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ANALYSIS OF NON-FUNGIBLE TOKENS
IN ART LAW

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Analysis of Non-Fungible Tokens in Art Law
Sanat Hukukunda Nitelikli Fikri Tapuların Analizi

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ABBREVIATIONS

CJEU	:	Court of Justice of the European Union
DAO	:	Decentralized Autonomous Organization
DLT	:	Distributed Ledger Technology
DMCA	:	(United States of America) Digital Millennium Copyright Act
ECHR	:	European Court of Human Rights
ERC	:	Ethereum Request for Comment
FATF	:	Financial Action Task Force
FSC	:	(South Korea) Financial Services Commission
GS	:	Galatasaray
HMRC	:	(United Kingdom) His Majesty's Revenue and Customs
ICJ	:	International Court of Justice
ID	:	Identification
ILO	:	Initial Litigation Offering
IP	:	Intellectual Property
IPFS	:	Interplanetary File System
IPO	:	Initial Public Offering
IRS	:	(United States of America) Internal Revenue Service
JAMS	:	Judicial Arbitration and Mediation Services Incorporation
JPEG	:	Joint Photographic Experts Group
LLC	:	Limited Liability Company
MiCAR	:	(European Union) Regulation on Markets in Crypto assets
MiFID	:	(European Union) Markets in Financial Instruments Directive
NBA	:	(United States of America) National Basketball Association
NFT	:	Non-Fungible Token
PWC	:	Pricewaterhouse Coopers
SEC	:	(United States of America) Securities Exchange Commission

TRIPS	:	The Agreement on Trade-Related Aspects of International Property Right
UK	:	United Kingdom
UNESCO	:	United Nations Educational, Scientific and Cultural Organization
UNIDROIT	:	International Institute for the Unification of Private Law
URL	:	Uniform Resource Locator
USD	:	United States Dollar
VAT	:	Value Added Tax
VEGAP	:	Visual Entidad de Gestión de Artistas Plásticos
WIPO	:	World Intellectual Property Organization
WCR	:	WIPO Copyright Treaty

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ABSTRACT

The subject of this study includes the analysis of the effects of Non-Fungible Tokens (NFTs), which emerged as a product of blockchain technology and gained popularity especially since 2021, on art law.

In the first part of the study, the development of the art law and its subject matters are examined, followed by the definition, technological mechanisms, types, brief history, use cases, creation, trading, and the current market of Non-Fungible Tokens (NFTs).

In the second part of the study, the issues related to the legal definitions of Non-Fungible Tokens (NFTs), important points to beware for creating and trading Non-Fungible Tokens (NFTs) without violating the rights of any third party, along with selected much debated copyright law questions are discussed. Afterwards, the liability of the Non-Fungible Tokens (NFTs) markets and other intermediaries in the transactions related to Non-Fungible Tokens (NFTs), followed by Non-Fungible Tokens' (NFTs) effects on important issues of art law, such as ownership, authenticity, provenance, and artists are examined.

In the third and last chapter, general information on the regulation of Non-Fungible Tokens (NFTs) is provided, followed by the explanation of the interplay between Non-Fungible Tokens (NFTs) with dispute resolution and tax implications. Finally, skepticism and concerns regarding the Non-Fungible Tokens (NFTs) are mentioned.

Keywords: Non-Fungible Tokens (NFT), Art Law, Blockchain, Smart Contracts, Crypto Assets

ÖZET

Bu çalışma, blok zincir teknolojisinin bir ürünü olarak ortaya çıkan ve özellikle 2021'den itibaren giderek popülerlik kazanan Nitelikli Fikri Tapu (NFT)'ların sanat hukukundaki etkilerinin değerlendirilmesini içermektedir.

Çalışmanın ilk bölümünde, sanat hukukunun gelişimi ve odaklandığı konular incelenmiş, ardından Nitelikli Fikri Tapu (NFT)'ların tanımına, arka planındaki teknolojik mekanizmalara, çeşitlerine, kısa tarihçesine, kullanım alanlarına, oluşturulmasına ve alım satım gibi süreçlerine ilişkin bilgiler verilmiş, son olarak da mevcut Nitelikli Fikri Tapu (NFT) piyasası aktarılmıştır.

Çalışmanın ikinci bölümünde, Nitelikli Fikri Tapu (NFT)'ların hukuki tanımlamalarına ilişkin hususlar tartışılmış, Nitelikli Fikri Tapu (NFT) satın almanın ifade ettiği olgulara, Nitelikli Fikri Tapu (NFT)'ların herhangi bir üçüncü tarafın hakkını ihlal etmeden oluşturulması ve satılabilmesi için dikkat edilmesi gereken hususlara ve çokça tartışılan seçilmiş telif hukukuna ilişkin sorulara yer verilmiştir. Daha sonra, Nitelikli Fikri Tapu (NFT)'lara ilişkin işlemlerde Nitelikli Fikri Tapu (NFT) pazarları ve diğer aracılardan sorumluluğu tartışılmış, akabinde Nitelikli Fikri Tapu (NFT)'ların sanat hukukunda büyük önem teşkil eden sahiplik, otantiklik (*authenticity*), sanat eserinin geçmişi (*provenance*) ve sanatçıların üzerindeki etkileri incelenmiştir.

Üçüncü ve son bölümde ise, Nitelikli Fikri Tapu (NFT)'ların regülasyonuna ilişkin genel bilgiler verilmiş, Nitelikli Fikri Tapu (NFT)'lar ile uyumsuzluk çözümü ve vergi sonuçları arasındaki durum aktarılmıştır. Son olarak da Nitelikli Fikri Tapu (NFT)'lara ilişkin şüpheler ve endişelerden bahsedilmiştir.

Anahtar Kelimeler: Nitelikli Fikri Tapular (NFT), Sanat Hukuku, Blokzincir, Akıllı Sözleşmeler, Kripto Varlıklar

INTRODUCTION

We are very lucky to live in an age where best practices of art and science are fused to achieve the most creative and complex results.¹ Non-fungible tokens also emerged as one of the areas where art and technology intersect, and they have potential to have a disruptive effect² on many areas.

The interest in the non-fungible tokens has increased considerably since 2021, and much news about the non-fungible tokens themselves and the reasons why the interest for them is so high³ have appeared on the internet and in the press. Along with all this interest, the mysteries surrounding the non-fungible tokens, and the fact that non-fungible tokens are seen by many as a technological opportunity not to be missed have also contributed to the voluminous discussions and agenda about the non-fungible tokens. In that respect, where there is a lot of conceptual confusion and virtually hundreds of aspects to analyze, and to regulate, some comments go beyond the current state and potential of the non-fungible tokens. To put it humorously, if the non-fungible tokens had existed in Seneca's time, Seneca would probably had coined his famous phrase as "*Pompa NFTs magis terret, quam NFTs ipsa*".⁴ On the other hand, the existing questions need to be solved by considering both the technology behind the non-fungible tokens, how much they fit into existing legal regimes and regulations as a new technology, and what kind of regulatory steps must be taken for the non-fitting parts.

In this context, the first section of this study contains explanations about the development and definition of the term art law, which is used in purpose in the title

¹ Grau, Oliver, *Visual Art: From Illusion to Immersion*, The MIT Press, p.3.

² Huertas, Michael/ Hinkl, Aylin, "*Non-fungible tokens (NFTs)—new opportunities but do they need new EU regulations?*", *Journal of International Banking Law and Regulation*, 2022, Volume 37, Issue 4, p.132.

³ Okonkwo, Ifeanyi E., "*NFT, copyright and intellectual property commercialization*", *International Journal of Law and Information Technology*, 2021, Volume 29, Issue 4, p.299.

⁴ This Latin maxim "*Pompa mortis magis terret, quam mors ipsa*" is attributed to Seneca, which translates as "It is the accompaniments of death that are frightful rather than death itself" in English. See Bacon, Francis. *Essays, Civil and Moral*, Volume III, Part 1, The Harvard Classics, New York, P.F. Collier & Son, 1909–14; Bartleby.com, 2001. www.bartleby.com/3/1/.

of this study; followed by general definitions of non-fungible tokens, the technologies in their background, the creation and trade of non-fungible tokens and their current market.

The second section analyses the status that the non-fungible tokens bring to the art world as answers to some of the most-asked questions, which are the legal qualification of non-fungible tokens, the meaning of buying a non-fungible token and the importance of having the related rights for minting and selling non-fungible tokens. Then, the situation of the non-fungible tokens, in the face of some of the selected most important issues⁵ in art law, which are questions relating to copyright, ownership, authenticity, provenance and artist's rights are discussed. Questions within the scope of art law, such as questions relating to intellectual property rights, ownership and title, authenticity are already complex questions, and when there are new applications of newly developed technologies, such as non-fungible tokens, enter the picture, an extra layer of complexity is added.⁶ On the other hand, the non-fungible tokens may also contain solutions and answers for those questions.⁷

Lastly, in the third section, various regulatory issues and concerns surrounding the non-fungible tokens are included.

⁵ Von Schlenhenried, Ursula, "*Will NFTs Solve Some of the Age-Old Problems in Art Law?*" Science and Technology Law Review, 2022, Volume 25, Issue 1, p.113.

⁶ Von Schlenhenried, p.126.

⁷ Von Schlenhenried, p.110.

FIRST CHAPTER

DEFINITIONS AND OVERVIEW

1.1. ART LAW AS A FIELD OF LAW

The outlook from the hindsight of the current art market includes many international actors and complex relationships, surrounded by convoluted ethical and legal questions.⁸ That is why, it is not astonishing that the term “art law” has been used for some time to denote the interest in the interdisciplinary cluster of legal questions.⁹

Looking at the historical background, Stephen Weil explains that the emergence of interest for art law started around 1950s in the United States, and perhaps earlier in Europe.¹⁰ The 1954 Hague Convention on the Protection of Cultural Property in the Event of Armed Conflict made the term “cultural property”¹¹, a term to englobe artworks and cultural objects, an explicit subject of

⁸ Vadi, Valentina/ Schneider, Hildegard, *Art, Cultural Heritage and the Market: Legal and Ethical Issues*, Vadi, Valentina/ Schneider, Hildegard (Ed.), Art, Cultural Heritage and the Market: Ethical and Legal Issues, Springer, Heilderberg, 2014, p.2.

⁹ Weil, Stephen E., “*Introduction: Some Thoughts on “Art Law”*”, Dickinson Law Review, 1981, Volume 85, Issue 4, p.555.

¹⁰ Weil, p.556.

¹¹ UN Educational, Scientific and Cultural Organisation (UNESCO), Convention for the Protection of Cultural Property in the Event of Armed Conflict, 14 May 1954, <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Article.xsp?action=openDocument&documentId=8D9D50C4F877EB43C12563CD0051CA1A>, Article 1 defines the term “cultural property”, “*irrespective of origin or ownership [...] [as] (a) movable or immovable property of great importance to the cultural heritage of every people, such as monuments of architecture, art or history, whether religious or secular; archaeological sites; groups of buildings which, as a whole, are of historical or artistic interest; works of art; manuscripts, books and other objects of artistic, historical or archaeological interest; as well as scientific collections and important collections of books or archives or of reproductions of the property defined above; (b) buildings whose main and effective purpose is to preserve or exhibit the movable cultural property defined in sub-paragraph (a) such as museums, large libraries and depositories of archives, and refuges intended to shelter, in the event of armed conflict, the movable cultural property defined in subparagraph (a); (c) centres containing a large amount of cultural property as defined in sub-paragraphs (a) and (b), to be known as “centres containing monuments”.*”

law.¹² In the 1960s, both academic and legislative attention increased for the specific problems of the art world.¹³ Starting from the 1960s, pioneering scholarly editions were published by eminent scholars such as Scott Hodes, Leonard DuBoff, Franklin Feldman, Stephen Weil, James Fishman, John Henry Merryman, and these scholar works were enriched by further later cornerstone publications such as the famous two volume Art Law publications of Ralph Lerner and Judith Bresler.¹⁴ The term cultural property appeared again in 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership

¹² Gerstenblith, Patty, *Art, Cultural Heritage and the Law*, Carolina Academic Press, Third Edition, Durham, 2012, p.3.; Frigo, Manlino, “*Cultural Property v. Cultural Heritage: A “Battle of Concepts” in international Law?*”, *International Review of the Red Cross*, 2004, Volume 86, Issue 854, pp.367-378.

¹³ Weil, p.556.; Posner, Eric, “*The International Protection of Cultural Property: Some Skeptical Observations*”, *Chicago Journal of International Law*, 2007, Volume 8, Issue 1, p.214.; Frigo, pp.367-378.

¹⁴ Karlen, Peter H., “*The Deskbook of Art Law (Second Edition) Leonard D. DuBoff and Sally Holt Caplan Oceana Publications*”, *Hastings Communications and Entertainment Law Journal*, 1993, Volume 15, Issue 4, p.990.; Kleinknecht Gregor/ Warrington, Petra “*United Kingdom*”, Lawrence M. Kaye/ Spiegler, Howard N., (Ed.), *The Art Law Review*, Law Business Research Ltd., London, 2021, pp.313-345.

of Cultural Property¹⁵, then the 1999 Second Protocol to the 1954 Hague Convention.¹⁶

“Art Law” as a distinct subject at the university dates back to 1970s too, with Professors John Henry Merryman and Albert Elsen of Stanford University offering a graduate level course titled “Art and the Law”, which comprised legal and ethical questions related to art world, to both art history and law students.¹⁷ The course, which was offered as an elective in autumn 1972, focused more on the visual arts and dealt with a variety of questions, including but not limited to discussions about aesthetic values, their legal protection, artists’ moral rights and censorship in a comparative legal approach with particular analysis of Italian, German and French laws.¹⁸

¹⁵ UN Educational, Scientific and Cultural Organisation (UNESCO), Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property, No. 11806, 823 U.N.T.S. 231, 14 November 1970, <https://www.unesco.org/en/legal-affairs/convention-means-prohibiting-and-preventing-illicit-import-export-and-transfer-ownership-cultural>. Article 1 defines the term cultural property as: “*For the purposes of this Convention, the term "cultural property" means property which, on religious or secular grounds, is specifically designated by each State as being of importance for archaeology, prehistory, history, literature, art or science and which belongs to the following categories: a. Rare collections and specimens of fauna, flora, minerals and anatomy, and objects of palaeontological interest; b. Property relating to history, including the history of science and technology and military and social history, to the life of national leaders, thinkers, scientists and artist and to events of national importance; c. Products of archaeological excavations (including regular and clandestine) or of archaeological discoveries ; d. Elements of artistic or historical monuments or archaeological sites which have been dismembered; e. Antiquities more than one hundred years old, such as inscriptions, coins and engraved seals; f. Objects of ethnological interest; g. Property of artistic interest, such as: i. pictures, paintings and drawings produced entirely by hand on any support and in any material (excluding industrial designs and manu-factured articles decorated by hand); ii. original works of statuary art and sculpture in any material; iii. original engravings, prints and lithographs ; iv. original artistic assemblages and montages in any material; h. Rare manuscripts and incunabula, old books, documents and publications of special interest (historical, artistic, scientific, literary, etc.) singly or in collections ; i. Postage, revenue and similar stamps, singly or in collections; j. Archives, including sound, photographic and cinematographic archives; k. Articles of furniture more than one hundred years old and old musical instruments.*”

¹⁶ Frigo, pp.367-378.

¹⁷ Weil, p.556; Gerstenblith, p.3; Merryman, John Henry, “*Art and the Law Part I: A Course in Art and the Law*”, *Art Journal*, 1975, Volume 34, Issue 4, p.332.; *Merryman*, also mentions other legal contemporaries Gil Edelson, Professor Leonard DuBoff, Professor Paul Bator and Professor Monroe Price, who have worked on the field, and even considered offering a same course.

¹⁸ Merryman, p.332.

However, despite the rise of the legislative and scholarly developments, also beginning from the 1970s, there has been discussions on whether “art law” actually is a field.¹⁹ The general view against this question was that even if it was a separate legal field, its contours definitely were not clearly defined.²⁰

John Henry Merryman stated that there are two major aspects for answering whether art law really is a field, the first aspect being the technical aspect, and the latter being the practical aspect.²¹ He wrote:²²

***The technical aspect referred to the substantive law itself:** Has the process of differentiation proceeded to the point that works of art are in some cases treated as different from other objects for legal purposes? Are persons or institutions in the art world perceived differently, for some legal purposes, than other persons and institutions? **The practical aspect of the question referred simply to what was going on:** How much legal activity involving the art world was there? Were legal questions about art and artists of merely theoretical interest or did they actually arise in real life?*

By the 1990s, it was accepted that a specialized body of law relating to artworks and cultural resources, as a new field²³, had been developing.²⁴ Explosion of restitution claims by Holocaust victims and their descendants²⁵, litigations and prosecutions of relating to antitrust law for major auction houses due to fixing

¹⁹ Merryman, p.332. Merryman indicated that after offering the course program, he encountered peers’ ridicule, qualifying the endeavor as “frivolous and insubstantial”. He remembers a series of additional ironic course offerings, with “Astrology and the Law” being a particular example.

²⁰ Hoffman, Barbara, “*Preface*”, Hoffman, Barbara (Ed.), *Art and Cultural Heritage Law*, Cambridge University Press, Cambridge, 2006, p.xxvii.

²¹ Merryman, p.332.

²² Merryman, p.332. (Emphasis added).

²³ DuBoff, Leonard D., “*What is Art – Toward a Legal Definition*”, *Hastings Communications and Entertainment Law Journal*, 1990, Volume 12, Issue 3, p.303.

²⁴ Hoffman, p.xxvii.

²⁵ Wilson, Martin, *Art Law and the Business of Art*, Edward Edgar Publishing, 2019, p.12.; Jones, Michael E., *Art Law : A Concise Guide for Artists, Curators, and Art Educators*, Rowman & Littlefield Publishers, Lanham, 2016, p.xi.

commission charges²⁶, stolen art claims in general²⁷ and the question of underrepresented artists²⁸ were among the questions which revealed how complex the art market is, and the need for many legal or extra-legal solution mechanisms.

