above, OpenSea, Foundation, and Rarible are most commonly used by the interviewees in this study. In the following sections, we will examine the time when our interviewees minted their first NFT and the platform they used, their opinions regarding these platforms and their reasons for choosing them.

Jakk Vega, the NFT artist from the United States, minted his first NFT in January 2022 on the Foundation platform and has continued to do so ever since. As explained earlier, the Foundation platform has some limitations regarding the NFT collection categories, which was the main motivation for Jakk Vega to choose this marketplace as he said: "I chose Foundation platform because it felt more exclusive, and the quality of my work felt better displayed there, which worked best for my branding".

Paragone, the other artist interviewed in this survey, minted his first NFT in October 2020 on the Rarible NFT marketplace. To respond to this question, Paragone answered: "That's what's so great about this technology; I just went on etherscan.io and looked up the exact date that I minted my first NFT, which was Oct-12-2020 on Rarible. I choose Rarible because back then, it seemed like they had a unique artist selling 1 of 1's or a small amount of each piece. OpenSea was more for big collections platforms, but now all that has changed, and so many new NFT platforms are popping up almost daily".

Nabi Sarvi, one of the Iranian artists who participated in this research, minted his first NFT in January 2021 on the OpenSea platform. This is what Nabi says about the reason for choosing this platform: "It was in January 2021 that for the first time I mint my work as an NFT, the platform I decided to choose was the OpenSea marketplace on the Ethereum network. I found OpenSea to be one of the most attractive platforms due to its accessibility, as opposed to other platforms that banned Iranian users due to sanctions, required invitations, or an application process".

Sina Bozorgvar, the other Iranian artist in this survey, minted his first NFT in March 2021 on the Foundation marketplace. To answer the question asked, Sina responded: "after Beeple sold an NFT for \$69 million, I thought this is what I should start working on, and then I minted my first illustration as an NFT exactly on 10th March 2021 with 0.5 ether price tag in the Foundation marketplace. The Foundation marketplace was chosen for several reasons, including first, the high-quality artworks and artists that were active there; second, the price tags, which were relatively higher than other marketplaces since the quality of artworks was higher; and third, the entry process, which at the time was difficult and required an invitation from artists who were already active on the platform. Still, after you got the invitation, you could grow well as I did".

AliLand, the last artist interviewed in this survey, minted his first NFT on November 15th, 2021. To respond to this question, Ali answered: "It was in 2018 that, for the first time, I was informed about platforms on which I could sell my Art without third-party merchants, labels, or even galleries, so I became curious and learned about Non-Fungible Tokens and marketplaces, which provided an ambient for various artists to promote and sell their artworks. My first NFT was minted on November 15th, 2021, on the Kin-NFT marketplace. It was a brand-new platform, and at the suggestion of a friend of mine, I chose the Kin-NFT platform. But today, I'm creating four types of collections with different roadmaps, and for each collection, I chose a different marketplace, such as OpenSea, SuperRare, Foundation, and Solanart".

In general, the NFT marketplaces can be categorised as Aggregators and Galleries. Each has its characteristics that provide options for the artists and their audience; aggregator marketplaces operate as decentralised, open platforms that offer buyers a simplified interface for comparing prices and acquiring NFTs from different sources and artists. There is no specific

limitation for the artists on these platforms and purchasing NFTs from other projects is easier through the graphical interface of aggregator marketplaces.

Unlike aggregator platforms, marketplaces that function like galleries are centralised platforms with certain advantages and disadvantages. Even though the presence of galleries is not in line with the decentralisation of the market, these platforms still have some competitive advantages that some artists, including two of this research interviewees, prefer, including asset custody and the presence of high-end NFTs and artists. These centralised marketplaces usually have limited accessibility, meaning artists can only register if they have an invitation code and are controlled under governance regulations.

BENEFITS, DRAWBACKS, AND LIMITATIONS

A digital world may face problems that need digital solutions, and in the art industry, NFTs could be the right solution for art digitalisation. In the second chapter of this research, the characteristics and potentials of NFTs were generally discussed. Alongside all the innovative, digital, and revolutionary aspects of NFTs, it must not be forgotten that this market and platforms are still immature and need more development to become stable and reliable. This section will discuss the positive characteristics, weaknesses and limitations that require improvement from the artist's point of view.

ACCESS TO THE GLOBAL MARKET

As people are experiencing, the emergence of the Internet makes communication much faster and easier all around the world; now, as NFTs are traded online, they have the potential to increase the accessibility of artworks and give artists the chance to gain access to global audiences directly and sell their work in the worldwide market without crossing borders or other barriers. It is an essential benefit of using NFTs for artists from developing countries with much less access to the global market. Sina explains how the NFT market changed his career: "without NFT for sure I could not have progressed so much in my career, 2021 I lost my job, and I had financial problems, it was then that I sold my first NFT for 0.3 Ethereum and it changed my life, probably without NFT market I could never be able to buy a good computer and digital gadgets for my illustrations, and I was still busy with graphic designing for local exhibitions in Iran". Frequently, independent artists, such as Sina, do not have access to

international exhibitions, galleries, or even to like-minded individuals in their community through which to sell their works. Even if they do, the scale is much smaller than that achieved online through platforms like NFT.

ROYALTY RECEIPTS

In the traditional art market, artists can only receive their payment if their artworks are sold on the primary market; when such artworks are resold on the secondary market, they do not receive any part of the profit. However, an artwork usually receives its true value long after it has been created. Many factors could affect the value of the piece of art, including the artist's reputation over time, other artworks, etc. Thus, the artists only receive a small share of their art's value. NFT enable the artists to get a certain percentage (between 1% to 20%, what the artist determines) of all the future resale of their work in the secondary market. Among this study's sample population, two participants, Sina Bozorgvar and Jakk Vega received a royalty from secondary market sales, which is 40% of the sample population. Furthermore, the statistical data examined in the following sections suggest that the share of the secondary market sales in the Art NFT segment has increased over the last three years.

NFT COMMUNITIES

One of the most powerful characteristics of the crypto and NFT markets is the dynamic communities which are the true forces behind these markets. Alongside the community behind the whole market, each project has its active community. These communities began to support the users through different channels and platforms. Chat-based platforms such as Telegram and Discord are where NFT community members eagerly discuss and trade among themselves. Social media like Twitter is the hub for following influencers, artists, and project pages. In addition, the largest community of NFT enthusiasts can be found on Reddit, where they share news, discuss prospects, and even interact directly with developers, artists, and creators.