One issue was for certain that, the transactions in the art world have their intrinsic unique legal risks which have necessitated increased compliance and oversight over the last few decades.²⁹ In addition, the more art and artwork related questions arise, the more specific questions have increasingly appeared before adjudicators.³⁰ These facts repeatedly proved that that the interrelation between the art and law, although still quite difficult to define, necessitated a certain degree of enhanced familiarity, knowledge, experience, and expertise. The need for specially trained, expert lawyers for tackling complex questions relating to the convoluted legal problems of the art world was highlighted as early as 1970s.³¹

Art transactions take place for art works of many different values, by numerous channels and with the intervention of many intermediaries.³² According to Stephen Weil, the fascinating nature of the art world stems from the “*extraordinary dramatis personae*” surrounding the objects as much as the objects themselves.³³ Stephen Weil summarized these *dramatis personae* involved as “*the True Collector, the Philistine Investor, the Dedicated Artist, the Inauthentic Hack, and such supporting players as the Dealer, the Auctioneer, the Curator, the Scholar, the Critic, the Trustee and the Archeologist. Finally, lurking in the wings and always ready to pounce is the Tax Man.*”³⁴ Art law focuses on both the

²⁶ Wilson, 2019, pp.12-13.

²⁷ Jones, p.xi; Martin Wilson pp.12-13

²⁸ Jones, p.xi.

²⁹ Wilson, 2019, pp.12-13.

³⁰ Vadi/Schneider, p.4.

³¹ Merryman, p.333.

³² Wilson, 2019, p.15.

³³ Weil, p.6.

³⁴ Weil, p.6.; Gerstenblith, p.3.

interactions between Weil's amusing description of manifold characters along with many newly unlocked ones, and the artwork.³⁵

The current art market is influenced and governed by many fields of law, such as intellectual property law, contracts law, commercial law, international trade law, public law, public international law, private international law, human rights law, tax law³⁶, as well as ethical codes.³⁷ As the art market has an undeniable volume, there have been many regulatory developments in states' level.³⁸ Indeed, many states established laws, regulations and case law for regulating a variety of activities, including the consignment of artworks to art dealers, art transactions for many types of art through private contracts and public auctions, the recovery of stolen art, application of special statutes of limitations, transactions of public art, deaccessioning of artworks by museums, and the principles and discussions relating to the content of an artwork along with the discussions relating to freedom of expression and their limitations for artworks which have obscene contents.³⁹

In addition, many other disciplines apart from law, such as art history, economics, history, anthropology⁴⁰, architecture and increasingly omnipresent information technology-related disciplines, are involved in the current art market.⁴¹ Manifold stakeholders with different and crucial functions interact and shape the art market.⁴²

The existing legal rules regulate and govern the questions, and even resolve conflicts and disputes within the art market, although with different treatment focal

³⁵ Gerstenblith, p.3

³⁶ Gerstenblith, p.3

³⁷ Jones, pp.xii-xv.

³⁸ Lerner, Ralph E./ Bresler, Judith, *Art Law*, Volume I, UNKNO, 2013, p.xxi.

³⁹ Lerner/Bresler, Volume I, pp.xxi.

⁴⁰ Gerstenblith, p.3

⁴¹ Gerstenblith, p.3

⁴² McAndrew, Clare, "*An Introduction to Art and Finance*", McAndrew Clare (Ed.), *Fine Art and High Finance: Expert Advice on the Economics of Ownership*, Bloomberg Press, New York, 2010, p.9.

points⁴³, for instance: one field concentrates on the protection of the intellectual property rights of the artist, one field focuses on international regimes and regulations surrounding certain artistic and cultural objects, one field concentrates on the best practices to write a contract that would cover all the elements of the transaction of an artwork.⁴⁴ “Art law” as an umbrella term refers to the cluster of these law fields and their application specific to the legal object, which is the artwork. Therefore, it denotes an inherently interdisciplinary subject⁴⁵. Although it is still quite difficult to define what an artwork is⁴⁶, and there would potentially never be a single fully satisfactory legal definition thereof, acknowledging that art works require a different law paradigm is quite important, as without that paradigm, application of fundamental principles of law applied to disputes involving works of art and cultural property may (and did) produce incongruous and disparate results.⁴⁷

Today, there are many art law courses and programs around the globe, both physical and online courses offered by universities and other distinguished institutions.⁴⁸ More than one hundred firms in Europe, Asia and the United States have art law practices and dedicated teams.⁴⁹

⁴³ Vadi/Schneider, p.4.

⁴⁴ Lerner/Bresler, Volume I, p.xxi.

⁴⁵ Gerstenblith, p.3

⁴⁶ Beckman, Marc, “*The Comprehensive Guide to NFTs, Digital Artwork, and Blockchain Technology*”, Skyhorse, 2021, p.22.; Jones, pp. xvi-xv.; Valentin, Pierre / Yapova, Mona, “*An opportunity for the UK to acknowledge that in the 21st century, video and light art installations can be imported as works of art*”, <https://www.artatlaw.com/an-opportunity-for-the-uk-to-acknowledge-that-in-the-21st-century-video-and-light-art-installations-can-be-imported-as-works-of-art/>. 23 February 2021, (last accessed : 30.12.2022)

⁴⁷ Hoffman, p.xxvii.

⁴⁸ Art Law Courses and Programs Worldwide, Center for Art Law at <https://itsartlaw.org/art-law-courses-and-programs-worldwide/>; Lawrence M. Kaye/ Spiegler, Howard N., “*Preface*”, Lawrence M. Kaye/ Spiegler, Howard N., (Ed.), *The Art Law Review*, Law Business Research Ltd., London, 2021, p.vii.

⁴⁹ See Center for Art Law Law Firms at: <https://itsartlaw.org/law-firms/>. See also Legal 500 <https://www.legal500.fr/c/paris/medias-culture-sport-et-loisirs-art/>, <https://www.legal500.com/c/london-bar/media-and-entertainment-including-art-and-cultural-property/>.

The practice has become in such a state that it is definitely possible to answer affirmatively both the technical and practical aspects of Professor Merryman’s question for determining whether art law really a field is.

Indeed, considering the current state of the art market and the legal practice, one can assert that there are enough reasons to admit that a separate practice titled “art law” exists, and that this admission would not be bizarre, but righteous. Bearing in mind the special nature of the object, all the actors of the sector, and all their interactions, it is clear that the area of art law has matured to become an important legal specialty.⁵⁰

It is difficult to separate legal determinations from the facts surrounding them, and in my opinion, it is also not right to do so, as it may lead to loss of context. Making legal determinations regarding the unique rules of the art world, the unique features of the market, the events in the past and the application of new technologies will only be correct when they are made by people who have holistic knowledge in the field. For these reasons, the term “art law” is used in the title of this work in purpose, in order to highlight the specific development and nature of the practice with all its delicate elements and its application specific to the art works enriched by harmonious interaction of different law fields. I hope this usage will become even more widespread in the academic community and think that the analysis of the non-fungible tokens within this perspective is in order.

1.2. WHAT IS A NON-FUNGIBLE TOKEN?

1.2.1. Definition of Non-Fungible Token

The mystical abbreviation NFT is commonly used in numerous media, and it stands for “Non-Fungible Tokens”.⁵¹ Collins Dictionary, which selected the

⁵⁰ Lawrence/Spiegler, p.vii.

⁵¹ Castle, Chris, “*Entertainment NFTs are All the Rage: Basics, the Basic Agreement and a Checklist*”, Circuits e-Journal of the Computer & Technology Section of the State Bar of Texas May 2022, p.19.

abbreviation “NFT” the Collins Word of the Year 2021, defines NFT as “*abbreviation for non-fungible token: a unique digital certificate, registered in a blockchain, that is used to record ownership of an asset, such as an artwork or a collectible.*”⁵²

Non-fungible tokens are unique⁵³ and secure ownership certificates that utilize smart contracts and are protected by blockchain technology.⁵⁴ They are crypto assets, more specifically tokens⁵⁵, each of which can be distinguished from each other via one-of-a kind identifiers, therefore rendering each token non-fungible.⁵⁶ United Kingdom HM Treasury’s consultation paper on crypto assets

⁵² Collins Dictionary, <https://www.collinsdictionary.com/woty>; Collins Dictionary, <https://www.collinsdictionary.com/dictionary/english/nft>. An original choice of translation for the phrase “non-fungible token” has been promoted in Turkey. Although, there are beautiful Turkish translations [such as computer (“*bilgisayar*” in Turkish, composing of two Turkish words, *bilgi+sayar*, which translates as *information+computer*), database (“*veritabanı*” in Turkish), informatics (“*bilişim*” in Turkish), software (“*yazılım*” in Turkish), hardware (“*donanım*” in Turkish), which are concocted by esteemed Turkish electronics, computer and software engineer and linguist Prof. Dr. Aydın Köksal], products and services that emerged with the development of the information and technology sector in Turkey are generally used in Turkish by transposing English words. For example, the word “*selfie*”, which was chosen as the “word of the year by Oxford University in 2013”, is one of such words. For this reason, for the Turkish translation of non-fungible tokens, it was expected that the word “token” would be kept in English and the phrase “non-fungible” be translated. However, as a result of the coordination of the Presidency of the Republic of Turkey Digital Transformation Office (Türkiye Cumhuriyeti Cumhurbaşkanlığı Dijital Dönüşüm Ofisi) with the Turkish Language Institution (Türk Dil Kurumu), the letters N-F-T are kept with with the Turkish translation of non-fungible tokens, “*Nitelikli Fikri Tapu*”, which means “qualified intellectual deed” in Turkish. See Türkiye Cumhuriyeti Cumhurbaşkanlığı Dijital Dönüşüm Ofisi, NFT’nin Türkçe Karşılığı Belli Oldu, <https://cbddo.gov.tr/haberler/6354/nft-nin-turkce-karsiligi-belli-oldu> 22 April 2022, and Prof. Dr. Aydın Köksal’s website: <https://aydinkoksal.gen.tr/>.

⁵³ Majocha Courtney, HLS News Staff, “*Memes For Sale? Making sense of NFTs*”, <https://hls.harvard.edu/today/memes-for-sale-making-sense-of-nfts/>, 19 May 2021. (last accessed: 30.12.2021); Mastropietro Betrice, “*Static vs Dynamic NFTs: Complete Guide*” [⁵⁴ Çağlayan Aksoy, Pınar/ Üner Özkan, Zehra, “*NFTs and copyright: challenges and opportunities*, *Journal of Intellectual Property Law & Practice*”, *Journal of Intellectual Property Law & Practice*, 2021, Volume 16, Issue 10, p.1115.; Beckman, pp.15-16.](https://www.coinspeaker.com/guides/static-vs-dynamic-nfts-complete-guide/#:~:text=Dynamic%20NFTs%20are%20digital%20assets,after%20they%20have%20been%20minted;,”>https://www.coinspeaker.com/guides/static-vs-dynamic-nfts-complete-guide/#:~:text=Dynamic%20NFTs%20are%20digital%20assets,after%20they%20have%20been%20minted;,” 31 August 2022. (last accessed: 30.12.2022)</p></div><div data-bbox=)

⁵⁵ Filorinalı, Kardelen, “*Non-fungible tokens (NFT’ler) ve fikir ve sanat eserleri hukuku yansımaları*”, İstanbul Bilgi University, 2022, p.17.

⁵⁶ Güçlütürk, a Osman Gazi, “*NFT’lerin Oluşturulması ve Transferinin Eser Sahibinin Mali Haklarıyla İlişkisi*”, <https://nasamer.ku.edu.tr/nftlerin-olusturulmasi-ve-transferinin-eser-sahibinin-mali-haklariyla-iliskisi/>, 25 March 2022. (last accessed: 30.12.2022)

defines non-fungible tokens as *representations of a unique digital item*.⁵⁷ In a way, non-fungible tokens are unique blockchain records that can be used to identify another thing, such as a digital content.⁵⁸ The non-fungible token's code is a special collection of alphanumeric characters that provides its asset a distinct digital identity that cannot be changed.⁵⁹

As indicated in Section 1.5. below, there are several ways to mint a non-fungible token, but briefly, the non-fungible tokens are pieces of codes which contain various information which are written onto the blockchain. Among this information, some are optional, and some are compulsory.⁶⁰ Two central elements of this information are the *tokenID* generated upon the minting and the *contract address*, which is a blockchain address can be seen by everybody via a blockchain scanner.⁶¹ Other information includes the wallet address of the creator, which serves to help identify the minter, and (in case the original artwork is stored at another place as explained in Section 1.2.2. below), the link where the original artwork can be found, and *hash*⁶² of the artwork used to mint the non-fungible token.⁶³ The

⁵⁷ HM Treasury, UK Regulatory approach to cryptoassets and stablecoins: Consultaion and call for evidence, January 2021,

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/950206/HM_Treasury_Cryptoasset_and_Stablecoin_consultation.pdf, p.31.

⁵⁸ Güçlütürk, *NFT'lerin Oluşturulması.*; Koonce, Lance/ Carron, Louise, “*Pulp Friction: Miramaş, Tarantino NFT IP Rights Under the Gun*”, <https://news.bloomberglaw.com/us-law-week/pulp-friction-miramax-tarantino-nft-ip-rights-under-the-gun>, 2 December 2021.(last accessed: 30.12.2022); Mastropietro.

⁵⁹ Von Schlenhenried, p.111.; Griffin, Sean C., “*Legal cybersecurity challenges of NFTs and smart contracts*”,

[https://today.westlaw.com/Document/I985e2aacdf11ebbea4f0dc9fb69570/View/FullText.html?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://today.westlaw.com/Document/I985e2aacdf11ebbea4f0dc9fb69570/View/FullText.html?transitionType=Default&contextData=(sc.Default)&firstPage=true), 8 July 2021. (last accessed: 30.12.2022)

⁶⁰Guadamuz, Andres, “*The Treachery of Images: Non-Fungibe Tokens and Copyright*”, *Journal of Intellectual Law & Practice*, 2021, Volume 16, Issue 12, p.1371

⁶¹ *Guadamuz, The Treachery*, p.1371; Çağlayan Aksoy/ Üner Özkan, p.1120.

⁶² The number (which generally uses hexadecimal notation) generated using the input of an arbitrary length is the *hash*. Although theoretically there is a possibility that the hash of two contents are same, as they are arbitrarily generated, long combination of numbers, it is a very low probability that the hash of two content is the same, therefore this possibility is negligible. In that respect, hash are used for many application in the computing world, including the creation of crypto asset addresses and have a function of identification number. See Güçlütürk, *NFT'lerin Oluşturulması.*; *Guadamuz, The Treachery*, f.n.33.

⁶³ *Guadamuz, The Treachery*, p.1371.

tokenId and the *contract address* of the non-fungible token are the reason why each non-fungible token unique, as their combination can result in only one token.⁶⁴ In that respect, non-fungible tokens serve as a digital ownership record to prove the authentic information that the ownership of the work of art is stored on the blockchain.⁶⁵ They essentially verify the one-of-a-kindness of the token and are able to keep a track of all the owners of the token back to its creation.⁶⁶

1.2.2. On-Chain and Off-Chain Non-Fungible Tokens

NFTs can be made from any type of digital content⁶⁷, including online memes, digital art works, viral videos, music albums, tweets, sport highlights; and can be used to demonstrate tokenized ownership of various types of assets.⁶⁸ In the blockchain, data is distributed in small blocks and stored on multiple units, which causes storage limitations.⁶⁹ In addition, the cost of writing data into the blockchain is not negligible.⁷⁰

⁶⁴ Guadamuz, *The Treachery*, p.1371.

⁶⁵ Okonkwo, p.297.; Majocho /HLS Staff.; Drylewski, Alexander C./ Levi, Stuart D., “*Navigating the Uncharted Legal Territory of NFTs*”, <https://www.skadden.com/insights/publications/2022/09/the-informed-board/navigating-the-uncharted-legal-territory-of-nfts>, 22 September 2022. (last accessed : 30.12.2022); Opensea, “*What is an NFT*”, <https://opensea.io/learn/what-are-nfts>, 24 December 2022. (last accessed : 30.12.2022)

⁶⁶ Beckman, p.2.

⁶⁷ Guadamuz, *The Treachery*, pp.1367-1385.; Majocho /HLS Staff.; Güçlütürk, *NFT’lerin Oluşturulması*.; Drylewski/ Levi.

⁶⁸ Beckman, p.32; Guadamuz, *The Treachery*, p.1370; Kasdan, Michael, “*Don’t Write Off NFTs—They Will Be Around a Long Time*”, <https://news.bloomberglaw.com/banking-law/dont-write-off-nfts-they-will-be-around-a-long-time>, 27 June 2022. (last accessed : 30.12.2022); HM Treasury, UK Regulatory approach to cryptoassets and stablecoins: Consultaion and call for evidence, January 2021, p.31.

⁶⁹ Güçlütürk, *NFT’lerin Oluşturulması*.; Finzer, Devin, “*The Non-Fungible Token Bible: Everything You Need to Know About NFTs*”, [https://opensea.io/blog/guides/non-fungible-tokens/#:~:text=January%2010%2C%202020-,The%20Non%2DFungible%20Token%20Bible%3A%20Everything%20you,need%20to%20know%20about%20NFTs&text=Non%2Dfungible%20tokens%20\(NFTs\),ownership%20records%20for%20physical%20assets.,](https://opensea.io/blog/guides/non-fungible-tokens/#:~:text=January%2010%2C%202020-,The%20Non%2DFungible%20Token%20Bible%3A%20Everything%20you,need%20to%20know%20about%20NFTs&text=Non%2Dfungible%20tokens%20(NFTs),ownership%20records%20for%20physical%20assets.,) 10 January 2020. (last accessed : 30.12.2022)

⁷⁰ Guadamuz, Andres, “*What do you buy when you buy an NFT?*”, <https://www.technollama.co.uk/what-do-you-buy-when-you-buy-an-nft>, 28 March 2021. (last accessed : 30.12.2022); Güçlütürk, *NFT’lerin Oluşturulması*.; Çağlayan Aksoy/ Üner Özkan,

Therefore, these and other constraints arising from the technical architecture of the blockchain renders the blockchain somewhat unsuitable for storing large data.⁷¹ Hence, when a digital content is associated with a blockchain record, or more specifically, a crypto asset, there are different styles for storing the digital content.⁷²

The first option is to store the digital content directly on the blockchain.⁷³ These are called “on-chain” non-fungible tokens and include data such as the hash of the non-fungible token, its metadata, and smart contracts.⁷⁴ Both the underlying content of the non-fungible token and the metadata (sometimes only the metadata) are directly uploaded on the blockchain in this method.⁷⁵ Considering the storage limitations and costs of on-chain storage, these will at most be text-based and small-sized content that does not take up too much space.⁷⁶ For instance, Cryptopunk images are stored on-chain, as they use 24*24 pixels each and therefore do not require too much space or cost.⁷⁷ The exchange and the transfer of these non-fungible tokens are only with the other people on the same blockchain, and therefore they are considered to indicate the true ownership of a work.⁷⁸ However, on-chain storage capacities are limited and including information of a digital file takes up ample place, hence they result in increased costs during the minting of a non-

p.1120. Andres Guadamuz, refers to Gavin Wood’s Ethereum: A Secure Decentralised Generalised Transaction Ledger EIP Revision at <http://gavwood.com/paper.pdf> and summarizes that paper as, in the Ethereum blockchain, it costs 640k gas to upload a kilobyte of data, which is around \$13.61 USD per kilobyte. As the amount of data to be uploaded increases, its cost increase exponentially, whereby the cost of adding a megabyte to the Ethereum blockchain is about USD 475.

⁷¹ Güçlütürk, *NFT’lerin Oluşturulması*.

⁷² Güçlütürk, *NFT’lerin Oluşturulması*.

⁷³ Guadamuz, *The Treachery*, p.1372; Güçlütürk, *NFT’lerin Oluşturulması*.

⁷⁴ Pastel, “On-Chain vs. Off-Chain NFTs Explained”, <https://pastel.network/on-chain-vs-off-chain-nfts-explained/>, 15 September 2022. (last accessed : 30.12.2022) ; Von Appen, Antonia, “NFTs: How a Technological Trend Redefined Art Ownership”, <https://itsartlaw.org/2021/04/27/nfts-how-a-technological-trend-redefined-art-ownership/>, 27 April 2021.(last accessed : 30.12.2022); Filorinalı, p.20.

⁷⁵ Çağlayan Aksoy/ Üner Özkan, p.1120.

⁷⁶ Güçlütürk, *NFT’lerin Oluşturulması*.

⁷⁷ Larvalabs, “On-chain Cryptopunks”, <https://www.larvalabs.com/blog/2021-8-18-18-0/on-chain-cryptopunks>, 18 August 2021. (last accessed : 30.12.2022)

⁷⁸ Guadamuz, *The Treachery*, p.1372.

fungible token.⁷⁹ Although on-chain tokens are considered to be safer than their alternative, as they are not stored in other hosts and therefore their access cannot be restricted by problems connected to the host, the problems of storage and cost indicated above renders them impractical and unpreferable for the time being.⁸⁰

The second option, as chosen by most projects, is to store the content not directly onto the blockchain, which is called the “off-chain” method.⁸¹ In this method, the underlying content or its parts is not stored or transferred on the blockchain, rather, the non-fungible token on the blockchain saves a hash relating to the underlying content.⁸² However, with this method, there is always the risk of the alteration or erasure of the metadata or the content.⁸³

The third option is that the content is divided and stored on the blockchain through decentralized storing tools.⁸⁴ In these systems, the content is divided into parts, each assigned a hash identifier, and another new hash is generated from all the parts and stored in different units on the network.⁸⁵ It is stated that this method is more trustworthy against the risks of random and arbitrary changing or deleting the place where metadata or content is stored.⁸⁶

Therefore, in most cases, the NFT is not the asset itself, but merely a code providing the link to an (mostly digital) asset.⁸⁷ The underlying works of NFTs are

⁷⁹ Von Appen..

⁸⁰ Guadamuz, *The Treachery*, pp.1372-1373; Çağlayan Aksoy/ Üner Özkan, p.1120.

⁸¹ Çağlayan Aksoy/ Üner Özkan, p.1120; Larvalabs.; Filorinalı, p.20.

⁸² Güçlütürk, *NFT'lerin Oluşturulması*.

⁸³ Çağlayan Aksoy/ Üner Özkan, p.1121; Finzer, *Bible*.

⁸⁴ This method includes utilizing special decentralized systems such as IPFS (Interplanetary File System) or Arweave which functions with a distinct crypto asset called Filecoin. The IPFS system is set up as an open record, and anyone who knows the hash of the content can access the content, unless additional measures such as a private IPFS network or encryption technique are used. See Güçlütürk, *NFT'lerin Oluşturulması*.; Filorinalı, p.20.

⁸⁵ Güçlütürk, *NFT'lerin Oluşturulması*.

⁸⁶ Çağlayan Aksoy/ Üner Özkan, p.1121.

⁸⁷ Guadamuz, Andres, “NFTs could have a generative art copyright problem”

[https://www.technollama.co.uk/nfts-could-have-a-generative-art-copyright-problem_19 February 2022](https://www.technollama.co.uk/nfts-could-have-a-generative-art-copyright-problem_19_February_2022). (last accessed : 30.12.2022)

present in another space “off-chain”, with usually only the identifier hash being recorded on the blockchain.⁸⁸

1.2.3. Notion of “Fungibility”

The etymologic roots of the adjective “fungible” derives back to the Latin verb *fungi*, meaning “to perform” and sharing the same roots with the noun “function”.⁸⁹

Fungibility refers to the ability to be replaced by something which is exactly the same kind.⁹⁰ For example, money is fungible,⁹¹ as every single bill of a classic central currency can be exchanged for another, without any practical consequences.⁹²

For tokens, fungibility means whether a token has the same content with another token.⁹³ Among the tokens, there are some that are fungible, such as cryptocurrencies such as Bitcoins or Ether, since they all have the same value and are interchangeable.⁹⁴ These cryptocurrencies can be exchanged with another same counterpart, even though they have different serial numbers.⁹⁵ NFTs on the other hand are different than those cryptocurrencies, because each one is unique, and they all are different from each other.⁹⁶ Their exchange with one another actually makes practical differences⁹⁷, meaning that they do not have fungibility. Hence the term “non-fungible”.

⁸⁸ Sullivan / Tremaine.

⁸⁹ Online Etymology Dictionary, “*Fungible*”, <https://www.etymonline.com/word/fungible>.

⁹⁰ Expoverse, “*NFTs and the Universal Bragging Rights*” <https://goexpoverse.com/blog/nfts-and-the-universal-bragging-rights/>, 30 March 2022.

⁹¹ Koonce/ Carron.

⁹² Beckman,p.3; Opensea, “*What is an NFT*”.; Expoverse.

⁹³ Çağlayan Aksoy/ Üner Özkan, p.1117.

⁹⁴ Okonkwo, p.297.; Koonce/ Carron.; Çağlayan Aksoy/ Üner Özkan, p.1117.

⁹⁵ Sullivan / Tremaine.

⁹⁶ Çağlayan Aksoy/ Üner Özkan, p.1117; Koonce/ Carron.; Sullivan / Tremaine.

⁹⁷ Beckman,p.3.

One quote famously attributed to George Bernard Shaw, although not conclusively, may be helpful to understand the fungibility concept: “*If you have an apple and I have an apple and we exchange apples then you and I will still each have one apple. But if you have an idea and I have an idea and we exchange these ideas, then each of us will have two ideas.*”⁹⁸ In this case, the apples are fungible, because the exchange of one apple with another does not create any difference as each person has an apple. In the case of NFTs, if one has an NFT, and another has an NFT; both these people have a unique token on which their ownership would be encrypted. And if they were to exchange their NFTs, they still would have one NFTs each, however completely different, as one NFT cannot be the same with another. In addition, in this case, both these unique NFTs would have the unchangeable record of the ownership of these two people, unlike apples.

Determinations relating to the role of smart contracts will be analyzed in Section 1.4.2. below. However, for the sake of completeness of this section, it is important to mention here that in the Ethereum blockchain, the technicalERC (Ethereum Request for Comments) standard used for smart contracts determines a token's fungibility.⁹⁹ Ethereum Request for Comments are technical documents used to create smart contracts in Ethereum blockchain.¹⁰⁰ The standards, which solve the problem of creating an infrastructure by software developers and harmonizing it with the Ethereum blockchain in order to create a new crypto asset, provide compatibility and practicality for the production of crypto assets by adding ready-made code pieces.¹⁰¹ These standard are developed according to the needs. For instance, before ERC-721 standard, ERC-20 standard was being used for smart

⁹⁸ Although the quote is predominantly attributed to George Bernard Shaw, it is unclear whether it actually belongs to him. See <https://quoteinvestigator.com/2011/12/13/swap-ideas/>.

⁹⁹ Çağlayan Aksoy/ Üner Özkan, p.1118.

¹⁰⁰ Çağlayan Aksoy/ Üner Özkan, f.n. 25.

¹⁰¹ Yüksel, S. H./Güçlütürk, O. G., “*Kripto Varlıkların İlk Arzı (ICO) ve Türk Hukukunda İlgili Düzenlemelerin Tespiti*”, Güçlütürk, Osman Gazi/ Aksoy Retornaz, E. Eylem (Ed.), *Hukukçular İçin Blokzincir Teknolojisinin Teknik İşleyişi: Bitcoin Örneği*, On İki Levha Yayıncılık, İstanbul, 2021, pp.279.

contracts concluded on the Ethereum blockchain for fungible tokens.¹⁰² Witek Radomski, the creator of the ERC-721, then created the ERC-1155 in order to overcome the deficiencies of the ERC-721 standard.¹⁰³ The token in question is a fungible token if, for example, the standard is ERC-20.¹⁰⁴ The token in question, however, is a non-fungible token if the standard is ERC-721 or ERC-1155.¹⁰⁵

1.2.4. Static and Dynamic NFTs

A distinction according to the capability of changing can be made for non-fungible tokens as static and dynamic non-fungible tokens.¹⁰⁶ Static NFTs, which can be in a variety of forms and not necessarily are unmoving¹⁰⁷, are not capable of being altered or modified in any way after they are minted on the blockchain.¹⁰⁸ Therefore they are preferred for representing digital asserts that are not solicited to be modified, such as digital paintings which constitute one-time purchases.¹⁰⁹ A dynamic NFT on the other hand has for the digital asset the ability to be updated via an additional connection.¹¹⁰ This update is made mostly through smart contracts

¹⁰² Guadamuz, *The Treachery*, p.1370.; Çağlayan Aksoy/ Üner Özkan, p.1119.

¹⁰³ Mathieu, Adrian, “*Inventor of the Non-Fungible Token Creates New Standard That Could Replace ERC-20 and ERC-721*”, <https://ethereumworldnews.com/inventor-of-the-non-fungible-token-creates-new-standard-that-could-replace-erc-20-and-erc-721/>, 25 June 2018.; Von Schlenhenried, p.111.

¹⁰⁴ Çağlayan Aksoy/ Üner Özkan, p.1118.

¹⁰⁵ Çağlayan Aksoy/ Üner Özkan, p.1118.

¹⁰⁶ Beckman, pp.37-45.; Mastropietro.; An, Nagi, “*What are Dynamic NFTs?*”

<https://nftnewstoday.com/2022/09/04/what-are-dynamic-nfts/>, 4 September 2022. (last accessed :

30.12.2022); Dilmegani, Cem, “*Dynamic NFTs: What they are, Top 6 Use Cases & Examples*”

<https://research.aimultiple.com/dynamic-nft/>, 1 November 2022. (last accessed : 30.12.2022);

Howell, James, “*Key Difference Between Static and Dynamic NFTs*”

<https://101blockchains.com/static-nft-vs-dynamic-nft/>, 10 October 2022. (last accessed :

30.12.2022) ; Kumar, Rajeev, “*What are dynamic NFTs and how do they differ from static NFTs?*”

<https://www.financialexpress.com/blockchain/what-are-dynamic-nfts-dnftsand-how-do-they-differ-from-static-nfts/2597266/>, 18 July 2021. (last accessed : 30.12.2022); Umucu, Elif Hilal,

“*NFT’ler ve Dinamik NFT’ler (dNFT) Rehberi*” <https://medium.com/@Elifhilalumucu/nftler-ve-dinamik-nft-ler-dnft-rehberi-4ffe7dbb0279> 6 December 2022. (last accessed : 30.12.2022)

¹⁰⁷ Beckman, p.37.

¹⁰⁸ Beckman, p.38.; Mastropietro.; Umucu.

¹⁰⁹ Mastropietro.; Umucu.

¹¹⁰ Beckman, p.38; Umucu.

which provide instructions for changes on the features of the metadata of the non-fungible token and does not alter the *tokenID* of the specific dynamic non-fungible token.¹¹¹

Dynamic non-fungible tokens are sometimes referred to as “NFT 2.0.”¹¹² As will be explained in the Section 1.3.2 below, digital art and collectibles are not the only use cases of non-fungible tokens. Therefore, non-fungible tokens that can update the properties of their metadata and even interconnect with other NFTs create numerous different advantages, especially for the purpose of connecting to physical assets or for cases where saving progressive information is desired.¹¹³

1.3. EMERGENCE AND PRESENT USE CASES OF NON-FUNGIBLE TOKENS

1.3.1. From Kitties to Apes: Brief History of Non-Fungible Tokens

It is not quite easy to determine at which point NFTs have emerged.¹¹⁴ Some authors rightfully detected that the idea had been present for some time.¹¹⁵

An animated artwork shaped in octagon form titled *Quantum* by Kevin McCoy, a New York artist and professor, is considered to be the first non-fungible token to be minted.¹¹⁶ This NFT was minted on 3 May 2014 on the Namecoin blockchain, then changed to Ethereum blockchain and sold for 1.4 million USD at Sotheby’s auction Natively Digital: A Curated NFT Sale on 10 June 2021 to a buyer

¹¹¹ Umucu.

¹¹² Oyinloye, Tunbosun, “*NFT 2.0 Explained: What It Means and How It’s Different from Original NFT Technology*”, <https://dailycoin.com/nft-2-0-explained-what-it-means-and-how-its-different-from-original-nft-technology/> 3 July 2022. (last accessed : 30.12.2022); Umucu.

¹¹³ Beckman, pp.39-41; 44-47; Umucu.

¹¹⁴ Beckman, p.22.

¹¹⁵ Guadamuz, *The Treachery*.

¹¹⁶ Ludel, Wallace, “*Sotheby’s and artist Kevin McCoy sued over sale of early NFT*”, the Art Newspaper, Wallace Ludel, https://www.theartnewspaper.com/2022/02/04/sothebys-kevin-mccoy-lawsuit-quantum-nft_5 February 2022. (last accessed : 30.12.2022) ; Huertas / Hinkl, f.n.1.

nicknamed Sillytuna (Alex Amsel).¹¹⁷ There is currently an intriguing dispute around this case, which will be mentioned in Section 2.5.2 below.

Since 2017, NFTs popularity gained momentum.¹¹⁸ CryptoPunks, consisting of numerous collectible characters present on 24*24-pixel art image generated algorithmically¹¹⁹ on Ethereum blockchain, launched by LarvaLabs¹²⁰ on 23 June 2017¹²¹, a creative technology company¹²², is considered to have provided one the first examples of NFT art using the ERC-721 standard.¹²³ Originally, CryptoPunks were free of charge for anyone with an Ethereum wallet to acquire, which was later changed.¹²⁴ CryptoPunks was later followed by the 8-bit cats CryptoCats using ERC-721 standard, and in October 2017, by CryptoKitties.¹²⁵

The sales of non-fungible tokenized works such as American artist Beeple's (born Mike Winkelmann¹²⁶) digital collage named *Everydays: The First 5000*

¹¹⁷ Escalante-de Mattei, Shanti, “Sotheby’s, Artist Kevin McCoy Sued Over Sale of \$1.5 M. NFT”, <https://www.artnews.com/art-news/news/sothebys-kevin-mccoy-quantum-nft-sale-lawsuit-1234618249/>, 7 February 2022. (last accessed : 30.12.2022); Di Liscia, Valentina, “First Ever NFT” Sells for \$1.4 Million”, <https://hyperallergic.com/652671/kevin-mccoy-quantum-first-nft-created-sells-at-sothebys-for-over-one-million/>, 10 June 2021. (last accessed : 30.12.2022)

¹¹⁸ Çağlayan Aksoy/ Üner Özkan, p.1118.

¹¹⁹ Larva Labs, https://www.larvalabs.com/cryptopunks_ (last accessed : 30.12.2022)

¹²⁰ Larva Labs, Cryptopunks.

¹²¹ Sotheby’s, Sealed Cryptopunks: Five Punks on Paper, <https://www.sothebys.com/en/digital-catalogues/sealed-cryptopunks-five-punks-on-paper#:~:text=Launched%20on%2023%20June%202017,no%20two%20are%20exactly%20alike,24%20June–1%20July%202021.> (last accessed : 30.12.2022)

¹²² Larva Labs, <https://www.larvalabs.com/about>.

¹²³ Larva Labs, Cryptopunks.; Beckman.p.23.; Marcobello, Mason, “CryptoPunks, CryptoCats and CryptoKitties: How They Started and How They’re Going”, <https://www.coindesk.com/learn/cryptopunks-cryptocats-and-cryptokitties-how-they-started-and-how-theyre-going/>. 19 August 2022. (last accessed : 30.12.2022); Guadamuz, *The Treachery*, p.1370.

¹²⁴ Sotheby’s, Sealed Cryptopunks: Five Punks on Paper, <https://www.sothebys.com/en/digital-catalogues/sealed-cryptopunks-five-punks-on-paper#:~:text=Launched%20on%2023%20June%202017,no%20two%20are%20exactly%20alike,24%20June–1%20July%202021.> (last accessed : 30.12.2022)

¹²⁵ Guadamuz, *The Treachery*, p.1370.; For more information on CryptoPunks, CryptoCats and CryptoKitties, see: Marcobello, *CryptoPunks*.

¹²⁶ Beeple’s website Beeple Crap defines Beeple’s activities as: “he makes a variety of art crap accross a variety of media. some of it is ok, but a lot of it kind of blows a**. he’s working on making it s*ck less everyday though so bear with him... :)” at <https://www.beeple-crap.com/>.

Days¹²⁷ on or Jack Dorsey's first tweet "*just setting up my twtr*" which was published on 21 March 2006¹²⁸ for large amounts certainly kindled the interest for the non-fungible tokens in the year 2021.

By 2018, OpenSea (founded in 2017¹²⁹), Nifty Gateway (founded in 2018¹³⁰) and SuperRare (founded in 2018¹³¹) were established as marketplaces for the NFTs.¹³²

As the market for the NFTs developed, the buyers at the market believed that these (mostly) fun images had great potential increasing in value and gave the buyers the sense of developing a collection that has unique artistic value.¹³³

After all, what constitutes the value of an artwork depends greatly on what the market actors think it is, and sometimes one's passion for what they see in a collection can be "*so overwhelming that [others begin to] believe it*".¹³⁴

Currently, non-fungible token projects especially for digital art and collectibles still continue to emerge. In addition, there are various creative use cases of non-fungible tokens. This is not surprising as the non-fungible tokens offer great potential from creative, commercial¹³⁵, and legal aspects. The many different use

¹²⁷ Beckman, p.1.

¹²⁸ Okonkwo, p.296.