This research's interviewees' experiences regarding their interaction with NFT communities express two different points of view. On the one hand, to answer the question about the advantages artists gain, Paragone answered: "Advantages I've gained is the community and the great people that I have met in this space. Most artists on here not only want to sell their

artwork, but they want to help others sell their artwork also and will help you promote your stuff as much as they can".

On the other hand, when asked about obstacles and disadvantages, Jakk Vega mentioned the NFT community problems. He says: "The NFT space was much more cutthroat than I expected, and I was very happy to be among other artists and share art and support their work long before I started sharing my own. The thing that caught me off guard was just the sheer number of opportunists and narcissists, people who pretend to be your friend then discard you or stab you in the back when it best serves them. I wanted to be part of the tribe, and by and large, I was either ignored or taken advantage of, so the community aspect of it has been a huge miss."

GAS FEES

Jakk Vega believes that the gas fee is one of the features of the NFT market that needs to be eliminated; he says "It costs a crypto fee (gas) to list on certain marketplaces. I love that on the OpenSea platforms, you can "lazy mint", which means you can post without gas fees, but I want more marketplaces to do this and make it easier to list art without all the high costs of listing NFTs on the blockchain.

SCAMS AND FRAUDS

Blockchains are unquestionably trustworthy. However, NFTs can be exploited to perpetrate fraud. Several ways exist concerning NFTs fraud, including the creation of NFTs that resemble the content of reputable sources and that appear to have been created by those sources, which may be faked. In the case of phishing sites that mimic reputable NFT exchanges, log-in credentials can be stolen, enabling the theft of collector's NFTs. It is possible for owners of an NFT to unscrupulously promote an asset to inflate its value, only to cash out, leaving others to suffer when the value of their asset declines.

Paragone also believes that one of the solutions for decreasing scamming is improvement in the verification system. He says "If I want to add or improve something in the NFT platforms, I will create a better verification system, so it would be harder for these fake spam accounts to get on these platforms and start dropping random artwork on user's wallets. I would also have

some verification process for all images, so these accountants post artwork stolen from other artists and then try to sell it as it is their artwork".

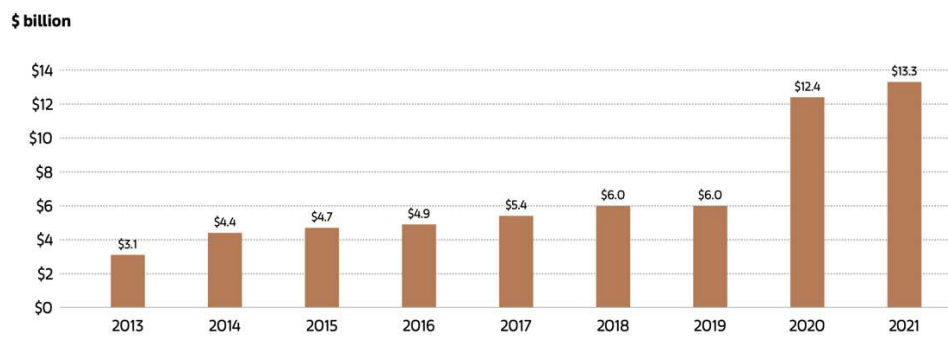
DECENTRALISATION

One of the challenges of NFT platforms in the art industry is the independence they provide for the artists compared with the traditional art market; it is important to recognise that this characteristic may represent a double-edged sword for the artists. While Ali, one of the interviewees, mentioned: “the NFT platforms became interesting to me because I was able to sell my art without a third-party merchant, labels, or even galleries.” Another interviewee, Sina, believed that: “the most challenging aspect of entering the NFT market was promoting my artwork since there was no dealer to do the selling responsibility”. From the perspective of our interviewees, NFT platforms offer independence to the artist at the cost of an increased effort for marketing and networking.

ECONOMIC BEHAVIOR IN THE ONLINE ART MARKET

The whole process regarding the growth of digital art and the use of NFTs is based on the development and growth of the online art market; it is a fundamental infrastructure of this process. As shown in *Table 4*, online art sales experienced a dramatic increase over the last two years (2020 and 2021).

ONLINE ART SALES FROM 2013-2021



© Arts Economics (2022)

Table. 4

As *Table 4* illustrates, despite the substantial contraction in sales overall in 2020 due to the COVID-19 pandemic, online art sales reached their highest-ever record level of \$12.4 billion in 2020, doubling from 2019. This increase is because since business events were restricted

from operating, online communication and sales became critical for many companies to survive. It has been observed that galleries and auction houses are escalating their investments in digital sales and marketing. In addition, collectors are increasingly using the Internet as a part of their everyday lives. Furthermore, the art market has expanded its range of digital options for sales thanks to the online viewing rooms of art fairs and various third-party platforms (The Art Market 2022).

SHARE OF ONLINE SALES IN ART MARKET VS GENERAL RETAIL 2016-2021

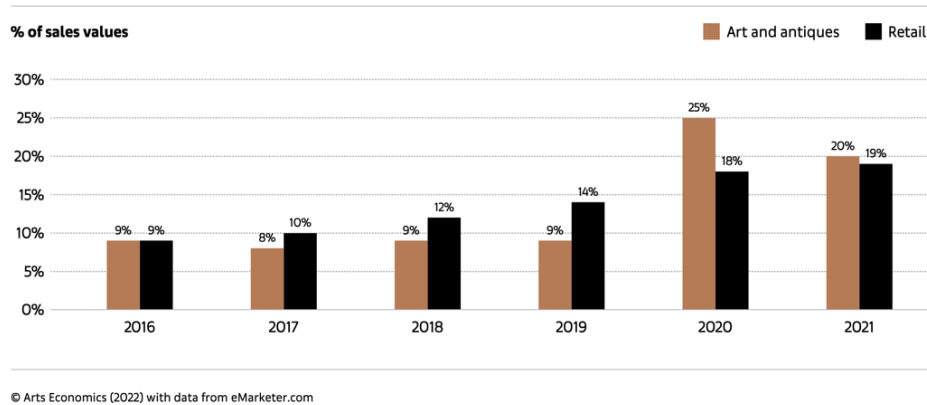


Table. 5

By analysing the information in *Table 5*, which illustrates the share of online sales in the art market between 2016 and 2021, it can be deduced how deeply the COVID-19 restriction affected online sales growth in the art market. As can be seen, since 2016, the general retail market has experienced a steady increase in the share of online sales. It is a notable phenomenon for 2020 that the percentage of e-commerce in the art market exceeds the overall global retail market share. However, before 2020, the art market has not experienced significant growth in the percentage of online sales.