¹²⁹ Ehrlich, Steven, "*NFT Marketplace CEO Explains Why The Industry Is Moving Beyond Ideological Purist*", <https://www.forbes.com/sites/stevenerlich/2021/07/06/nft-marketplace-ceo-explains-why-the-industry-is-moving-beyond-ideological-purists/?sh=5a11adb81fc3>, 6 July 2021. (last accessed : 30.12.2022)

¹³⁰ Foster, Duncan/, Foster, Griffin Cock, "*The Explosive Rise of Nifty Gateway and Digital Art*", <https://www.gemini.com/blog/the-explosive-rise-of-nifty-gateway-and-digital-art>, 21 January 2021. (last accessed : 30.12.2022)

¹³¹ Kinsella, Eileen, "*The Co-Founders of SuperRare Tell Us How and Why Their Incredibly Successful NFT Platform Became a DAO*", <https://news.artnet.com/news-pro/superrare-founders-2086177>, 17 March 2022. (last accessed : 30.12.2022)

¹³² Beckman, p.25.

¹³³ Beckman, p.23.

¹³⁴ See Stephan Zweig's "The Invisible Collection: Tales of Obsession of Desire" in general for the value of an artist's collection for herself and the original quotation.

¹³⁵ Koonce/ Carron.

cases that have emerged so far are an indicator of how this potential can be used in different ways in the future.

1.3.2. Various Use Cases of Non-Fungible Tokens

There seems to be a perception confusion regarding the use-cases of non-fungible tokens, as is the case with many issues regarding the non-fungible tokens, with the presupposition that non-fungible tokens are merely basic, pixelated images¹³⁶, corresponding to items in the digital realm only.

In fact, the reality is that non-fungible tokens have a lot of potential and are used in many creative ways for bolstering relationships with various communities such as customers for different brands, sports club, art movement or video game community fans.¹³⁷ While it is true that the traditional and prevalent main use case of the non-fungible tokens appears as ownership indicators for both digital (or rarely non-digital) art works and collectibles¹³⁸; manifold non-fungible projects whereby the purchase of a non-fungible token gives rights for digital real estate, cars, digital wearables, or customizable items to be used in video games are also popular.¹³⁹ Music albums released as non-fungible tokens offering various perks such as front-row seats for the purchaser, special album covers, exclusive audio art are one of the creative usages.¹⁴⁰ Experimental usage of non-fungible tokens where they serve as source identifiers for various tangible and intangible services and

¹³⁶ Vander Woude, Vikki L./ Tan, Carolyn L., “*NFTs, Blockchain and Why We Should Care*”, Orange County Lawyer, 2022, Volume 64, Issue 11, p.34. (<https://www.virtualonlineeditions.com/publication/?i=766273&p=36&view=issueViewer&pp=1>. (last accessed : 30.12.2022))

¹³⁷ Beckman, pp.66-99; Drylewski/ Levi

¹³⁸ Huertas / Hinkl, p. 132

¹³⁹ Beckman, pp.66-99; Kasdan, *Don't Write Off NFTs.*; Drylewski/ Levi.; Vander Woude / Tan, p.37.

¹⁴⁰ Rolling Stone, Samantha Hissong, Kings of Leon Will Be the First Band to Release an Album as an NFT, 3 March 2021 on <https://www.rollingstone.com/pro/news/kings-of-leon-when-you-see-yourself-album-nft-crypto-1135192/>. See also the offering page of the Kings of Leon album When You See Yourself on OpenSea: <https://opensea.io/assets/ethereum/0x557430421f8f3ed0a92aca211f1c05ad7b606288/0>.

goods such as academic transcripts, professional certificates and general ownership records for different items are advertised and welcomed.¹⁴¹ Therefore, non-fungible tokens offer use cases for non-digital, non-artistic purposes as well. The usage of non-fungible tokens for physical items such as cars or real estate which require registration and insurance related formalities especially is stated to offer great potential.¹⁴²

1.3.3. Non-Fungible Tokens and the Legal Sector

With the advent of non-fungible tokens, big fluctuations also emerged in the legal sector. The legal sector has also been directly affected, both by the emergence of new applications of the non-fungible tokens, and by the fact that NFTs have led to miscellaneous legal questions.

Interesting use cases of non-fungible tokens relating to the legal sector include service documents for notifying defendants and litigation funding through non-fungible tokens.

Recently, Trower J at the United Kingdom High Court of Justice Business and Property Courts of England and Wales in his decision dated 24th June 2022 *D'Aloia v Persons Unknown and Others* granted permission to serve the proceedings to the persons unknown via non-fungible tokens.¹⁴³ The claim was to

¹⁴¹ Drylewski/ Levi.; See, for example the website of Blockbar, a business challenging conventional methods by providing an NFT Marketplace for fine wine and spirits. The drinks are bought along with non-fungible tokens which correspond to a specific bottle enabling the buyer to receive delivery of the bottle or directly selling that bottle in the marketplace: <https://blockbar.com/>.

¹⁴² Kasdan, Michael, “NFTs: What Lawyers Need to Know to Help Clients Navigate This Emerging Space”, <https://www.law.com/nationallawjournal/2022/06/06/nfts-what-lawyers-need-to-know-to-help-clients-navigate-this-emerging-space/>, 6 June 2022. (last accessed : 30.12.2022)

¹⁴³ D'Aloia v. Person Unknown & Others [2022] EWHC 1723 (Ch) ¶¶ 39-41; Gemmel, Katharine, “You’ve Been Served Via NFT: Court Allows Suit on Blockchain”, https://news.bloombergtax.com/crypto/youve-been-served-via-nft-court-gives-ok-to-sue-on-blockchain_13 July 2022. (last accessed : 30.12.2022); Askew, Laura/ Lolysh, Irina/ Abbas, Merfat, “D'Aloia v Persons Unknown: the English courts permit service through an NFT”,

recover approximately 2.1 million Tether and Stablecoin¹⁴⁴, which is approximately 2 million pounds of stolen cryptocurrency.¹⁴⁵ The decision explained the service via non-fungible tokens as “*a form of airdrop into the tda-finan wallets in respect of which the claimant first made his transfer to those behind the tda-finan website.*”¹⁴⁶ Trower J was convinced by the claimant’s attorney Ms Muldoon’s pleas regarding the advantages of service via non-fungible tokens, as it is “*a new form of service [...] [whose effect will be] that the drop of the documents by this means into the system, will embed the service in the blockchain.*”¹⁴⁷ However, the service method was not declared as non-fungible tokens only, as both the claimant requested service by non-fungible tokens in addition to service by email and Trower J did not believe that service by non-fungible tokens only without any alternative means would be sufficient.¹⁴⁸ However, this view later found no support in the England and Wales High Court King’s Bench Division proceedings, as, except for service of the claim form also by email to some of the defendants, two defendants were solely served by non-fungible tokens.¹⁴⁹

Similarly, the Supreme Court of the State of New York County of New York also authorized on 2 June 2022 the legal service through the usage of “*special-purpose Ethereum-based token (the Service Token) delivered- airdropped- into the Address. The Service Token will contain a hyperlink (the Service Hyperlink) to a website [...].*” for the case *LCX AG v John Doe Nos 1-25*.¹⁵⁰ The plaintiff in this case had made a complaint for “*the unauthorized access to and theft of nearly 8*

<https://legalbriefs.deloitte.com/post/102huzd/daloia-v-persons-unknown-the-english-courts-permit-service-through-an-nft>. 16 August 2022. (last accessed : 30.12.2022)

¹⁴⁴ D’Aloia v Person Unknown & Others [2022] EWHC 1723 (Ch) ¶¶ 1, 7.

¹⁴⁵ Gemmel.

¹⁴⁶ D’Aloia v Person Unknown & Others [2022] EWHC 1723 (Ch) ¶ 38.

¹⁴⁷ D’Aloia v Person Unknown & Others [2022] EWHC 1723 (Ch) ¶ 39.

¹⁴⁸ D’Aloia v Person Unknown & Others [2022] EWHC 1723 (Ch) ¶ 40.; Fleetwood, Jemma/ Ferguson, Joe, “*You have been served – via NFT*”, <https://www.jmw.co.uk/services-for-you/family-law/blog/youve-been-served-nft>, 2 September 2022. (last accessed : 30.12.2022)

¹⁴⁹ Osbourne v Persons Unknown & Ors [2023] EWHC 340 (KB) ¶¶ 42-46.

¹⁵⁰ *LCX AG vs. John Doe Nos. 1-25* (Dkt.No.,154644/2022) (N.Y. Supreme, Ct., NY County); Gemmel.

million worth of various virtual assets held [...] based on the Ethereum blockchain.”¹⁵¹

These novel service methods have been welcomed as innovative methods for victims in the crypto world, who are unable to serve their allegedly violating counterparties.¹⁵² However, further questions as to the time when the service by non-fungible tokens take effect, whether the defendant will be notified of the service non-fungible token, privacy and technical concerns were also raised.¹⁵³ The answers to such questions will be shaped by further court decisions which will authorize the service solely through non-fungible tokens.

As a different legal use case, examples of litigation funding through tokenization have been seen for some time through initial litigation offerings (“ILO” s).¹⁵⁴ Comparable to a crowdfunding campaign¹⁵⁵, an ILO is an offering enabled by the blockchain which is used for -usually individual- litigation finance.¹⁵⁶ Through the ILO, the objective is to raise funds in order to cover the

¹⁵¹ LCX AG vs. John Doe Nos. 1-25 (Dkt.No.,154644/2022) (N.Y. Supreme, Ct., NY County), Complaint ¶1-2.

¹⁵² Johnson, Shawn, “Recent US, Uk Digital Court Decisions Provide Flexibility for Litigants. JD Supra” <https://biz.crust.net/recent-us-uk-digital-asset-court-decisions-provide-flexibility-for-litigants-jd-supra/>. 10 August 2022. (last accessed : 30.12.2022)

¹⁵³ Jacobs, Michael, “For a discussion relating to those further quesitons, see: Service of Proceedings via NFT on the Blockchain- a Novel Fad or the Future of Civil Procedure?”, <https://www.jdsupra.com/legalnews/service-of-proceedings-via-nft-on-the-6632858/>. (last accessed : 30.12.2022)

¹⁵⁴ Tevetoglu, Mete, “Cem Uzan NFT’lerinin Akla Getirdikleri: ILO ile Dava Finansmanı!”, <https://kriptokoin.com/cem-uzan-nftlerinin-akla-getirdikleri/>, 24 October 2022.(last accessed : 30.12.2022); Chang, Eric/ McCarthy, Sean, “Litigation Finance and Crypto Tokens: How a Blockchain Startup Seeks to Create Financing Marketplaces for Disputes”, <http://arbitrationblog.kluwerarbitration.com/2022/03/16/litigation-finance-and-crypto-tokens-how-a-blockchain-startup-seeks-to-create-financing-marketplaces-for-disputes>, 16 March 2022. (last accessed : 30.12.2022)

¹⁵⁵ Mediavilla, Richard, “Initial Litigation Offerings (ILO): An Emerging Lawsuit Financing Industry?”, https://www.linkedin.com/pulse/initial-litigation-offerings-ilo-emerging-lawsuit-richard-mediavilla/?trk=public_profile_article_view, 17 January 2022. (last accessed : 30.12.2022)

¹⁵⁶ Chaisse, Julien, “Initial Litigation Token Offering a Look at the Digitised Future of Litigation Funding”, International Financial Law Review, 2022, Issue 3, pp. 19–20.; Republic, “What is an Initial Litigation Token Offering” <https://republic.com/help/what-is-an-initial-litigation-token-offering->

1#:~:text=The%20Initial%20Litigation%20Offering%20(%E2%80%9CILO,be%20over%2018%20to%20participate) (last accessed : 30.12.2022); Tevetoglu.

costs of a lawsuit, and if the claim is successful, the investors and the claimant get a portion of the value awarded in the court.¹⁵⁷ This model is supported through token (non-fungible or other types) offerings.¹⁵⁸ One of the earliest ILO examples is the Apothio Initial Litigation Offering.¹⁵⁹ Apothio, which is an US company focusing on the research and promoting the commercial use of hemp, resorted to an ILO for funding its claim against Kern County in California.¹⁶⁰ The ILO was registered under SEC's Regulation Crowdfunding¹⁶¹ and allowed Apothio to raise up to 5 million USD on Republic platform.¹⁶² However, as of the date of this study, it raised 347,887 USD.¹⁶³ A non-fungible token-specific ILO was initiated by Pool Together Inc when they released NFTs in the "Pooly" collection in three categories in order to raise funds for an ongoing litigation.¹⁶⁴ Currently, the website shows that the 769 ETH funding goal is already attained with 1,042.60 ETH raised.¹⁶⁵

As for more general legal questions relating to the non-fungible tokens, many professionals in the legal sector, from lawyers to judges were affected by issues such as the realization of the ever-importance of contract law¹⁶⁶, emergence

¹⁵⁷ Mediavilla.; Tevetoglu.

¹⁵⁸ Tevetoglu.

¹⁵⁹ Mediavilla.; Tevetoglu.; See Republic's page for the Apothio Initial Litigation Offering both for details on the company, the ILO and the litigation case *Apothio v Kern County et al.*, for which the ILO is initiated at <https://republic.com/apothio>. (last accessed : 30.12.2022)

¹⁶⁰ Republic, <https://republic.com/apothio>. (last accessed : 30.12.2022)

¹⁶¹ 17 CFR Part 227, Regulation Crowdfunding, General Rules and Regulations.

¹⁶² U.S Securities and Exchange Commission, "Regulation Crowdfunding", <https://www.sec.gov/education/smallbusiness/exemptofferings/regcrowdfunding>; Sabaghi, Dario, "A Hemp Company Uses Crypto Tokens to Crowdfund Lawsuit", <https://www.forbes.com/sites/dariosabaghi/2021/11/02/a-hemp-company-uses-crypto-tokens-to-crowdfund-lawsuit/?sh=37277c555f62>; Tevetoglu.

¹⁶³ Republic, "Apothio Initial Litigation Offering", <https://republic.com/apothio> ; For a discussion of the terms in Apothio ILO, see: Chang / McCarthy.

¹⁶⁴ Peterson, Macauley, "PoolTogether Flocks to NFTs To Raise Legal Defense Funds", <https://blockworks.co/pooltogether-flocks-to-nfts-to-raise-legal-defense-funds/>, 31 May 2022. (last accessed : 30.12.2022); Tan, Eli/ Ligon, Cheyenne, "DeFi's PoolTogether Crowdfunds Legal Defense With NFT Collection", <https://www.coindesk.com/business/2022/05/26/defis-pooltogether-crowdfunds-legal-defense-with-nft-collection/>, 26 May 2022. (last accessed: 30.12.2022)

¹⁶⁵ Pooltogether, <https://mint.pooltogether.com/>. (Last accessed : 30 December 2022.)

¹⁶⁶ Kasdan, Michael, "NFTs: What Lawyers Need to Know to Help Clients Navigate This Emerging Space"; See, Musiala, Robert A. Jr./ Bowen, Janine Anthony/ Vela, Erika, "Navigating Contractual Relationships in the NFT Market", BakerHostetler,

of very creative new questions regarding intellectual property rights, the existence of different technologies underlying all these innovations and the necessity of knowing their functions to a certain extent in order to solve legal problems.¹⁶⁷

From the lawyers' point of view, their position necessitates comprehensive expertise and care when they advise on non-fungible token projects. These lawyers, in addition to assisting their clients about the general business structure regarding the creation of the NFT project and most advantageous tax paradigms, they will also will imagine, present, create, and follow-up the corporate structuring of the project; examine whether there are any intellectual property problems that existed before the creation of the project and will pay maximum attention to any arising intellectual property problems throughout the project; and generally will be knowledgeable and vigilant about any arising problems about the project.¹⁶⁸ In addition, they have to beware of various questions relating to employment law issues for the workers in the project and be updates about the cryptocurrency market with which the project functions.¹⁶⁹

Although the criteria cited above require combining many talents and competencies, satisfying all these criteria establishes a convenience for gifted and compelled legal sector professionals to form their mark on a broadly undiscovered area and help shape the precedents of the future.¹⁷⁰

https://www.bakerlaw.com/webfiles/Privacy/2022/3-Navigating%20Contractual%20Relationships%20in%20the%20NFT%20Market_p04.pdf (last accessed: 30.12.2022) for an overview of common relationships surrounding non-fungible tokens.

¹⁶⁷ Hambraeus, Ludvig, “*Non Fungible Tokens and Dispute Resolution*”, CIARB, <https://www.ciarb.org/resources/features/non-fungible-tokens-and-dispute-resolution/>, 19 April 2021. (last accessed : 30.12.2022)

¹⁶⁸ Vander Woude / Tan, p.35.

¹⁶⁹ Hambraeus.; Vander Woude / Tan, p.35.

¹⁷⁰ Hambraeus.

1.4. TECHNICAL BACKGROUND OF NON-FUNGIBLE TOKENS and DEFINITIONS

1.4.1. Blockchain Technology Enabling Non-Fungible Tokens

Although there is not a unified consensus on the definition of blockchain, it is a shared, distributed, transparent, public ledger secured by a consensus mechanism, which enables the addition of new entries but not the alteration of the existing entries and duplicated across computer systems.¹⁷¹ In that sense, Blockchain is a type of decentralized and distributed ledger technology (DLT)¹⁷², as it is a database distributed across numerous sites and network nodes which are cryptographically secured and allows for a specific way of structuring data on a DLT platform.¹⁷³ Therefore, from a functional point of view, blockchain serves as a record-keeping system in which data is stored in small blocks and by multiple contributors on the network.¹⁷⁴

¹⁷¹ Çağlayan Aksoy/ Üner Özkan, p.1116; Frankenfield, Jake, “*Digital Assets*”, <https://www.investopedia.com/terms/d/digital-asset-framework.asp>, 30 June 2022. (last accessed : 30.12.2022); PWC, “*Demystifying cryptocurrency and digital assets*”, <https://www.pwc.com/us/en/tech-effect/emerging-tech/understanding-cryptocurrency-digital-assets.html>. (last accessed : 30.12.2022)

¹⁷² Distributed ledger technologies refer to the technology which allows the keeping and update of records in a decentralized and distributed way. See: *Guadamuz, The Treachery*, p.1369; UK Cryptoassets Taskforce Final Report 2018 pp.8-11, https://assmets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752070/cryptoassets_taskforce_final_report_final_web.pdf.

¹⁷³ Güçlütürk, Osman Gazi, “*Gelişen Teknolojiler ve Hukuk I: Blokzincir ve Hukuk*”, Güçlütürk, Osman Gazi/ Aksoy Retornaz, E. Eylem (Ed.), *Hukukçular İçin Blokzincir Teknolojisinin Teknik İşleyişi: Bitcoin Örneği*, On İki Levha Yayıncılık, İstanbul, 2021, pp.21-22.; Güçlütürk, Osman Gazi, *Blockchain: A Trustless Network or a Technologically Disguised Shift of Trust?*, *Birmingham, Research Paper*, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3440044; Baker & Mckenzie, *Crypto Boot Camp 2022 Glossary*, “Smart Contract” pp.6,8.; UK Cryptoassets Taskforce, *Final Report*, 2018 pp.9, https://assmets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752070/cryptoassets_taskforce_final_report_final_web.pdf.

¹⁷⁴ Güçlütürk, *NFT'lerin Oluşturulması*.

Blockchain therefore offers a method of securely recording information on a peer-to-peer network.¹⁷⁵ Additionally, all members of the network concur that all blockchain transactions are legitimate binding, which is referred to as having “unanimity” in blockchain transactions.¹⁷⁶ This way, it enables the presence of digital assets with the broader scope, with each information added to the blockchain leading to the creation of a digital asset.¹⁷⁷

The nature of blockchain does not allow inappropriate alterations, forgeries or counterfeits.¹⁷⁸ Each transaction is recorded without erasure on the blockchain, and these transactions are irreversible and unrecallable, and open to examination by anyone.¹⁷⁹ Therefore, even a user attempted to make alterations on a block, this would have been seen and understood by all other users of the same blockchain.¹⁸⁰ The number of blockchain users growing everyday enables the detection of such attempts even more easily.¹⁸¹ This way, blockchain technology allows the tracking of history of ownership of a currency, which is public information for willing parties to analyze.¹⁸² Blockchain records are therefore likened to “indestructible certificates¹⁸³” which confirm any transaction happening on the blockchain.

The interest for the blockchain technology was kindled by the cryptocurrency Bitcoin, in fact, the blockchain technology offers many other paradigm changing outcomes such as smart contracts or different types of tokens aside from cryptocurrencies.¹⁸⁴ The fact that non-fungible tokens were also born

¹⁷⁵ PWC, *Demystifying*; Drylewski/ Levi.

¹⁷⁶ Beckman, p.11.

¹⁷⁷ PWC, *Demystifying*.

¹⁷⁸ Beckman,p.10.; Vallabhaneni, Pratin, “*The Rise of NFTs – Opportunities and Legal Issues*”, White & Case <https://www.whitecase.com/insight-alert/rise-nfts-opportunities-and-legal-issues>, 20 April 2021. (last accessed : 30.12.2022)

¹⁷⁹ Çağlayan Aksoy/ Üner Özkan, p.1116.

¹⁸⁰ Beckman,p.11.

¹⁸¹ Beckman,p.11.

¹⁸² Beckman, p..3.

¹⁸³ Koonce/ Carron.

¹⁸⁴ Çağlayan Aksoy/ Üner Özkan, p.1115.

and thus came to the fore with great popularity thanks to this technology¹⁸⁵ is another example of how different and innovative outcomes blockchain technology can produce. The data of NFTs are stored in blockchain, and their endurance is dependent on the endurance of the blockchain.¹⁸⁶

1.4.2. Smart Contracts and Their Application in Non-Fungible Tokens

The term “smart contract” is often referred to as a misnomer¹⁸⁷, because it evokes the concept of a contract in the classical sense, but the actual general operating mechanism is different than a classical contract. A smart contract actually is a self-executing computer code which exists on a decentralized ledger such as blockchain.¹⁸⁸ Smart contracts are open-sourced blockchain protocols,¹⁸⁹ which can run without any possibility of outside interference.¹⁹⁰ Smart contracts are immutable in the sense that reverses and modification are almost impossible¹⁹¹ due to the minimal outside interference. Therefore, their use-cases do not involve contractual relationships which especially involve continuous performance, but rather one-time transactions where a good or service is provided in exchange for money, which usually is cryptocurrency.¹⁹²

¹⁸⁵ Beckman, p.10.

¹⁸⁶ Beckman, p.20.; Majocha /HLS Staff.

¹⁸⁷ Baker & Mckenzie, Crypto Boot Camp 2022 Glossary, “Smart Contract” p.15.

¹⁸⁸ Çağlayan Aksoy, Pınar, *Akıllı Sözleşmelerin Kuruluşu ve Geçerlilik Şartları*, On İki Levha Yayıncılık, 2021, İstanbul, pp.38-44; Castle, p.20. See generally, Levi, Stuart D./ Lipton, Alex B., “*An Introduction to Smart Contracts and Their Potential and Inherent Limitations*”, Harvard Law School Forum On Corporate Governance, <https://corpgov.law.harvard.edu/2018/05/26/an-introduction-to-smart-contracts-andtheir-potential-and-inherent-limitations/>, 26 May 2018.

¹⁸⁹ Vallabhaneni.

¹⁹⁰ Mastropietro.

¹⁹¹ Castle, p.20. See generally, Levi, Stuart D./ Lipton, Alex B., “*An Introduction to Smart Contracts and Their Potential and Inherent Limitations*”, Harvard Law School Forum On Corporate Governance, <https://corpgov.law.harvard.edu/2018/05/26/an-introduction-to-smart-contracts-andtheir-potential-and-inherent-limitations/>, 26 May 2018.

¹⁹² Castle, p.20. See generally, Levi, Stuart D./ Lipton, Alex B., “*An Introduction to Smart Contracts and Their Potential and Inherent Limitations*”, Harvard Law School Forum On Corporate Governance, <https://corpgov.law.harvard.edu/2018/05/26/an-introduction-to-smart-contracts-andtheir-potential-and-inherent-limitations/>, 26 May 2018.

Smart contracts are also used for transfer of assets on the blockchain.¹⁹³ They have been defined as the “heart and soul” of cryptocurrencies and other types of tokens.¹⁹⁴ Non-fungible tokens are created and recorded through smart contracts.¹⁹⁵ Smart contracts utilize various smart contract standards, which are clearly defined rules and requirements to be complied with for a smart contract to operate as intended on the blockchain network and carry out basic functions.¹⁹⁶ These standards include various sub-categories, and token standards is one of them.¹⁹⁷ Token standards serve as a roadmap for the development and issuance of new tokens on the blockchains supporting smart contracts.¹⁹⁸ As underlined in the Section 1.2.2. above, the fungibility of a token is determined by the token standard used. With the non-fungible tokens, digital content is associated with only one single token in a smart contract.¹⁹⁹

Unfortunately, there also seems to be confusion relating to the functioning of smart contracts in NFT purchases. It is true that for some basic transactions of the sale²⁰⁰, such as the consideration and its payment, smart contracts are involved in the process. However, this does not mean that smart contracts govern or contain all the relationship between the seller, the purchaser, and in case there is a third-party agent, the agent,²⁰¹ as this is simply not in accordance with the nature of functioning of smart contracts.²⁰² Of course, an NFT could have informative texts, such as detailed legal texts stored in an off-chain forum, which could indicate details in

¹⁹³ Çağlayan Aksoy, p.74.

¹⁹⁴ Çağlayan Aksoy/ Üner Özkan, p.1118.; Schmitz, Amy J., “*Resolving NFT and Smart Contract Disputes*” The Cambridge Handbook on the Law and Policy of NFTs, Cambridge, 2023 (Expected), p.1 <https://ssrn.com/abstract=4162969>.

¹⁹⁵ Çağlayan Aksoy, p.74.

¹⁹⁶ Crypto.com, “*What are Token Standards? An Overview*” <https://crypto.com/university/what-are-token-standards>, 2 February 2022. (last accessed : 30.12.2022)

¹⁹⁷ Crypto.com.

¹⁹⁸ Crypto.com.

¹⁹⁹ Çağlayan Aksoy/ Üner Özkan, p.1118.

²⁰⁰ Sullivan / Tremaine.

²⁰¹ Sullivan / Tremaine.

²⁰² Çağlayan Aksoy, pp. 48-49; 59-61.

relation to ownership transfer and any relevant licenses.²⁰³ However, the enforcement cannot be achieved by the smart contract itself should there be a non-performance.²⁰⁴

The most cardinal involvement of smart contracts in NFT purchases is without doubt the possibility to arrange for a percentage of royalty payments to the original creator of the NFT. The smart contracts involved in the non-fungible tokens can be programmed to automatically send royalty payments in portions to the original creator or the original owner.²⁰⁵ This feature, among others, was referred to as revolutionary.²⁰⁶ The legal analysis of the royalty payments will be analyzed in the Section 2.4.6. below.

1.4.3. Related Definitions: Digital Assets, Tokens, Tokenization, Cryptocurrency and Non-Fungible Tokens

It is worthy to briefly mention some important definitions in order to fully comprehend the concept of non-fungible tokens.²⁰⁷

One definition is digital assets. A digital asset is an asset corresponding to piece of information that is created, stored, and traded in digital format.²⁰⁸ Hardly

²⁰³ Sullivan / Tremaine.

²⁰⁴ Sullivan / Tremaine.

²⁰⁵ Çağlayan Aksoy/ Üner Özkan, p.1119; Mahmood, G./ Naftalis J./ Ye WV, “*NFTs: What Are You Buying and What Do You Actually Own?*”, The Fashion Law, <https://www.thefashionlaw.com/nfts-what-are-you-buying-and-what-do-you-actually-own/>. 18 March 2021.

²⁰⁶ Sullivan / Tremaine.; Mastropietro.

²⁰⁷ For a concise explanation of the terms explained this chapter, see Çağlayan Aksoy, Pinar, “*The applicability of property law rules for crypto assets: considerations from civil law and common law perspectives*”, Law, Innovation and Technology, DOI: 10.1080/17579961.2023.218414, 2023.

²⁰⁸ Frankenfield.; RSK, “*The Difference between a Cryptocurrency and a Token*”, <https://developers.rsk.co/guides/get-crypto-on-rsk/cryptocurrency-vs-token/>. (last accessed 30.12.2022); Cryptopedia Staff, “*Digital Assets: Cryptocurrencies vs. Tokens*”, <https://www.gemini.com/cryptopedia/cryptocurrencies-vs-tokens-difference>, 28 June 2022.; Gartner Glossary, “*Digital Assets*”, <https://www.gartner.com/en/finance/glossary/digital-assets#:~:text=A%20digital%20asset%20is%20anything,slide%20presentations%2C%20spreadshets%20and%20websites.>

a little more than a decade ago, the term “digital assets” would only refer to digital documents, but with the development of technology, the scope of the term, as well as its usage frequency has much more broadened.²⁰⁹ The uniqueness and the capacity of being identified of the digital assets makes them a commodity for multiple stakeholders.²¹⁰ Tokens (such as security tokens and NFTs) and currencies (such as cryptocurrencies, stable coins and central bank digital currencies); along with “ordinary” types of digital assets such as photos, digital documents, audio documents, metadata, are included under the broader umbrella term digital assets.²¹¹ Recently, the Draft UNIDROIT Principles on Digital Assets and Private Law defined digital assets as “*an electronic record which is capable of being subject to control*”²¹², highlighting the element of control.²¹³ Digital assets constitute a broader category than crypto assets, as the latter are assets which are created

²⁰⁹ Frankenfield.

²¹⁰ Gartner Glossary, “*Digital Assets*”, <https://www.gartner.com/en/finance/glossary/digital-assets#:~:text=A%20digital%20asset%20is%20anything,slide%20presentations%2C%20spreadsheets%20and%20websites>

²¹¹ PWC, *Demystifying*.

²¹² International Institute for the Unification of Private Law (UNIDROIT), Draft UNIDROIT Principles on Digital Assets and Private Law, January 2023, <https://www.unidroit.org/wp-content/uploads/2023/01/Draft-Principles-and-Commentary-Public-Consultation.pdf>, Principle 2 Definitions.

²¹³ Draft UNIDROIT Principles explains in further detail the definition of control in its Article 6, as: “(1) A person has ‘control’ of a digital asset if: (a) subject to paragraphs (2) and (3), the digital asset, or the relevant protocol or system, confers on that person: (i) the exclusive ability to prevent others from obtaining substantially all of the benefit from the digital asset; (ii) the ability to obtain substantially all the benefit from the digital asset; and (iii) the exclusive ability to transfer the abilities in subparagraphs (a)(i), (a)(ii) and (a)(iii) to another person (a ‘change of control’). (b) the digital asset, or the relevant protocols or system, allows that person to identify itself as having the abilities set out in paragraph (1)(a). (2) A change of control includes the replacement, modification, destruction, cancellation, or elimination of a digital asset, and the resulting and corresponding derivative creation of a new digital asset (a ‘resulting digital asset’) which is subject to the control of another person. (3) An ability for the purposes of paragraph (1)(a) need not be exclusive if and to the extent that: (a) the digital asset, or the relevant protocol or system, limits the use of, or is programmed to make changes to, the digital asset, including change or loss of control of the digital asset; or (b) the person in control has agreed, consented to, or acquiesced in sharing that ability with one or more other persons.”

through platforms built on other blockchains, whereas the former category also includes assets which do not use distributed ledger technologies.²¹⁴

Another important general term is “token”. Tokens are a type of digital asset, which are issued in association with an application using an existing blockchain.²¹⁵ Technically, tokens essentially are digital information units (pieces of codes) in the form of software codes which have specific pre-programmable logic functions, built onto the blockchain via smart contracts.²¹⁶ Each of these codes are identified by “hash”, which is a long subsequence of numbers and letters.²¹⁷ The tokens can perform various tasks and can be trusted by other software using the same network.²¹⁸ Tokens had traditionally been used for ensuring the security of transactions occurring in the digital realm, and currently, they are one of the most crucial uses of blockchain technology.²¹⁹ They function to represent rights and assets in the blockchain.²²⁰ These tokens are issued through Initial Coin Offerings, abbreviated commonly as ICOs.²²¹ The logic is similar to initial public offerings (IPOs); however, instead of receiving stocks in return for the investment, ICOs provide the ownership of a token.²²² Although there is no agreed categorization of tokens, usually the categorization with the three following group is used: payment tokens, utility tokens and a third category which is generally referred to as security tokens.²²³ Cryptocurrencies such as Ethereum is an example of a payment tokens,

²¹⁴ Çağlayan Aksoy, Pinar, “*The applicability of property law rules for crypto assets: considerations from civil law and common law perspectives*”, Law, Innovation and Technology, DOI: 10.1080/17579961.2023.218414, 2023, p.5.

²¹⁵ Baker & McKenzie, Crypto Boot Camp 2022 Glossary, “Smart Contract” p.15.

²¹⁶ Guadamuz, *The Treachery*, p.1370.; Sullivan / Tremaine.; RSK.; Expoverse.; Çağlayan Aksoy/ Üner Özkan, p.1116.

²¹⁷ Sullivan / Tremaine.

²¹⁸ Castle, p.21-22.

²¹⁹ Çağlayan Aksoy/ Üner Özkan, p.1116.

²²⁰ Çağlayan Aksoy/ Üner Özkan, p.1117.

²²¹ Sharma, Toshendre Kumar, “*Security Tokens Vs. Utility Tokens : A Concise Guide*”.

<https://www.blockchain-council.org/blockchain/security-tokens-vs-utility-tokens-a-concise-guide/>, 8 September 2022. (last accessed : 30.12.2022)

²²² Sharma.

²²³ Çağlayan Aksoy/ Üner Özkan, p.1117.; Yüksel / Güçlütürk, pp.185-186.

as they are used as payment instruments for goods and services.²²⁴ The definition of utility tokens underlines the token's provision of access for some applications or services.²²⁵ Most fan tokens made by sports clubs can be qualified as utility tokens, as they provide some utilities for the purchasers.²²⁶ For instance, owners of GS Token of Galatasaray Sports Club have had, through their ownership of the GS Token, the opportunities to choose the warm-up song, decide on the design of the locker room door or the goalkeeper gloves.²²⁷ Security tokens are used as investment, they reflect ownership or other rights and their value is dependent on assets.²²⁸

The legal nature of tokens, as to whether classify them as securities, commodities or under another category, is also debated among scholars.²²⁹ For example, some argued that, as tokens are issued through initial coin offerings, they are more akin to securities while others argued that they are more akin to commodities and therefore shall be categorized as so.²³⁰

Another term related to tokens is "tokenization", which refers to the process of conversion of tangible or virtual assets into digital units.²³¹ non-fungible tokens are important in the sense that they allow the tokenization of any digital material.²³²

²²⁴ Çağlayan Aksoy/ Üner Özkan, p.1117.; Yüksel / Güçlütürk, pp.185-186.

²²⁵ Çağlayan Aksoy/ Üner Özkan, p.1117.; Yüksel / Güçlütürk, pp.185-186.

²²⁶ Protokol, "Blockchain Fan Tokens Unlock New Revenue Streams for Sports Teams", <https://www.protokol.com/insights/blockchain-fan-tokens-revenue-streams-sports-teams/#:~:text=The%20Fan%20Token%20is%20usually,and%20bonuses%20not%20possible%20elsewhere.>

²²⁷ Galatasaray Fan Token, <https://fantoken.com/gal/tr/>.

²²⁸ Çağlayan Aksoy/ Üner Özkan, p.1117; Baker & Mckenzie, Crypto Boot Camp 2022 Glossary, "Smart Contract" p.15.

²²⁹ Çağlayan Aksoy/ Üner Özkan, p.1117;

²³⁰ Tevetoğlu, Beckman, pp.156-157.

²³¹ Çağlayan Aksoy/ Üner Özkan, f.n.11.

²³² Kasdan, *Don't Write Off NFTs.*; Drylewski/ Levi.; Opensea, "What is an NFT".

Another important term is “cryptocurrency”. A cryptocurrency is a form of digital currency which is exchanged by distributed ledger technologies.²³³ Its value is based on the agreement of its tradability and its inherent value.²³⁴

One of the features which separates the behavior of cryptocurrencies and tokens are, that, although they behave alike, cryptocurrencies do not use the juxtaposed smart contracts on the blockchain.²³⁵ Rather, cryptocurrencies’ behavior is interred in the blockchain.²³⁶ The other difference can be cited as NFTs are not necessarily used as money.²³⁷

One author has underlined that although the NFTs are also based on blockchain technology as their sister products which are cryptocurrencies, this does not mean that they have the same volatility and risky nature; nor they will also be tied to each other for NFT purchases, owing to some attempts from payment processing corporation and cryptocurrency platform jointly with announcements regarding the allowing of credit card or debit card payments for NFT purchases instead of cryptocurrencies only.²³⁸ The issue of paying with cryptocurrencies only has been dealt by market places such as OpenSea or Rarible successively through crypto-payment platforms Moonpay²³⁹ and Wert²⁴⁰ purchasing cryptocurrency by using fiat money provided by the purchaser by their card.²⁴¹ However, even if the

²³³ Baker & Mckenzie, Crypto Boot Camp 2022 Glossary, “Smart Contract” p.7.