Even though in 2021, the online sales share for the art market decreased by 5%, the huge amount of growth in 2020 was enough for most of the businesses in the art market to invest more in their online presence and e-commerce functionality. In 2021, online sales represented 20% of the total sales in the art market, a decrease of 5% year-over-year; however, this is still more than double the level of 2019 (The Art Market 2022).

In general, it is known that by increasing the market share, the cash flow and financial transactions increase, which, in turn, encourages those artists who have not yet entered the field to do so.

NFT MARKET SHARE AND REVENUE

The growth of online sales in the art industry coincided with the boom of NFTs; it is a false interpretation that this market considerably impacts the online art market share.

Art dealers and auction houses generally agreed that NFTs have contributed to increasing interest in art and collectables among a wide range of collectors; however, their popularity has only had a limited impact on these businesses regarding sales value.

However, the top-tier auction houses, Sotheby's and Christie's sold \$230 million in NFTs in 2021 against gross revenues of over \$14 billion, which generated only 1.64% of the payments; the growth of platforms that sell NFTs independently of the traditional art market contributed significantly to sales in 2021 by establishing active primary and secondary markets outside the formal framework of the art market (The Art Market 2022).

According to NFT market data from Nonfungible.com, the NFT market has experienced rapid growth in the last two years, with a tremendous increase in value in 2021. Multiple collectable categories are offered on NFT platforms, including art, sports, music, and entertainment collectables, as well as a wide range of digital items available in-game and in-world.

Table 6 illustrates the share of the value of art and collectables in all NFT sales 2019-2021. The art-based NFTs have been seen to make up just 2% of the total value of all NFT sales in 2019, with collectables making up 16% of all NFT sales. Despite this, by increasing the popularity of NFTs and awareness of the new market among the artists in 2020, art-based NFTs had a higher market share (24%) than collectables (12%).

By the end of 2021, art and collectables constituted 63% of annual NFT sales, but again art represented the smaller component (14%) of sales.

SHARE OF VALUE OF ART AND COLLECTABLE IN ALL NFT SALES 2019-2021

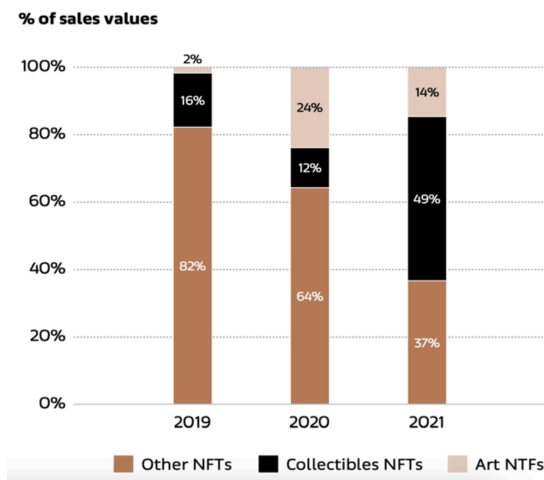


Table. 7

SALES OF ART AND COLLECTABLE NFTs 2019-2021

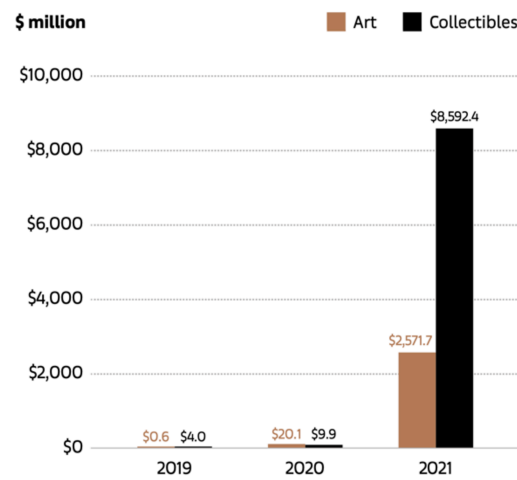


Table. 7

Table 7 illustrates the sales of art and collectable NFTs between 2019 and 2021, the sales of collectable and art NFTs have increased from \$4.6 million to \$11.1 billion in aggregate between 2019 and 2021. These are the sales registered in the NFT platform and marketplaces on the Ethereum, Flow, and Ronin blockchains, not in the formal art market sales. What can be understood from these data is that one of the main reasons behind the NFTs trend is the huge profits it brings to its investors, from the collectable NFTs like CryptoPunk to the first tweet ever minted as an NFT. The direction of collectable NFTs and the presence of investors generate cash flow in the market, which helps the development and maturity of this market. Alongside this, the art segment could find its place in the market and increase its market share.

PRIMARY AND SECONDARY SALES ON THE NFT MARKETPLACE

Without exception, all the interviewees in this research agreed that one of the benefits they gain through using NFTs is the secondary sales royalty they receive; in the traditional art market, when artists sell their work of art in the primary market after that, they have no control over the deals on their work of art on the secondary market. As a result, artists, as art creators, cannot benefit from the added value of their work. As discussed in chapter two, all the transactions and sales of an NFT are recorded on the blockchain. By any resale of the artwork minted as an NFT on the secondary market, the creator of the NFT receives royalty, a percentage of the sales price.

Because of affordable entry prices of NFTs, rising resale values over time, and the instant functionality of SMART contracts, the resale market has thrived, with speculators trading in and out of NFTs at a much faster pace than could be done in the traditional secondary art market.