²³⁴ Çağlayan Aksoy, Property Rules, p.5.

²³⁵ RSK.

²³⁶ RSK.

²³⁷ Expoverse.

²³⁸ Kasdan, *Don't Write Off NFTs.*; Dhamodharan, Raj, “Mastercard brings its payments network to Web3 and NFTs” <https://www.mastercard.com/news/perspectives/2022/simple-nft-purchasing-on-nft-marketplaces/>, June 2022.; Yang, Yueqi, “Coinbase to Let NFT Buyers Use Mastercard, Bypassing Crypto (I)” <https://news.bloomberglaw.com/banking-law/coinbase-to-let-nft-buyers-use-mastercard-bypassing-crypto-1>, 18 January 2022.; Yang, Yueqi, “You Won't Need Crypto to Buy an NFT on Coinbase's Marketplace” <https://www.bloomberg.com/news/articles/2022-01-18/coinbase-to-allow-nft-purchases-without-crypto-via-mastercard#xj4y7vzkg>, 18 January 2022.; Non Fungible.com, Quarterly NFT Market Report, 2022, p.14.

²³⁹ Moonpay, <https://www.moonpay.com/>.

²⁴⁰ Wert.io, <https://wert.io/>.

²⁴¹ George, Benedict, “Can You Buy NFTs Without Owning Crypto?” <https://www.coindesk.com/learn/can-you-buy-nfts-without-owning-crypto/>, 23 August 2022.

purchase of the NFT can be made directly through other payment systems, the users will still need crypto wallets as the gateways allowing access to the NFTs stored on the blockchain.²⁴²

1.5.HOW TO MINT, BUY AND SELL NON-FUNGIBLE TOKENS

1.5.1. Minting and Burning Non-Fungible Tokens

The process of creation of a non-fungible token is called minting.²⁴³ Minting essentially refers to the process of creating a new digital asset such as a non-fungible token. It entails creating and deploying a smart contract on a blockchain that specifies the asset's characteristics and regulations. Through minting, a digital artwork can be transformed into a data file by using blockchain, thus creating a unique digital version of the artwork.²⁴⁴

In the financial context, the word minting, which means to produce something new²⁴⁵ is traditionally used as producing coins for the government.²⁴⁶

It is worth mentioning the act of mining briefly here and highlighting the differences between minting and mining. Crypto mining and coin minting are comparable because they both work toward a common goal using various strategies.²⁴⁷ However, while both minting and mining aim to perform the

²⁴² Yang, Yueqi, "Coinbase to Let NFT Buyers Use Mastercard, Bypassing Crypto (1)" <https://news.bloomberglaw.com/banking-law/coinbase-to-let-nft-buyers-use-mastercard-bypassing-crypto-1>, 18 January 2022.; George, Benedict, "Can You Buy NFTs Without Owning Crypto?" <https://www.coindesk.com/learn/can-you-buy-nfts-without-owning-crypto/>, 23 August 2022.; Cavan, Alistair, "Why do I Need a Crypto Wallet for NFTs?" <https://www.electricartefacts.art/news/why-do-i-need-a-crypto-wallet-for-nfts>, 4 June 2021.; Bybit, "What Makes a Good NFT Wallet? Here's 5 of the Best Ones" <https://learn.bybit.com/nft/best-nft-wallet/>, 16 March 2022.;

²⁴³ Guadamuz, *The Treachery*, p.1370.

²⁴⁴ Çağlayan Aksoy, p.74

²⁴⁵ Cambridge Dictionary, <https://dictionary.cambridge.org/dictionary/english/mint?q=to+mint>.

²⁴⁶ Cambridge Dictionary, <https://dictionary.cambridge.org/dictionary/english/mint?q=to+mint>.

²⁴⁷ CoinEx Academy, "How is Crypto Minting Different from Crypto Mining?" at https://www.coinex.com/blog/en_US/1725-how-is-crypto-minting-different-from-crypto-

development and administration of digital assets, they serve different functions and call for different resources and abilities.²⁴⁸ While cryptocurrency staking uses Proof-of-Stake consensus, cryptocurrency mining uses Proof-of-Work.²⁴⁹ During mining, blocks of transactions are verified by nodes doing mathematical operations.²⁵⁰ Miners work to verify transactions and add them to the blockchain in the form of a new block in a decentralized cryptocurrency network. Mining requires a lot of electricity and calls for strong computer hardware, and miners are generally rewarded with a small quantity of the cryptocurrency mined.²⁵¹ During minting, blocks of transactions are confirmed by validators staking the blockchain's native coin.²⁵²

Minting of a non-fungible token can occur in a number of ways.²⁵³ One easy alternative is to use a non-fungible token platform or intermediary such as OpenSea, Rarible, or Mintable that allows the user to design and mint one's own NFTs.²⁵⁴ These platforms offer simple interfaces and tools for creating and managing non-fungible tokens to users. Another more technical alternative is to use a smart contract development platform in order to create custom smart contracts. This method calls for some technical know-how and coding and smart contract experience.²⁵⁵ Yet another method is to use a pre-existing non-fungible token standard, such as ERC-721 or ERC-1155.²⁵⁶ Thereafter, a digital file can be used to

mining?categoryId=0 , 23 November 2022 (last accessed : 30.12.2022); Craig, Jeffrey, “*Crypto Minting vs Mining: What’s the Difference?*” at <https://phemex.com/blogs/crypto-minting-vs-crypto-mining> , 7 August 2021. (last accessed : 30.12.2022)

²⁴⁸ CoinEx Academy; Craig.

²⁴⁹ See Tang, Nicolas “*What is Staking: PoW vs. PoS Explained*” at <https://phemex.com/academy/what-is-staking>, 18 August 2022. (last accessed : 30.12.2022); Baker & Mckenzie, Crypto Boot Camp 2022 Glossary, “Proof-of-work” and “Proof-of-stake”, p.14.

²⁵⁰ Baker & Mckenzie, Crypto Boot Camp 2022 Glossary, “Proof-of-work” p.14; CoinEx Academy.; Craig.

²⁵¹ Baker & Mckenzie, Crypto Boot Camp 2022 Glossary, “Proof-of-work” p.14; CoinEx Academy.; Craig.

²⁵² CoinEx Academy.; Craig.

²⁵³ Guadamuz, *The Treachery*, p.1370.

²⁵⁴ Guadamuz, *The Treachery*, p.1371.

²⁵⁵ Guadamuz, *The Treachery*, p.1371.

²⁵⁶ While ERC-721 only supports the creation of non-fungible tokens, the ERC-1155 standard supports the creation of fungible tokens and semi-fungible tokens as well. See Ethereum, “ERC-

produce a contract which produces the metadata to be written on the Ethereum blockchain.²⁵⁷

Regardless of the chosen method, a crypto wallet²⁵⁸, such as Metamask or Binance that is compatible with the used blockchain, along with some native cryptocurrency of the blockchain (such as ether for Ethereum) are required in order to cover the costs of producing and transferring the non-fungible tokens.

There are many blockchains that are compatible with the non-fungible token standards, such as Ethereum, Binance Smart Chain, Polkadot, Tron, Tezos, EOS, WAX and Cosmos.²⁵⁹ Ethereum blockchain is one of the most popular platforms for the creation and trade of non-fungible tokens.²⁶⁰ NFTs created on Ethereum use smart contracts using the ERC-721 standard.²⁶¹ This standard includes a set of rules regarding the minting, transfer, and destruction of the NFTs.²⁶²

The access to the non-fungible token is restricted thanks to a public-private key pair; in which the public key is available in general to all users on the blockchain, whereas the private key, comparable to online banking identification information²⁶³, is only known by the owner of the non-fungible token.

Therefore, in cases minting a non-fungible token on a non-fungible token platform (such as OpenSea) is chosen, creation of the represented asset, purchasing the cryptocurrency (in OpenSea's case, Ethereum) from a crypto trading platform, constructing a crypto wallet and connecting that crypto wallet to the non-fungible

1155 Multi-Token Standard", <https://ethereum.org/en/developers/docs/standards/tokens/erc-1155/>. See also Section 1.2.2 above.

²⁵⁷ Guadamuz, *The Treachery*, p.1370.

²⁵⁸ A cryptocurrency wallet is a software program which stores the crypto assets and enables access to digital assets. For the scope of this study, types of cryptowallets will not be discussed. For more details relating to crypto wallets, see: Frankenfield.

²⁵⁹ Filorinali, p.18; NFI, "What is Minting an NFT? Everything You Need to Know", <https://www.nfi.edu/what-is-minting-an-nft/>.

²⁶⁰ Mastropietro..

²⁶¹ Çağlayan Aksoy, p.74; Mastropietro..

²⁶² Mastropietro..

²⁶³ Von Appen..

token platform can be summarized as preceding steps to minting a non-fungible token.²⁶⁴

As underlined in Section 1.4. above, due to the immutable nature of the records on the blockchain, once a non-fungible token is minted, it will continue existing on the blockchain.²⁶⁵ It is generally not possible to alter, delete or remove the non-fungible tokens.²⁶⁶ Therefore, the access to the non-fungible token can be restricted by sending the non-fungible token to a digital wallet address that is not possessed or used by anyone.²⁶⁷ This way, the non-fungible token will carry on its life, however its circulation and access will be blocked.²⁶⁸ This process is called burning.

1.5.2. Non-Fungible Token Marketplaces and Creating Communities for Buying and Selling Non-Fungible Tokens

The various marketplaces for non-fungible tokens advertise and promote the non-fungible tokens and intermediate their transactions²⁶⁹, in a way, similar to a physical art gallery or an auction house. The marketplaces have a percentage of each non-fungible token purchase²⁷⁰.

There are popular non-fungible token marketplaces such as OpenSea, Rarible, Nifty Gateway and SuperRare. Most NFT marketplaces have on their website the relevant terms and conditions for the sale of the NFTs.²⁷¹ However, it

²⁶⁴ Boscovic, Dragan, “How Nonfungible Tokens Work and Where They Get Their Value- A Cryptocurrency Expert Explains NFTs” <https://news.yahoo.com/nonfungible-tokens-where-value-cryptocurrency-121647853.html>, 9 April 2022.

²⁶⁵ NFTEExplained.info, “What is Burning an NFT? A Complete Guide and Explanation” <https://nftexplained.info/what-is-burning-an-nft-a-complete-guide-and-explanation/>.

²⁶⁶ Çağlayan Aksoy, p.75.

²⁶⁷ NFTEExplained.info.

²⁶⁸ NFTEExplained.info.

²⁶⁹ Beckman,p.25.

²⁷⁰ Beckman,p.25.

²⁷¹ Sullivan / Tremaine.

is not quite clear what would happen if the same NFT is repurchased at another platform at the secondary market.²⁷²

A very important factor for the success of a non-fungible token project is the building of a community for that project.²⁷³ An active community boosts interest in the project and leads to increased sales and prices as well as providing value on crucial levels for the stable and ambitious continuance of the project, such as providing valuable feedback, support and encouragement; and opening possibilities for potential collaborations and partnerships.²⁷⁴ Being active on various social media platforms such as Discord and Twitter, creating an organic community built on transparency, communication and vision is a factor directly correlated to the success of a non-fungible token project.²⁷⁵ Within this scope, the importance of decentralized autonomous organizations (DAOs)²⁷⁶ is evident. Some market actors give great importance to create DAOs for ensuring the democratic progress of their NFT projects.²⁷⁷ The DAOs also have the potential to be useful for funding numerous other projects through the trading of the NFTs.²⁷⁸

²⁷² Sullivan / Tremaine.

²⁷³ Eimer, Holly, “*The Importance of Community in the NFT Realm*”, <https://medium.com/coinmonks/the-importance-of-community-in-the-nft-realm-e4cf35ee30a1>, 27 June 2022.; Willis, Luke, “*The Importance of Community in NFTs*”, <https://blog.cryptostars.is/the-importance-of-community-in-nfts-6816d8f6bb12>, 11 February 2022.

²⁷⁴ Abdi, Shaun, “*Community Benefits Are Key to The Long-Term Success of Utility NFTs*”, <https://www.nasdaq.com/articles/community-benefits-are-key-to-the-long-term-success-of-utility-nfts>, 10 August 2022.

²⁷⁵ van Dorland, “*How to Build a Strong NFT Community*”, <https://www.entrepreneur.com/science-technology/how-to-build-a-strong-nft-community/418361>, 6 April 2022.; Token Minds, “*NFT Crypto Community: 6 Powerful Strategies of Building an Engaged Society for Your Project*” <https://tokenminds.co/blog/knowledge-base/nft-crypto-community-how-to-build-nfts-community-for-success/>.

²⁷⁶ Distributed autonomous organizations, DAOs in short, community-led entities with no central authority that serve as governance mechanisms, governed by computer codes that connect a collection of smart contracts and serve as governance mechanisms. See Güçlütürk, Osman Gazi, “*The DAO Hack Explained: Unfortunate Take-off of Smart Contracts*”, <https://ogucluturk.medium.com/the-dao-hack-explained-unfortunate-take-off-of-smart-contracts-2bd8c8db3562>, 1 August 2018.; Wilson, Martin, *Art Law and the Business of Art*, Edward Edgar Publishing, 2022, p.50.

²⁷⁷ Vander Woude / Tan, p.35.

²⁷⁸ Vander Woude / Tan, p.37. ; Wilson, 2022, pp.50-51.

1.6.CURRENT MARKET OF NON-FUNGIBLE TOKENS

2021 has presented itself with an eruptive growth of the NFT market and popularity of the NFTs.²⁷⁹ Grand View Research estimated that the volume of the non-fungible token market could amount to \$211.72 billion by 2030²⁸⁰

Beeple's *Everydays* sale, according to Christie's records, achieved a \$69,346,250 sale price and set "*the third highest price for a living artist at auction in a watershed moment in the development of digital art.*"²⁸¹ The bidding breakdown provided by Christie's is also important for detecting market behavior: 91% of the bidders were new bidders to Christie's; with the age breakdown being 6% of Z generation, 58% millennials, 33% X Generation and 3% of Baby Boomers.²⁸²

High prices such as the sale price of *Everydays* spiked interest in the non-fungible tokens. There have even been commentaries that the rise of NFTs were owed to lockdown boredom²⁸³ caused by the Covid-19 pandemic.

²⁷⁹ McAndrew, Clare, *The Art Market 2022*, Art Basel and UBS, p.22; Huertas / Hiki, p. 132; Koonce/ Carron.; Elan, Nail, "*Pulp Fiction NFT Lawsuit (Miramax V. Tarantino, Et Al.): A Preview Of Coming Attractions*", <https://www.forbes.com/sites/legalentertainment/2022/07/25/pulp-fiction-nft-lawsuit-miramax-v-tarantino-et-al-a-preview-of-coming-attractions/?sh=710bc58b6ca2>, 25 July 2022.

²⁸⁰ Grand View Research, *Non-fungible Token Market Size, Share & Trends Analysis Report by Type (Physical Asset, Digital Asset), By Application (Collectibles, Art, Gaming), By End Use, By Region, And Segment Forecasts, 2022-2030*, <https://www.grandviewresearch.com/industry-analysis/non-fungible-token-market-report>.

²⁸¹ Christie's, "*RESULTS: Beeple's Purely Digital NFT-Based Work of Art Achieves \$69.3 Million at Christie's*" <https://www.christies.com/about-us/press-archive/details?PressReleaseID=9970&lid=1>.

²⁸² Christie's, "*RESULTS: Beeple's Purely Digital NFT-Based Work of Art Achieves \$69.3 Million at Christie's*" <https://www.christies.com/about-us/press-archive/details?PressReleaseID=9970&lid=1>.

²⁸³ For Rebeca Tushnet's interview in which she relates the rise in the interest for NFTs to lockdown boredom by referring to Matt Levine's "Boredom Markets Hypothesis", see: Majocha /HLS Staff.; Von Appen..

Artists, art collectors, technology developers, dealers, marketers, entrepreneurs, security specialists, investors, and increasingly, lawyers from different jurisdictions form a part of the current NFT community.²⁸⁴

Thanks to all the good numbers of 2021 and optimistic estimations, it was expected that the year 2022 would start and proceed with great continuing interest.²⁸⁵ Key non-fungible token highlights of the year included *inter alia* Samsung's adding of the non-fungible token trading app to televisions, Twitter's application of hexagon-shaped profile pictures in the timeline, inauguration of non-fungible token museum in the United States, LimeWire's return as a non-fungible token marketplace, purchase of Cryptopunks and Meebits by the creator of Bored Ape Yacht Club, Starbucks' non-fungible token initiative announcement, addition of non-fungible token marketplace by popular Japanese social messaging app Line, launch of a non-fungible token by Madonna and Beeple, Mastercard's project for allowing cardholders to purchase non-fungible tokens on different marketplaces, eBay's acquisition of non-fungible token marketplace KnownOrigin, Shanghai municipal government's inclusion of the non-fungible tokens in its 5-year plan²⁸⁶, Tiffany and Co's custom Cryptopunk NFTiff pendant project.²⁸⁷ On the other hand, there have also been projects and artists which could not successfully evaluate the behavior of the market and thus did not have huge success with their projects as expected. One such example is Takashi Murakami, who has quite a few non-fungible token projects, faced an unfortunate back drop with the prices of his art works.²⁸⁸

²⁸⁴ Vander Woude / Tan, p.34.

²⁸⁵ Huertas / Hinkl, p.132

²⁸⁶ Attlee, David, "*Shanghai included blockchain, NFTs and Web3 in its 5 year plan*" <https://cointelegraph.com/news/shanghai-included-blockchain-nfts-and-web3-in-its-5-year-plan>. 13 July 2022.

²⁸⁷ Non Fungible.com, Quarterly NFT Market Report, Q1, 2022, p.12; Non Fungible.com, Quarterly NFT Market Report, Q2, 2022, p.14; Non Fungible.com, Quarterly NFT Market Report, Q3, 2022, p.14.

²⁸⁸ Beckman, p.20; Castor, Amy "*I Am Very Sorry': Takashi Murakami Apologizes to His Crypto Investors on Twitter as His NFT Prices Nosedive*" <https://news.artnet.com/market/takashi-murakami-nft-collapse-2131025>, 15 June 2022. (last accessed : 30.12.2022)

While estimates for the non-fungible token market vary depending on the source, one source claims that investments in non-fungible tokens increased from \$15.54 billion in 2021 to \$20.44 billion in 2022.²⁸⁹ On the other hand, some demonstrate that the year 2022 did not exactly show that the hype and popularity expected. According to NonFungible.com's report, in the beginning of the year 2022, the volume of USD traded in the non-fungible token market had a 13.25% increase in the first quarter of 2022 in comparison to the fourth quarter of 2021.²⁹⁰ The average price in this period also saw an increase by 80.07%.²⁹¹ However, the number of sales dropped by 46.96% and the active wallets decreased by 25.34%.²⁹²

The rest of the year did not show any better performance. The second quarter of 2022 showed a 24.82% decrease in the total volume of USD traded²⁹³ and a 20.05 decrease in the volume of sales²⁹⁴ in comparison to the first quarter.²⁹⁵ Active wallets dropped by 33.13% and average price decreased by 6.01%.²⁹⁶

The third quarter proceeded with the decline in nearly every criterion, with the volume of USD traded showing an immense 77% average price showing a shocking 76%, volume of sales showing a 5%, and active wallets showing 17% decrease.²⁹⁷

Table 1 below summarizes the market situation in 2022, highlighting the continuing decline.

²⁸⁹ Schmitz, Amy J., "Resolving NFT and Smart Contract Disputes" The Cambridge Handbook on the Law and Policy of NFTs, Cambridge, 2023 (Expected), p.7
<https://ssrn.com/abstract=4162969>.

²⁹⁰ Non Fungible.com, Quarterly NFT Market Report, Q1, 2022, p.15.

²⁹¹ Non Fungible.com, Quarterly NFT Market Report, Q1, 2022, p.15.

²⁹² Non Fungible.com, Quarterly NFT Market Report, Q1, 2022, p.15.

²⁹³ Non Fungible.com, Quarterly NFT Market Report, Q2, 2022, p.17.

²⁹⁴ Non Fungible.com, Quarterly NFT Market Report, Q2, 2022, p.17.

²⁹⁵ Tomassichio, Amelia, "NFT: -24% in sales compared to Q1 2022"
<https://en.cryptonomist.ch/2022/07/27/nft-24-sales-compared-q1-2022/>, 27 July 2022. (last accessed : 30.12.2022)

²⁹⁶ Non Fungible.com, Quarterly NFT Market Report, Q2, 2022, p.17.

²⁹⁷ Non Fungible.com, Quarterly NFT Market Report, Q3, 2022, p.17.

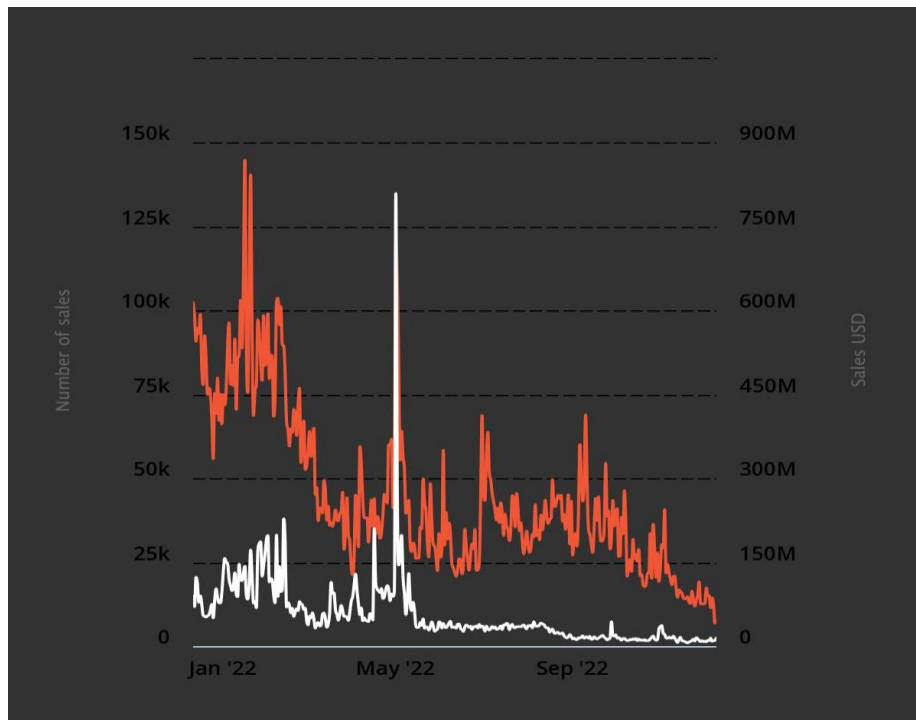


Table 1: Table showing the number of sales and USD amounts of Non-Fungible Tokens throughout 2022.²⁹⁸

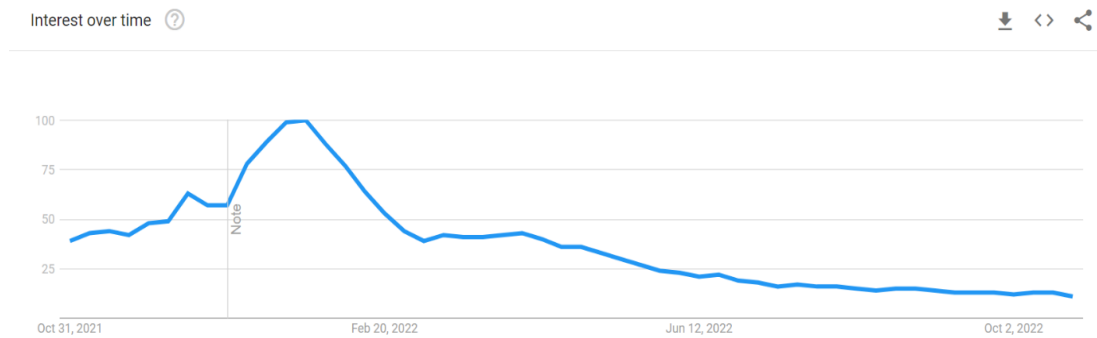


Table 2: Graphic obtained from Google Trends showing the worldwide popularity of term “NFT” with peak between January 23-29 2022²⁹⁹

²⁹⁸ This table is prepared by Nonfungible.com, which is a Canadian website providing non-fungible tokens data resources and real-time digital asset tracking services. See: <https://nonfungible.com/>

²⁹⁹ Google Trends, <https://trends.google.com/trends/explore?q=NFT>

The art market had long time been criticized for being available only to a small, secluded, and elitist stakeholders in specific locations, with very small room for diversity.³⁰⁰ Similarly, while the non-fungible token market has a vast pool of (mostly new) contributors coming from various backgrounds, with the presence of younger artists around the age of 20 more dominant, significant male dominance and the majority of European artists on this market is also concerning.³⁰¹ In addition, it is stated that the non-fungible token market has a rather “winner takes it all” feature, with a very small percentage of artists benefiting greatly from total number of sales.³⁰²

Although there are expectations for the non-fungible token market to continue declining, some expect the NFT market to regulate itself with many other new trends after potential declines.³⁰³

³⁰⁰ Beckman, pp.50, 51; Petterson, Anders, ArtTactic's Anders Petterson on the State of the NFT Market, <https://soundcloud.com/arttactic/arttactics-anders-petterson-on-the-state-of-the-nft-market>.

³⁰¹ Petterson, Anders, ArtTactic's Anders Petterson on the State of the NFT Market, <https://soundcloud.com/arttactic/arttactics-anders-petterson-on-the-state-of-the-nft-market>.

³⁰² Petterson, Anders, ArtTactic's Anders Petterson on the State of the NFT Market, <https://soundcloud.com/arttactic/arttactics-anders-petterson-on-the-state-of-the-nft-market>.

³⁰³ Resch, Magnus, “*The Art World Underestimates the Power of NFTs*”, <https://www.coindesk.com/consensus-magazine/2022/12/15/nfts-revolution-art-market-galleries-crypto-2023/>, 15 December 2022; Petterson, Anders, ArtTactic's Anders Petterson on the State of the NFT Market, <https://soundcloud.com/arttactic/arttactics-anders-petterson-on-the-state-of-the-nft-market>.

SECOND CHAPTER

EFFECTS OF NON-FUNGIBLE TOKENS IN ART LAW

2.1. LEGAL QUALIFICATIONS OF NON-FUNGIBLE TOKENS

Categorizing and providing a definite legal definition for an instrument is not always quite easy, especially when these instruments are the product of rapidly developing technologies and can display defining features of more than one categorization. The classification and regulation of other digital assets such as cryptocurrencies by governments and regulating bodies have indeed been slow-paced.³⁰⁴ After a rather slow process (in comparison to the pace of the technological developments) involving intense discussions, consensus on certain principles on this issue has only just begun to be achieved. It is also stated that in some cases, this slow process through any regulation enables the rapid development of the technology, instead of restricting it in an early stage.³⁰⁵ This inclination as to not overly control and hastily regulate technological instruments has been also verbalized by some state institutions.³⁰⁶

Similarly with most crypto assets, it is difficult to provide a legal definition and explain the legal nature of the non-fungible tokens.³⁰⁷ Starting with the question whether non-fungible tokens are mere information, it is then important to analyze non-fungible tokens' compatibility with being defined as a property. Furthermore, other legal qualification questions arise mostly within financial regulations realm. Determining whether non-fungible tokens constitute securities, financial

³⁰⁴ Beckman, p.155.

³⁰⁵ Beckman, pp.155-156.

³⁰⁶ Gofort, Carol, “*US Law: Crypto is Money, Property, a Commodity, and a Security, all at the Same Time*”, <https://blogs.law.ox.ac.uk/business-law-blog/blog/2018/12/us-law-crypto-money-property-commodity-and-security-all-same-time>, 7 December 2018. (last accessed : 30.12.2022)

³⁰⁷ Salmon, John/ von Gerlach, Leopold, “*Non-fungible tokens: NFTs and the silence of the EU legislator*”, <https://www.jdsupra.com/legalnews/non-fungible-tokens-nfts-and-the-2780299/>, 28 October 2021. (last accessed : 30.12.2022)

instruments, or electronic money are some of the important definitional questions to be solved.

Within the scope of this section, brief discussions relating to the qualification of non-fungible tokens as mere information, qualification of non-fungible tokens as property and qualification of non-fungible tokens as securities will be stated.

2.1.1. Do Non-Fungible Tokens Constitute Mere Information?

The first obstacle in the itinerary to legally qualify non-fungible tokens starts with the analysis of whether non-fungible tokens are mere information.³⁰⁸ As the key feature of the non-fungible tokens is the demonstration of the fact that one owns something else, briefly information, there could have been arguments as to qualify non-fungible tokens as information only.³⁰⁹ This would, of course, make it quite difficult to attribute to the non-fungible tokens property status as there would be objections especially on the fact that conventional ownership concepts do not fit with information.³¹⁰ Luckily, these debates have been matured enough for some time for crypto assets (especially for cryptocurrencies), pointing out that charactering crypto assets as mere information would not be accurate.³¹¹ For instance, the UK Jurisdiction Taskforce indicated in their Launch of the Legal Statement on the Status of Cryptoassets and Smart Contracts that, cryptoassets have all the legal indicia of property and are to be treated as property under English law for two reasons:³¹²

³⁰⁸ The decision *Janesh s/o Rajkumar v Unknown Persons(CHEFPIERRE)* of Singapore High Court provides an on point analysis of this separation. *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)*, [2022] SGHC 264.

³⁰⁹ High Court of the Republic of Singapore [2022] SGHC 264 ¶ 56.

³¹⁰ High Court of the Republic of Singapore [2022] SGHC 264 ¶ 57; Woan, Lee Pey, “*Personal Data as a Proprietary Resource*”, Yew, Gary Chan Kok/Man Yip (Ed.),), *AI, Data and Private Law: Translating Theory into Practice* , 2021, Hart Publishing, p.101..

³¹¹ High Court of the Republic of Singapore [2022] SGHC 264 ¶¶ 57-58.

³¹² Vos, Geoffrey, “*The Launch of the Legal Statement on the Status of Cryptoassets and Smart Contracts*”, UK Jurisdiction Taskforce, 18 November 2019, https://www.judiciary.uk/wp-content/uploads/2019/11/LegalStatementLaunch.GV_.2.pdf. (Emphasis added).

*“First, the novel features of some crypto assets, such as intangibility, cryptographic authentication, use of a distributed transaction ledger, decentralization, and rule by consensus **do not disqualify them from being property.***

Secondly, they are not disqualified from being property either because they can be regarded as pure information, or because it might not be possible to classify them as being things in possession or things in action.”

This makes it easier to see for non-fungible tokens that they could and will be considered as candidates for a property definition analysis.

2.1.2. Non-Fungible Tokens as Property

A legal analysis of the concept property is a complicated and multifaceted issue, as various legal systems have different approaches and styles of definitions.³¹³ The legal concept of property is generally characterized as being elusive, which requires a wide vocabulary to distinguish between different kinds of assets, things, and rights.³¹⁴ While civilian systems, such as French schema which distinguishes between *biens* (assets), *choses* (things) and *droits* (rights), have a more categorical and definitive approach with distinct vocabulary; common law systems generally have a disregard for categorization and resort to sparse uses of different terminology.³¹⁵

For example, within the scope of Swiss and Turkish legal system, a full definition of the concept of property is not made. Rather, subject to discussion in the doctrine, certain elements are sought for determination of a property, which

³¹³ Low, Kelvin F.K./ Hara, Megumi, “*Cryptoassets and Property*”, van Erp, Sief/ Zimmerman Katja (Ed.), Edward Elgar Research Handbook on EU Property Law (Forthcoming), p.1, 8 November 2022, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4103870.

³¹⁴ Low / Hara.

³¹⁵ Low / Hara.

generally are enumerated as materiality (*Körperlichkeit*), specificity (*Abgegrenztheit*), eligibility for dominance (*Beherrschbarkeit*) and impersonality (*Unpersönlichkeit*).³¹⁶

Although a long and detailed analysis of how the concept is evaluated in comparative law is beyond the scope of this study, it should be noted that it is debatable whether digital assets such as non-fungible tokens can be fitted into a property definition. The property characterization of crypto assets are already polemical in different systems.³¹⁷ This is because non-fungible tokens are not tangible, which is stated as a prerequisite for the element of eligibility for dominance sought in many jurisdictions, and therefore they do not adequately fall into the current categories of property.³¹⁸ It has been underlined that the property law concepts of today were not designed with a perspective which could be extended to cryptofunctions.³¹⁹ Nevertheless, the questions relating to the possession, ownership, transfer, sale and purchase, theft and securitization of digital assets such as non-fungible tokens, are debatable and remain as questions to be solved.³²⁰

It is emphasized that the qualification of digital assets such as non-fungible tokens as property would be beneficial from many aspects as to have the protections provided to property.³²¹ However, alternative approaches might be adopted. For

³¹⁶ Tekelioğlu, Numan, “*Eşya Kavramını Yeniden Düşünmek: NFT’lerin Eşya Niteliği ve Eşya Hukuku Bakımından Geleceği Üzerine Bir İnceleme*”, Selçuk Üniversitesi Hukuk Fakültesi Dergisi, 2022, Volume 30, Issue, 3, pp.1305-1306.; Göktürk, Ünal, “*Bitcoin Özelinde Kripto Paraların Medeni Kanun Kapsamında Eşya Olarak Değerlendirilmesi*”, <https://www.hukukihaber.net/bitcoin-ozelinde-kripto-paralarin-medeni-kanun-kapsaminda-esya-olarak-degerlendirilmesi-makale,8674.html>, 2 February 2021. (last accessed : 30.12.2022)

³¹⁷ Çağlayan Aksoy, Pınar, “*The applicability of property law rules for crypto assets: considerations from civil law and common law perspectives*”, Law, Innovation and Technology, DOI: 10.1080/17579961.2023.218414, 2023, p.2.

³¹⁸ [2019] EWHC 3556 (Comm), ¶¶ 55,58 <https://caselaw.nationalarchives.gov.uk/ewhc/comm/2019/3556>; In Turkish law see, Göktürk.

³¹⁹ Çağlayan Aksoy, Property Rules, p.36.

³²⁰ Çağlayan Aksoy, Property Rules, p.2.

³²¹ Bilgili, Fatih/ Cengil, M.Fatih, “*Bitcoin Özelinde Kripto Paraların Eşya Niteliği Sorunu*”, <https://www.ticaretkanunu.net/bitcoin-ozelinde-kripto-paralarin-esya-niteligi-sorunu-fatih-bilgili>

instance, the Draft UNIDROIT Principles on Digital Assets and Private Law for example, does not deal with the question of qualification of property, but treat digital assets as being susceptible to being the subject of proprietary rights as explained below, and has a separate principle on the effect of insolvency on proprietary rights in digital assets.³²²

Generally, common law countries, due to their fluid and ambiguous nature of their definitions of the concept of property, have been less rigid in recognizing crypto assets as property.³²³ For instance, United States of America Internal Revenue Service (IRS) treats cryptocurrencies as property for tax reasons.³²⁴ Similarly, courts of common law jurisdictions have been considering crypto assets as property for some time. For example, in the UK cases *AA v Persons Unknown*, *Director of Public Prosecutions v Briedis & Anor*, and *Fetch.ai Ltd and Another v Persons Unknown Category A and Others*, it was accepted that cryptocurrencies such as Bitcoin were a type of property.³²⁵ Another example from the New Zealand High Court, where the court underlined the importance of qualification of crypto assets as property was *David Ian Ruscoe And Malcolm Russell Moore v Cryptopia Limited*.³²⁶ In this decision, the court resonated with the approach indicated in UK Jurisdiction Taskforce’s Legal Statement on Cryptoassets and Smart Contracts³²⁷ mentioned in Section 2.1.1. above, and analyzed the criteria indicated by Lord Wilberforce in *National Provincial Bank Ltd v Ainsworth*, which are being

fatih-cengil/ ;Özdemir, Gençer, “*Kripto Paraların Eşya Niteliği*”, Selçuk Üniversitesi Hukuk Fakültesi Dergisi, 2021, Volume 11, Issue 1, pp.289-306.

³²² Draft UNIDROIT Principles on Digital Assets and Private Law, Principle 19 Effect on Insolvency on Proprietary Rights in Digital Assets.

³²³ Low / Hara.

³²⁴ Beckman, pp.155-156.; IRS, Internal Revenue Bulletin, 2014-16, https://www.irs.gov/irb/2014-16_IRB#NOT-2014-21.