SHARE OF PRIMARY VS SECONDARY SALES OF ART NFTs 2019-2021

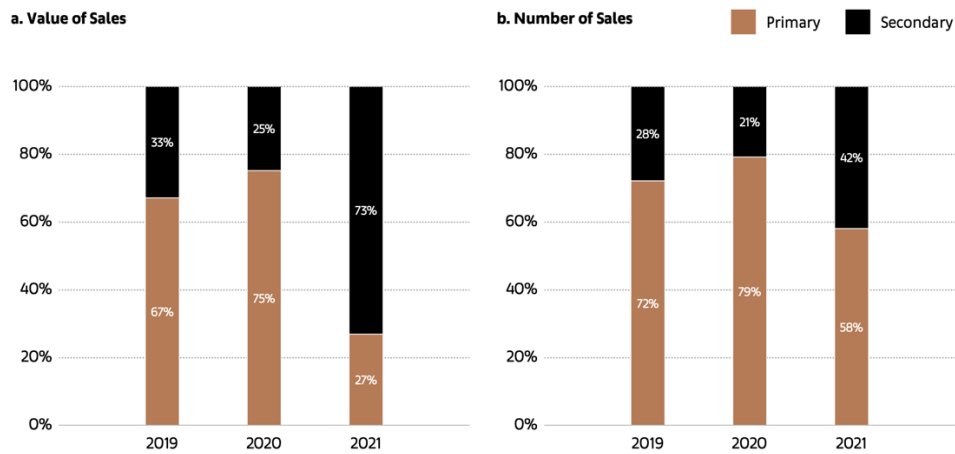


Table. 8

As the share of primary and secondary sales of NFTs between 2019 and 2021 is illustrated in Table 8, in 2019 and 2020, the bulk of the NFTs was related to prior sales, respectively 65% and 75% and the secondary market formed a smaller share of the market, 33% in 2019 and 25% in 2020. A dramatic shift occurred in the context of the primary and secondary sides of the market in 2021, concentrating the value on the secondary market. Trade-in art-related NFTs in 2021 were dominated by resales in the secondary market, which accounted for 73% of the total value, while primary sales accounted for 27% of the total value.

Nonfungible.com reports that the average time between purchase and resale of NFTs is just 48 days, and for art NFTs, the average time is even shorter at 33 days. That is why these highly liquid and continuously trading marketplaces attracted buyers to buy and resell in a short time for financial return. The point of increasing the reselling transaction in the NFTs secondary market is that alongside the dealers and investors, the artists also receive a share of this turnover.

NFT VS TRADITIONAL ART IN TERMS OF VALUE

NFT art, which stands for Non-Fungible Token Art, has proven to be an incredibly popular way for modern artists to earn fame online, not to mention the opportunity for them to earn crypto. However, the rise of NFT art has sparked a debate. Do NFTs qualify as art? In what ways are they similar to the classic art world?

The most expensive NFT ever sold was for \$69.3 million at Christie's in 2021 (The New York Times, 2021). This item consists of a collage of digital images created by Beeple. In contrast, the most expensive piece of art ever sold was *Salvatore Mundi* by Leonardo da Vinci (BBC Culture, 2021). The piece is believed to have been painted around 1500 and was sold for \$450.3 million in 2017 (Leonardo Da Vinci (1452-1519)). Paintings such as this are considered masterpieces of Renaissance art. There are no paintings like them, and the work is inimitable. Artwork's value, whether it is traditional artwork such as a painting or digital artwork such as an NFT, is influenced by several factors, including the reputation of the artist, the scarcity of the work, the subject matter or style, provenance, and the technique/technology used.

Generally, both sides of the art collector debate whether their particular camp is better, safer, and more trustworthy than the other. The truth is that they are not the same and probably never will be. In this context, the question arises as to which of the two options will be preferred by art collectors under similar circumstances.

The artist Damien Hirst announced in 2021 that he planned to challenge the concept of value through money and art, challenging buyers to decide whether to own the physical artwork or the digital token connected with it (Artnet News, 2022).

Hirst's project consists of 10,000 unique NFTs associated with corresponding artworks made by the artist in 2016. As part of Hirst's announcement, he asked his collectors to decide between the physical and digital versions of his artwork within one year, thereby asking them, in effect, to choose which would have a more lasting value.

The project experienced huge success since it started in the boom of NFTs. Only one month after the project began, 2,036 sales of "The Currency" generated a staggering \$47 million in revenue. Despite this, "The Currency" languished for the remaining 11 months, with both floor prices and trading volume decreasing steadily. During the spring of 2021, the cryptocurrency

market reached the end of its upward trend, and after that, the market entered a downward trend, known as "crypto winter". As a result of a prolonged downturn, the OpenSea platform laid off 20% of its staff by July 2022 (Artnet News, 2022). And this trend caused a dramatic reduction in the sales of "The Currency" project.

As the deadline approached, owners of "The Currency" discussed the merits of both physical print and NFT versions on social media. From one side, NFT holders could sell their NFTs much faster and easier than physical prints and keep the excitement of the project going at the cost of accepting the high risk of the crypto and NFT market. As well, choosing physical prints had some advantages, including better-looking artwork and safe storage of wealth that is likely to increase in value over time. Eventually, the majority of 5,149 chose a physical print.

As discussed earlier, the characteristics which affect the value of an art piece more or less are similar in digital and traditional arts. However, according to Hirst's experiment, the majority of participants of the "The Currency" project, in the same circumstances, decided to receive the physical version of the work in exchange for its NFT (5,149 physicals and 4,851 NFTs). In spite of the fact that the outcome of this experiment demonstrates that the NFT market still needs to develop in order to be competitive with the traditional art market, Hirst himself remains committed to the NFT market. According to Twitter, 1,000 of the remaining NFTs of "The Currency" project belong to him personally. His intention was to demonstrate his full support and confidence in the NFT industry by keeping them.

SCEPTICISM AND CRITICISM OF NFT

Even if non-Fungible tokens caused a huge advance in the digital art industry and made a reliable source of income for digital creators, there is some scepticism about the NFTs since it is a new digital concept. While these digital objects share common features with traditional works of art, like difficulty with evaluation, they still, in many cases, do not match the infrastructure rules on which the traditional art world is based.

One of the difficulties with NFTs is their appraising. According to (Arts Economics), in July 2021, NFT collector and museum trustee Eduardo Burillo tried to donate CryptoPunk #5293 to the Institute of Contemporary Art, Miami. The museum initially could not accept the

donation due to the difficulty of appraising the work. The museum couldn't accept donations without insurance, and the donor had to provide an IRS valuation for the NFT to be insured. Another problem with the lack of appraisal standards for NFTs, which is criticised especially by governments, is the complication of tax purposes.

NFTs as new digital objects in their structure need improvement and development to mature. This process should take time to try new features and eliminate limitations based on user experiences. Regarding the valuation of the NFTs, Caroline Taylor of Appraisal Bureau, Burillo's art advisor, has disclosed that she is developing a proprietary platform for valuing the NFTs generally accepted by Lloyds of London and other insurers (Arts Economics). Furthermore, taxation limitations and money laundering concerns would be resolved under centralised governance if the interests continue in this segment and the market continues to grow, likely to occur in the next few years based on the evidence available.

CONCLUSION

Digitalisation is the inevitable truth of today's world; this process occurs in all segments and industries, and the art industry is no exception. All the artists who participated in this research agreed on one thing, which is the development of the Internet and digital technologies like blockchain. Following that, the emergence of the NFTs caused them to be the artists they are now.

There are several reasons which encourage artists to enter the NFT market. At the top is easy to access to the global market for all the artists. With NFT platforms, independent artists with limited resources can exhibit their works of art in front of many audiences worldwide. This worldwide accessibility provided through NFTs is highlighted as the most important feature because it helped the artists from developing countries like Iran to present their art regardless of restrictions and sanctions, which limited their presence in the global market.

Another benefit that artists may gain from selling their works of art as NFTs is the possibility of receiving royalty payments. In the traditional art market, the artists cannot benefit from the resale of their work in the secondary market. By minting an artwork as an NFT, the creators can determine the percentage they will receive as royalty on each subsequent sale of their work.

The NFT market has great potential and is very attractive; however, it is important to keep in mind that both the technology and the market are still relatively immature. Developers of this technology require time to resolve the bugs and identify solutions to address the criticisms. Regardless of how attractive and beneficial this market is for artists, the presence of the audience of artists and the public interest in this area gives it credibility. The public becomes interested in this field when leading companies enter this industry, like Meta, which on 10th May 2022, announced they start supporting creators and collectors in showcasing their NFTs on Instagram (Introducing Digital Collectibles, 2022.).

Now in August 2022, when Instagram started supporting NFTs in more than 100 countries, it can be expected that awareness and interest in the field of NFTs will increase among the users of Meta platforms, alongside the rising trend in the share of the online art and NFT markets it can be conducted that shortly by removing obstacles for the artists and increase the awareness and technical knowledge about NFTs, it can be one of the main trends in the art market.

CHAPTER 5 - CONCLUSION

RESEARCH AIM

In general, achieving and implementing innovation is risky and expensive, especially in the art industry. As a result of technological advancements and Internet development, other sectors have incorporated these technologies into their structures over the past few years. The story of digital gadgets alongside the widespread use of the Internet caused the emergence of digital art. As interest in digital art has increased among the younger generation of artists, a lack of infrastructure for supporting digital artists has become apparent.

During the last 20 years, there have been some of the greatest technological advances in history, and the blockchain has the potential to become the next major advancement in technology alongside web 3.0. The emergence of Non-Fungible Tokens as a subset of blockchain technology revolutionised digital art. For the first time, a digital work of art, *Everydays: The First 5000 Days*, minted as an NFT, was sold for \$69 million at Christie's in 2021. After that sale, many digital artists noticed the existence of this new market and found it interesting to enter. This study aimed to analyse the use of Non-Fungible Tokens as an innovative process in the art industry and identify the benefits of NFT platforms for independent artists and their limitations.

FINDINGS

In 2020 and 2021, NFTs and crypto art has grown into a new context with a significant market for artists to take advantage of. Artists can participate in this unique array of formats, which has developed into a dynamic space with several characteristics, including the flexibility to trade assets anywhere, and in a high volume. Non-Fungible Token Platforms provide advantages to encourage artists to work on these platforms. It was noted that access to the global market, royalty receipts, and the existence of artists' communities were three of the main advantages mentioned by the artists interviewed in this research. It is also important to note that, as with any other platform or technology, NFT platforms are not without limitations and drawbacks in addition to their benefits. At the time of this research, gas fees, scams and fraud

represented the main problems associated with using NFT platforms, according to the perspective of our sample population.

As a result of sales and circulation trends in these dynamic zones, ad hoc communities have developed as project discussion forums on platforms such as Twitter and Discord and as new forms of quasi-institutional collecting and canon-building conglomerates. This environment has prompted many actors from the legacy art world and creators to produce many innovative and, sometimes, highly profitable artistic projects, resulting in new hierarchies of attention and metrics for success.

NFT platforms have opened up new opportunities for artists to receive resale royalties. In markets with frequent trading, speculation, and escalating prices, artists benefit from this royalty, especially when there is no standardised and agreed-upon valuation for works. With the advent of automated royalties, artists may gain new funding avenues, establish new methods of introducing their artworks into the market and the broader arts ecosystem, and gain new forms of power.

NFTs also present potentially significant changes to the art market itself. Artists who previously could not expose their art to international audiences can now publish their artworks to the marketplace without geographical restriction and vetting by traditional critics or curators. They are typically sold directly by artists to collectors via NFT platforms.

It is important to remember that NFT platforms may present a double-edged sword for artists due to the level of independence they provide compared to the traditional art market. While in the conventional art market, the artists were responsible for art creation and the promotion of the artist and selling the artwork, and organising exhibitions was the responsibility of the dealers, in the NFT market, the dealers are excluded from the chain; therefore, the artists are now responsible for their creation and promotion on the NFT market.

The highest-ever record of online art sales in 2021 with the amount of \$13.3 billion, with respectively 25% and 20% shares of the whole art sale in 2020 and 2021, shows that the audience of the art market is getting involved with the online market, especially after Covid-19 that the world experienced a huge development in online infrastructures. As online sales in the art industry have grown in recent years, it has coincided with the boom of NFTs; however, it is incorrect to assert that NFTs have a considerable effect on online art sales since Sotheby's

and Christie's sold only 1.64% of their gross revenues in NFTs in 2021 against gross revenues of over \$14 billion. Still, auction houses and dealers generally agreed that NFTs have contributed to an increase in the interest of collectors in art and collectables.

FUTURE OF THE MARKET

Digitalisation and getting online are inevitable processes in today's human life, and art is no exception. With the development of web 3.0 and platforms like Metaverse, human beings are increasingly involved with virtual spaces. Blockchain technology is one of the infrastructures experts use to develop solutions for possible problems in this digitalisation process. Among the outcomes of blockchain technology is the Non-Fungible Token, which has applications in the art industry. The NFT market has already attracted attention to an acceptable extent thanks to the boom of million-dollar sales and the interests of digital artists. Moreover, the recent announcement of Instagram that started supporting NFTs and adding a feature to trade NFT through Instagram has emphasised how much the leading companies are interested in entering this field.

Even though NFTs may appear to be a relatively new concept, their trajectory follows a long lineage from earlier efforts of art markets to create tradable forms around art. Considering that digital works are not singular and exist in an infinite number of identical copies, NFTs have the potential to transform the ecosystem of digital images by establishing an aura of ownership and, in turn, the digital provenance of artworks.

Accepting that the NFT technology is still in the first years of its development and there are some limitations and bugs that need to be fixed, it still is interesting to enter and has a bright future. Alongside the benefits it guarantees for the artists, including royalty receipts and, more importantly, the opportunity it provides for artists worldwide to access the global market, the development of virtual spaces like Metaverse increases the importance of digital properties' security. NFTs are among those platforms which can address this issue. With the increase in NFT usage and support of digital companies such as Meta and its subset Instagram, the investors' interest in trading and investing in this field will increase, a hypothesis supported by the growth rate of interest of investors in the last three years.

RECOMMENDATIONS

Our discussion so far has focused on the benefits and limitations of working on the NFT platforms from the artists' perspective. Furthermore, the market prospects were analysed statistically and fundamentally. In light of the findings of this study, it is suggested that artists enter the NFT market since the entry costs are negligible compared to the benefits they can expect. Although Non-Fungible Tokens are extremely easy to use and access, understanding their functionality requires a high level of technical expertise. Some artists may find it challenging to come up with such an idea, especially those who wish to enter this field from the traditional art market.

To fill the lack of knowledge and provide an infrastructure to support the artists, art organisations can intervene to take the lead and identify talented artists and educate them on how they can use NFT platforms and promote themselves. Art organisations have the opportunity to become leaders in this digital market by launching platforms to create new economies for digital artists by holding exhibitions and auctions, connecting digital creators to traditional collectors, and trying to attract the attention of global brands to the potential of this market.

As part of this thesis project, I discussed the emergence of Non-Fungible Tokens as a platform for digital artists, as well as the benefits the artists gained and the challenges they encountered. Considering that the Non-Fungible Token is an emerging phenomenon, there are still several gaps from a legal and organizational perspective that need to be addressed in future research. The rise of interest in the NFT platforms provides opportunities for businesses to expand the scope of their work in the digital space. Nevertheless, there is a growing amount of scepticism regarding the limitations of digital property law, such as dealing with existing legal frameworks, virtual property rights, valuation of artworks, etc.

APPENDIX

INTERVIEWS

Jakk Vega

1. Can you tell me about your background and what lead you down the path to becoming an artist and ultimately experimenting with NFTs?

I've always been an artist and did illustration and graffiti art since a very young age. Art and general creativity are a big part of my personality and interests. Like most people, I read an article about NFTs online and the success people had in selling their artwork; I thought my Art was good enough to try this out.

2. How did you come up with your specific style?

Years and years of evolution. Every time I create a new piece, it combines old traditions and trials; whenever I venture down a new path and do it long enough, it gets embedded into my overall style. Other things like common motifs I draw are things I feel are part of my psyche and manifest themselves quite frequently. Eventually, they surface and get embedded into my style as well. I am heavily drawn to geometric shapes, bright colours, clean, bold lines, and faces.

3. What made you pursue NFT Art?

I can be creative on my own time and make a living doing it. Art is a huge part of my soul, and I am more at ease doing it than anything else. The possibility of being successful in the thing I love is alluring.

4. When did you mint your first NFT? What platform did you choose and why?

The first mint was in late January 2022 on FND. I chose FND because it felt more exclusive and the quality of my work felt better displayed there, e.g., worked best for my branding.

5. If you could add or eliminate some features in NFT platforms, what were they?

Eliminate gas fees. It costs a crypto fee (gas) to list on certain marketplaces. I love that on OpenSea, you can "lazy mint", which means you can post without gas fees, but I want more

marketplaces to do this and make it easier to list Art without all the high costs of recording NFTs on the blockchain.

6. What obstacles did you face as an artist in the NFT market, and what advantages did you gain?

The NFT space was much more cutthroat than I expected, and I was very happy to be among other artists and share Art and support their work long, even before I started sharing my own. The thing that caught me off guard was just the sheer number of opportunists and narcissists, people who pretend to be your friend then discard you or stab you in the back when it best serves them. I wanted to be part of the tribe, and by and large, I was either ignored or taken advantage of, so its "community" aspect has been a huge miss.

7. How do you describe the impact of the Internet, and digital technologies, specifically NFTs, on your career? Where would you be if there was no Internet and Blockchain technology?

I've never known a career without the Internet, so it's hard to say anything beyond speculation. Blockchain as a technology has done nothing for me other than providing a place to create an immutable record, which is the mechanism that delivers value through the rarity of unique Art.

8. Where can collectors find your work? Is there any specific reason to choose this platform?

My two big recent collections, Abstractikka and Mythos, are on OpenSea and Foundation, respectively. No particular reason for selecting these platforms other than this is where the collectors are.

<https://foundation.app/collection/mythoz>

<https://opensea.io/collection/abstractikka>

Paragone from Celestial Productions

1. Can you tell me about your background and what lead you down the path to becoming an artist and ultimately experimenting with NFTs?

My two main passions have always been music and Art. I have loved hip-hop music since I was young, and when I had the opportunity, I could purchase an MPC2k, which was back in 1998. That's where it all began. I started producing music and getting together with some of my people, and we would record songs regularly. Eventually, we wanted to put singles and albums out, but we didn't have any artwork for them. That's when I got more into graphics and learning about design and colour principles and what goes with what doesn't belong together. After a while, I started getting the hangout using these applications like photoshop, and I was able to create our album covers, flyers, posters, and business cards. I always found myself online, trying to meet new people, make music connections, etc.

2. How did you come up with your specific style?

I have always been a fan of the horror genre and anything to do with mystical beings, animals, monsters and aliens. Anything that we can't explain or understand. What piques my interest the most is the fear of the unknown and the fear of not understanding how and why. Even when I created my music, it was always dark, grimy, and eerie! Whether chained being dragged on the floor or rain and thunder as some atmospheric soundscape, my music always sounded dark and horrific.

3. What made you pursue NFT Art?

Well, we always have new emerging technology, and around the late 90s and early 2000s, it was the Internet. Look at how far we've come in 20 years. The emerging technology is upon us now: Crypto, Defi, online gaming & NFTs. This is an amazing time to be alive and part of this culture and help build it and guide it towards the right path. In the same way, I was early for the Internet and made all these great connections which helped build my name and brand. I have to make sure I'm there for crypto and NFTs. So many people in this space are trying to make something big happen, and I want to be a part of this new technology! Plus, we're so early. Imagine when the rest of the 90 to 95% of the masses start using crypto, defi (decentralised finance) and NFTs.

4. When did you mint your first NFT? What platform did you choose and why?

That's what's so great about this technology. I just went on etherscan.io and looked up the exact date I minted my first NFT, which was Oct-12-2020 on Rarible.

I choose Rarible because back then, it seemed like they had a unique artist selling 1 of 1's or a small amount of each piece. OpenSea was more for big collections platforms, but now all that has changed, and so many new NFT platforms are popping up almost daily.

5. If you could add or eliminate some features in NFT platforms, what were they?

I would create a better verification system, so it would be harder for these fake spam accounts to get on these platforms and start dropping random artwork on users' wallets. I would also have some verification process for all images, so these accounts can't post paintings stolen from other artists and then try to sell them as if they were their artwork.

6. What obstacles did you face as an artist in the NFT market, and what advantages did you gain?

The main obstacle is first learning and understanding the technology and then how to promote it and get it in front of the masses. The advantages I've gained are the community and the great people I have met in this space. Most artists on here not only want to sell their artwork, but they want to help others sell their artwork also and will help you promote your stuff as much as they can.

7. How do you describe the impact of the Internet, and digital technologies, specifically NFTs, on your career? Where would you be if there was no Internet and Blockchain technology?

I've been using computers for more than half my life; computers and the Internet are a major part of who I am and how I've grown to be the person I am now. I can't even imagine a world without the Internet or all the technology we currently have. It would probably feel like we never made any major advancement, and we were stuck in the 1980s or some crazy sci-fi movie like that.

8. Where can collectors find your work? Is there any specific reason to choose this platform?

Well, you could always visit my company website <https://celestialproductions.com> which is where you'll find all the latest information about what I'm doing and what new artwork I've recently dropped.

And you could also find my artwork on

<https://opensea.io/Paragone>

<https://rarible.com/paragone>

<https://foundation.app/@paragone><https://knownorigin.io/paragone>

Nabi Sarvi

1. Can you tell me about your background and what lead you down the path to becoming an artist and ultimately experimenting with NFTs?

I have been working in Architecture Visualisation for about 12 years. In 2018, I got acquainted with the blockchain space, and in 2020, I felt that my understanding of blockchain and my software skills could lead to the creation of NFT. But I didn't have an idea to implement it until I came up with an idea for Dogecoin.

2. How did you come up with your specific style?

Working on animation ideas was time-consuming and did not have a general audience. That's why I decided to render still images. I tested several concepts, but the feedback I received was that it looked like something. Finally, I remembered the style line I was working on several years ago. Its combination with the colourful logos of the crypto world gave results that attracted much attention, and I continued that style.

3. What made you pursue NFT Art?

All my works are related to cryptography. I like this technology and create jobs for it. And NFTs are a new part of this technology which seems interesting; I hope that with the market's growth, I will be able to continue my work on these platforms.

4. When did you mint your first NFT? What platform did you choose and why?

It was in 2021, after the sale of an NFT from the artist Beeple for \$69 million and the boom of the NFTs, that I decided to enter this market. I chose the OpenSea platform to publish my work because it was easier to mint an artwork for the first time.

5. If you could add or eliminate some features in NFT platforms, what were they?

I would probably implement the mint tool and prepare metadata with the network. In this way, buyers' confidence in the smart contract increased - the artists are not so familiar with the smart contract developer or the online tool that makes the smart contract. The idea of multi-chain NFTs also seems interesting to develop.

6. What obstacles did you face as an artist in the NFT market, and what advantages did you gain?

In the NFT market, because of the income that I thought was going on, I rejected some attractive offers from Architecture Visualization projects, and it hit me. On the other hand, because I got to know the space more, it made me have some proposals for cooperation in NFT and Metaverse platforms, and in a way, my work path became more blockchain-based.

7. How do you describe the impact of the Internet, and digital technologies, specifically NFTs, on your career? Where would you be if there was no Internet and Blockchain technology?

Shortly, with the development of virtual spaces like the Metaverse in the new internet era, new technologies like NFTs get new functionality and will be more understandable. In a simple example, people will pay to buy an avatar instead of a picture of themselves for their virtual accounts which will be an NFT. For sure, without the Internet, the form of our lives was completely different, but at this moment, blockchain technology did not much in my career. Maybe in future, it will become something like the Internet.

8. Where can collectors find your work? Is there any specific reason to choose this platform?

Currently, I am checking different markets and networks to transfer my collection. Because OpenSea is now starting to ban Iranian users due to sanctions. On the other hand, having a dedicated smart contract is necessary for an artist, something I did not know at the beginning of my career.

AliLand

1. Can you tell me about your background and what lead you down the path to becoming an artist and ultimately experimenting with NFTs?

I've been into the Art of painting and illustration since childhood and have improved my skills through the years. In 2013, in my early twenties, I took an art career as a serious decision for myself; to become an illustrator and develop my style, I studied many different approaches and techniques. By 2018, I was informed about platforms on which I could sell my Art without third-party merchants, labels, or even galleries, so I became curious and learned about Non-Fungible Tokens and marketplaces, which provided an ambient for various artists to promote and sell their artworks. Nowadays, I'm creating four types of collections with different roadmaps to have a part in these marketplaces.

2. How did you come up with your specific style?

Monochrome and line works were always my points of interest. Studying Albertch Durer and Gustave Dore's art styles led me to create lines and values with modernity to visualise tales I wished to illustrate.

3. What made you pursue NFT Art?

The main reason for me to be an active member in this community was the chance to learn from other great Creators and promote my artworks in the art community.

4. When did you mint your first NFT? What platform did you choose and why?

November 15th 2021, was the date when I minted my first artworks on the Kin-NFT marketplace that one of my friends introduced to me. I chose to mint on this platform because I was the first artist on that platform who minted an art piece.

5. If you could add or eliminate some features in NFT platforms, what were they?

Due to my lack of professional and technical knowledge, I cannot asseverate that I am in such a position to add or eliminate a feature for this platform. Despite any professional claims, I think there should be a ranking system in active marketplaces for all artists to define the type or art styles they create so it'd be easier for collectors and artists to connect.

6. What obstacles did you face as an artist in the NFT market, and what advantages did you gain?

I'd rather replace the word obstacle with "challenges" because, throughout time, marketplaces have developed and improved various abilities for any artist who tries to be a part of this community. And suppose I want to mention advantages or experiences which I earned in this field. In that case, I'd say that the challenge to promote myself and my Art became so aggressive and active that I had to become more aware of any new features or try to communicate with more people. The fruit of all these activities gave me a great circle of experienced and talented friends in different fields of action, which I'm so grateful for.

7. How do you describe the impact of the Internet, and digital technologies, specifically NFTs, on your career? Where would you be if there was no Internet and Blockchain technology?

History always showed us that those who ride with the flow of improvisation and create and believe in their creation has the chance to become pioneers of something brilliant and practical, somehow to express and learn the unknown. I'd say the Internet has greatly impacted my Studies and reduced the periods of my learning. On the other hand, Blockchain technologies taught me how to develop myself to be a one-person band in the creation and merchandising fields and allowed me to meet many great people.

8. Where can collectors find your work? Is there any specific reason to choose this platform?

My plans to mint my different collections are versatile, so I think I need to mint various groups on other marketplaces, such as SuperRare, Foundation, Solanart and OpenSea. The artworks and exhibitions I'm working on require different platforms to be presented. For example, I'd mint my artistic pieces on SuperRare because this platform provides a creative market for collectors to explore.

Sina Bozorgvar

1. Can you tell me about your background and what lead you down the path to becoming an artist and ultimately experimenting with NFTs?

I started to learn graphic design in 2008 when I was nine years old; I started this journey by learning Photoshop to be able to design a logo and poster for my weblog at that time. Since I was self-taught, It took a long time for my work to reach an acceptable level. It was in 2014 that I started to share my work for the first time on Instagram, and since then, I have started to work on my collections. It was on March 30th, 2021, that, for the first time, I created a wallet to start working on NFT platforms after Beeple sold a work of Art as an NFT for \$69 million. And I think I was from the first generation of Iranian artists who entered this market. I minted my first work for 0.5 Ethereum, then I reduced the price to 0.3 Ethereum and two days later, my work sold. In 5 days, I sold two other NFTs, and it was very exciting for me, and it encouraged me to put my focus on this market.

2. How did you come up with your specific style?

I believe the style is determined by the tools available to the artist, the amount of time they consume, and the artist's taste in Art. During these years, my path has shaped the DNA of my work. From the time I used to design in 2D until today when I create in 3D, the format changed, but my jobs' DNA is similar.

3. What made you pursue NFT Art?

All physical versions of the collection I had prepared for my solo exhibition in Mashhad, Iran, in 2019 have been sold. When I got to know the NFT space, I decided to share the NFT version of my collection on this platform. I have 15 pieces in my physical collection, and I have designed three additional pieces for my NFT collection. And at the end, I sold all the 18 pieces as an NFT in one year.

4. When did you mint your first NFT? What platform did you choose and why?

On March 30th, 2021, I minted my first NFT and chose the Foundation platform. Based on my research, the Foundation website was one of the most reliable platforms because more expensive works were sold there, it wasn't easy to enter, and high-level artists were present. I

remember I got my invitation to the platform from a German artist, and there was no Iranian artist there then.

5. If you could add or eliminate some features in NFT platforms, what were they?

The collectors can burn the artwork they purchase on the NFT platforms, one of the features I disagree with. The NFT platforms should introduce some filters and limitations to prevent random individuals from minting the work of other artists; I have experienced this myself.

6. What obstacles did you face as an artist in the NFT market, and what advantages did you gain?

The most challenging aspect of entering this market was promoting my artwork when I came from the traditional art market. My connection with collectors and galleries was established in the conventional art market, and dealers were responsible for selling my artwork. While on the NFT platforms, it was the artists' responsibility to connect with collectors and promote their Art, which was a difficult job. Among the large advantages of this platform is that digital Art requires this kind of platform to grow, a platform that protects the artists' rights and allows them to expose their work to a wider audience.

7. How do you describe the impact of the Internet, and digital technologies, specifically NFTs, on your career? Where would you be if there was no Internet and Blockchain technology?

Without the Internet and blockchain, which provide the infrastructure for the NFT market, I would not have been able to make such progress in my career. A year ago, I did not have access to the appropriate tools and gadgets for creating digital Art. The emergence of NFTs enabled me to earn money to develop my work; without blockchain and NFTs probably, I was still busy with physical art galleries. The Internet is without a doubt the primary infrastructure for the digital world, as well as the digital Art we have today.

8. Where can collectors find your work? Is there any specific reason to choose this platform?

My NFTs are available on the Foundation website for collectors, but for now, there is no available NFT to buy in the primary market. Still, there might be available in the secondary market. There is another market, Makersplace, where I recently registered for it, and my

registration was approved. As I mentioned earlier, the reason for choosing these platforms was the presence of high-level artists and the kind of artworks shared on this platform.

<https://foundation.app/@sinabozorgvar>

<https://makersplace.com/sinabozorgvar>

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