³²⁵ [2019] EWHC 3556 (Comm) <https://caselaw.nationalarchives.gov.uk/ewhc/comm/2019/3556>; *Director of Public Prosecutions v Briedis & Anor* [2021] EWHC 3155 (Admin); [2021] EWHC 2254 (Comm).

³²⁶ *David Ian Ruscoe And Malcolm Russell Moore v Cryptopia Limited* (in liquidation) [2020] NZHC 728 (8 April 2020)

³²⁷ Vos, Geoffrey, “*The Launch of the Legal Statement on the Status of Cryptoassets and Smart Contracts*”, UK Jurisdiction Taskforce, 18 November 2019, https://www.judiciary.uk/wp-content/uploads/2019/11/LegalStatementLaunch.GV_.2.pdf.

identifiable by third parties, being capable of assumption by third parties and degree of permanence and stability.³²⁸ After the analysis of those criteria, the court decided that crypto tokens in that case are most probably property, within the scope of Companies Act Section 2 as well as common law.³²⁹ However, this is not the case in most civil law countries.³³⁰

Likewise, with a similar approach, common law countries have approached qualifying non-fungible tokens as property earlier than civil law countries, even though they do not fit exactly with existing property definitions.

The Law Commission of England and Wales published a consultation paper in 28 July 2022 along with a summary of the paper.³³¹ In this consultation paper, it is proposed to create a third property category (in addition to *choses in action* and *choses in possession*) considering the exceptional features of digital assets such as non-fungible tokens.³³² The dual categorization of *choses in action* and *choses in possession* was put forward with numerous court decisions, including Lord Justice Joseph Fry's reasoning, which was "*All personal things are either in possession or action. The law knows no tertium quid between the two.*"³³³ in *Colonial Bank v Whinney*.

Generally, it is seen that there might be an increasing inclination to define non-fungible tokens as property, or to create a framework where digital assets such as non-fungible tokens can be subject to proprietary rights, due to the practical

³²⁸ National Provincial Bank v Ainsworth [1965] AC 1175

³²⁹ Jardine, Darrel, "*Cryptocurrency – is it 'property' and why does it matter?*", <https://www.hopgoodganim.com.au/page/knowledge-centre/blog/cryptocurrency-%E2%80%93-is-it-%E2%80%9Cproperty%E2%80%9D-and-why-does-it-matter>, 25 May 2020.

³³⁰ Von Appen; Çağlayan Aksoy, Property Rules, pp.3,37.

³³¹ Law Commission, <https://www.lawcom.gov.uk/project/digital-assets/>; Law Commission, "*Digital Assets: Summary of consultation paper*", <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2022/07/Digital-Assets-Summary-Paper-Law-Commission-1.pdf>.

³³² Law Commission, <https://www.lawcom.gov.uk/project/digital-assets/>; Law Commission, "*Digital Assets: Summary of consultation paper*", <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2022/07/Digital-Assets-Summary-Paper-Law-Commission-1.pdf>.

³³³ Colonial Bank v Whinney [1885] 30

reasons that the advantages of property qualification will bring. The Draft UNIDROIT Principles on Digital Assets and Private Law for instance, “*treat digital assets as being susceptible to being the subject of proprietary rights, without addressing whether they are considered ‘property’ under the other law of a State.*”³³⁴

Below, various decisions from courts which have qualified non-fungible tokens as a property-like formation will be given from varying jurisdictions.

Time will tell whether proposals like the The Law Commission of England and Wales’ consultation paper will be accepted, and whether there are in fact other *tertium quids*. If there are, the questions of how non-fungible tokens and similar digital assets will be reviewed under which sub types of property remains to be seen for each jurisdiction. Or, an approach closer to the Draft UNIDROIT Principles, by accepting that digital assets are subject to proprietary rights without any further property definition discussions, absolving one from the trouble of fitting digital assets into existing categories of property could be accepted as a more practical³³⁵ and readily implementable solution.

2.1.3. Injunctions on Non-Fungible Tokens with a Property Status Analysis

Freezing and proprietary injunctions had previously been given for stolen cryptocurrencies in some cases, such as *Ion Science Ltd v Persons Unknown*³³⁶, *AA v Persons Unknown*³³⁷ and *CLM v CLN and Others*³³⁸. However, the decisions mentioned below are important as they decide on injunctions specifically for non-fungible tokens, as a novel type of crypto asset.

³³⁴ Draft UNIDROIT Principles, Introduction, IV Core Concepts, 14.

³³⁵ Çağlayan Aksoy, Pinar, “*The applicability of property law rules for crypto assets: considerations from civil law and common law perspectives*”, Law, Innovation and Technology, DOI: 10.1080/17579961.2023.218414, 2023.

³³⁶ *Ion Science Ltd v Persons Unknown*, (unreported, 21 December 2020, Commercial Court).

³³⁷ [2019] EWHC 3556 (Comm) <https://caselaw.nationalarchives.gov.uk/ewhc/comm/2019/3556>.

³³⁸ *CLM v CLN and Others*, 2022 SGHC 46 at 46.

2.1.3.1. High Court of England & Wales Decision Lavinia Deborah Osbourne v (1) Persons Unknown (2) Ozone

A very important decision came from the High Court of Justice Business and Property Courts of England and Wales Commercial Court on 10 March 2022, providing explanations that non-fungible tokens can be classified as property.³³⁹ The application to the court prayed for an injunction preventing the gratification of non-fungible assets maintained by the claimant, which are alleged to have been stolen by unidentified individuals.³⁴⁰ The claimant, Lavinia Deborah Osbourne had purchased from the non-fungible token collection by Boss Beauties Foundation³⁴¹, which is a worldwide campaign providing women professional opportunities through innovative partnerships. Boss Beauty's non-fungible tokens collection, initiated in 2021, became so popular that it managed to become the pioneer non-fungible token collection to be listed on New York Stock Exchange.³⁴² The claimant Lavinia Osbourne is among the co-founders of the Boss Beauty initiative and still is a strong proponent of gender equality in tech industry.³⁴³ She was gifted some non-fungible tokens from the Boss Beauty collection around 24 September 2021, among some of which she discovered later were transferred from her OpenSea wallet to two other OpenSea wallets.³⁴⁴ She then approached to barrister Racheal Muldoon

³³⁹ Lavinia Deborah Osbourne v (1) Persons Unknown (2) Ozone, [2022] EWHC 1021 (Comm).

³⁴⁰ Lavinia Deborah Osbourne v (1) Persons Unknown (2) Ozone, [2022] EWHC 1021 (Comm) ¶3.

³⁴¹ Boss Beauties, <https://bossbeauties.com/>.

³⁴² Opensea, Boss Beauties,

<https://opensea.io/assets/ethereum/0x495f947276749ce646f68ac8c248420045cb7b5e/38867896270461663412002419090177772713548962465251173008470487534297132564481>; Whittaker, Ruth, "A pivotal judgment on NFTs in the UK? Osbourne v (1) Persons Unknown and (2) Ozone Networks Inc" <https://www.scl.org/articles/12631-a-pivotal-judgment-on-nfts-in-the-uk-osbourne-v-1-persons-unknown-and-2-ozone-networks-inc>, 22 June 2022.

³⁴³ Whittaker, Ruth, "A pivotal judgment on NFTs in the UK? Osbourne v (1) Persons Unknown and (2) Ozone Networks Inc" <https://www.scl.org/articles/12631-a-pivotal-judgment-on-nfts-in-the-uk-osbourne-v-1-persons-unknown-and-2-ozone-networks-inc>, 22 June 2022.

³⁴⁴ Blower, Matthew/ Lewin Joseph, "Transcending the Challenges of Crypto Assets", at <https://www.dorsey.com/newsresources/publications/client-alerts/2022/07/transcending-the-challenges-of-crypto-assets.>, 22 July 2022.

at 36 Commercial on a direct access basis.³⁴⁵ The claimant party obtained expert reports from Rob Moore, who is the Head of Intelligence at Mitmark,³⁴⁶ which demonstrated that Ms Osbourne’s Boss Beauty non-fungible tokens were transferred to two different wallets linked to separate platform accounts on OpenSea.³⁴⁷ Two months after the illegal transfer, the claimant party made an urgent application to the United Kingdom High Court, requesting an interim injunction for the freezing of the transferred non-fungible tokens at OpenSea.³⁴⁸

As mentioned above, there were precedents for the approval of freezing and proprietary injunction requests for crypto currencies, however, such decisions have never been granted for non-fungible tokens before. In this case, Pelling J was convinced by the claimant party’s arguments that there is at least an arguable case that non-fungible tokens showed characteristics of property, which are evidenced in a precedent *National Provincial Bank v Ainsworth*³⁴⁹ that they are definable, identifiable by third parties, capable of their nature of assumption by third parties, and [have] some degree of permanence:

I am satisfied on the basis of the evidence available that the claimant has demonstrated a good arguable case that she has been defrauded of the non-fungible tokens to which she refers in her evidence. There is clearly going to be an issue at

³⁴⁵ A direct access barrister is a barrister of the United Kingdom and Wales who enables the members of the public to conduct litigation (and in most cases transfer the responsibility of the day-to-day management of the case to the member of the public) themselves without the recourse to a solicitor. See <https://www.barcouncil.org.uk/bar-council-services/for-the-public/direct-access-portal.html>. In the United Kingdom, there are two types of practising lawyers, which are barristers and solicitors. For more information on the tasks of legal professionals of the United Kingdom, see the page of the Law Society: “*Legal Professionals-who does what*”, <https://www.lawsociety.org.uk/public/for-public-visitors/resources/who-does-what>.

³⁴⁶ Mitmark is a risk mitigation and smart logistics provider performing in security and intelligence. See Mitmark’s website: <https://www.mitmark.com/>.

³⁴⁷ Whittaker, Ruth, “*A pivotal judgment on NFTs in the UK? Osbourne v (1) Persons Unknown and (2) Ozone Networks Inc*” <https://www.scl.org/articles/12631-a-pivotal-judgment-on-nfts-in-the-uk-osbourne-v-1-persons-unknown-and-2-ozone-networks-inc>, 22 June 2022.

³⁴⁸ Whittaker, Ruth, “*A pivotal judgment on NFTs in the UK? Osbourne v (1) Persons Unknown and (2) Ozone Networks Inc*” <https://www.scl.org/articles/12631-a-pivotal-judgment-on-nfts-in-the-uk-osbourne-v-1-persons-unknown-and-2-ozone-networks-inc>, 22 June 2022.

³⁴⁹ *National Provincial Bank v Ainsworth* [1965] 3 WLR 1.

*some stage as to whether non-fungible tokens constitute property for the purposes of the law of England and Wales, but I am satisfied on the basis of the submissions made on behalf of the claimant that there is at least a realistically arguable case that such tokens are to be treated as property as a matter of English law.*³⁵⁰

The non-fungible tokens fulfilled the definability criterion through the reference of the underlying smart contract, the identification criterion thanks to the fact that they are identifiable on the blockchain, the capability for assumption by third parties criterion as third parties could acquire the non-fungible tokens and related underlying rights included in the smart contract, and the permanence criterion through blockchain, albeit the decentralized technology used by the non-fungible token.³⁵¹ It is worth noting that the famous *AA v Persons Unknown* decision, which was relating to stolen Bitcoins, had applied to the same criteria.³⁵²

With this reasoning, having found jurisdiction³⁵³ for serving the injunction on a United States incorporated company having determined the *lex situs*³⁵⁴ of the

³⁵⁰ *Lavina Deborah Osbourne v (1) Persons Unknown (2) Ozone*, [2022] EWHC 1021 (Comm) ¶13. (Emphasis added.) Please note that in order for a court to grant an injunction, certain requirements need to be satisfied in the court's view. These can be summarized as the court must be convinced that there is a serious issue to be tried, whether an award of damages would adequately compensate the applicant if the injunction is not granted and the balance of convenience lies with the granting of the injunction. Therefore, the court's grant of the injunction must be regarded within this scope. See *American Cyanamid Co. v Ethicon Ltd* [1975] 1 All ER 504.

³⁵¹ Whittaker, Ruth, "A pivotal judgment on NFTs in the UK? *Osbourne v (1) Persons Unknown and (2) Ozone Networks Inc*" <https://www.scl.org/articles/12631-a-pivotal-judgment-on-nfts-in-the-uk-osbourne-v-1-persons-unknown-and-2-ozone-networks-inc>, 22 June 2022.

³⁵² *AA v Persons Unknown*, AA [2019] EWHC 3556 (Comm) at [57]–[59]

³⁵³ The court determined that the *lex situs* of the non-fungible tokens based on the ratio in *Ion Science Ltd v Persons Unknown and others (unreported)* [2020] (Comm) and determined that *lex situs* was England as Ms Osbourne was domiciled in the United Kingdom at all times. *Lavina Deborah Osbourne v (1) Persons Unknown (2) Ozone*, [2022] EWHC 1021 (Comm) ¶¶15-16; 21-27.

³⁵⁴ The judge referred to a precedent (1) *Ion Science Limited* (2) *Duncan Johns v Persons Unknown*, in which it was held that the *lex situs* of a cryptoasset (Bitcoin in that case) was the location where the owner is domiciled (1) *Ion Science Limited* (2) *Duncan Johns v Persons Unknown (unreported)* ¶13 at <https://uk.practicallaw.thomsonreuters.com/Link/Document/Blob/I5438c9dc7c3911ebbea4f0dc9fb69570.pdf?targetType=PLC-multimedia&originationContext=document&transitionType=DocumentImage&uniqueId=371475f5-bb83-46d1-9287->

non-fungible tokens is the United Kingdom, the High Court gave the order for injunction and the stolen non-fungible tokens were suspended from sale on OpenSea.

2.1.3.2. Singapore High Court Decision Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)

A pioneering decision from Asia jurisdictions regarding non-fungible tokens came from the Singapore High Court on 21 October 2022.³⁵⁵ The court had allowed an interlocutory injunction on 13 May 2022 and on 21 October 2022, the reasoning of the May decision was published.

In this case, the claimant owned an NFT from a popular Bored Ape Yacht Club collection that was special for him.³⁵⁶ He entered loans with the members of an online NFT-collateralized cryptocurrency lending marketplace NFTfi to borrow cryptocurrencies with NFTs as collateral.³⁵⁷ The Claimant regarded the Bored Ape NFT as important and therefore dealt generally with the high-ranking and reputable lenders at the platform.³⁵⁸ Furthermore, the claimant specifically contained in every loan arrangement in which Bored Ape NFT was as collateral, *inter alia*, that the lender should never resort to the foreclosing option without allowing the claimant reasonable opportunities to repay the loan.³⁵⁹ These terms were explicitly specified by the claimant as the platform NFTfi intermediated the loan agreements through smart contracts, and if the repayment was not made until a certain date, the unilateral foreclosure was automatically executed.³⁶⁰ This was a common

75bd9dc838eb&ppcid=6c00b705fc6d4bcc8438366ad9cbe2df&contextData=(sc.Default)&comp=pluk.

³⁵⁵ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264.

³⁵⁶ <https://opensea.io/collection/boredapeyachtclub>; Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 2-3;7

³⁵⁷ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 10.

³⁵⁸ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 11.

³⁵⁹ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 11.

³⁶⁰ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 12.

application of the claimant and the claimant had obtained numerous crypto currency loans from other dealers and none of the dealers had used the foreclosure option before.³⁶¹ The claimant contacted the defendant in January 2022 for a loan agreement and was assured by the defendant that the foreclose option would not be used by the defendant, and the parties agreed on a loan for 45 ETH for a period of 90 days with a 33% per annum interest.³⁶² After this successful loan experience, the parties entered to another loan agreement on 19 March 2022 for 150,000 DAI for a period of 30 days with a 45% per annum interest.³⁶³ The claimant indicated his usual terms (relating to the non-execution of the foreclosure option) in that agreement.³⁶⁴ The claimant informed the defendant on 17 April 2022 that he needed a short time expansion for the repayment.³⁶⁵ The defendant initially agreed on a financial restructuring for the loan whereby the claimant would have a second loan with the Bored Ape NFT as collateral and the defendant would deduct the outstanding amounts from the previous loan from the fresh funds provided with the second loan agreement.³⁶⁶ However, the defendant later had a change of heart and told the claimant that he would be using the foreclosure option unless the loan is repaid by 21 April 2022.³⁶⁷ After the claimant's inability to repay the loan, the defendant used the foreclosure option and the Bored Ape NFT was transferred from NFTfi's escrow account to the defendant's crypto currency wallet.³⁶⁸ The claimant then applied to the court for a proprietary injunction and claimed that he had an equitable proprietary claim over the non-fungible token and that the defendant was liable to the claimant in the tort of convention, breach of contract and unjust enrichment.³⁶⁹

³⁶¹ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 13.

³⁶² Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 16.

³⁶³ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 17.

³⁶⁴ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 17.

³⁶⁵ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 18.

³⁶⁶ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 19.

³⁶⁷ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 20.

³⁶⁸ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 21.

³⁶⁹ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 24-25

The decision had three significant folds: the justice had accepted non-fungible tokens can be regarded as property³⁷⁰; recognized that Singapore courts can have jurisdiction over assets on the blockchain³⁷¹, especially against an unknown person³⁷², and that the service of the statement of claim can be made to the defendant's Twitter account, defendant's Discord account and via the messaging function on the Defendant's cryptocurrency wallet address.³⁷³

In the case *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)*, the justice underlined that it is difficult to establish jurisdiction on decentralized blockchain, however, he decided that the Singapore court was *forum conveniens* primarily because the claimant and his business was located in Singapore.³⁷⁴ In addition, as for jurisdiction against an unknown person, the judge stated that a claimant should not be barred from seeking interim relief of bringing a claim only because the exact name of the defendant is unknown³⁷⁵ and declared that the court had jurisdiction to grant interim orders against an unknown person.³⁷⁶

As for the property analysis, the judge considered the property right definition in *National Provincial Bank v Ainsworth*³⁷⁷ that they are definable, identifiable by third parties, capable of their nature of assumption by third parties, and [have] some degree of permanence.

The non-fungible tokens fulfilled the definability criterion through the metadata of the non-fungible token which distinguished the non-fungible tokens from others³⁷⁸, the identification criterion thanks to the fact that the presumptive owner is whoever controlled the wallet linked to the non-fungible token³⁷⁹, the

³⁷⁰ *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)*, [2022] SGHC 264 ¶¶ 48-78.

³⁷¹ *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)*, [2022] SGHC 264 ¶¶ 27-30.

³⁷² *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)*, [2022] SGHC 264 ¶¶ 31-42.

³⁷³ *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)*, [2022] SGHC 264 ¶¶ 24-25.

³⁷⁴ *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)*, [2022] SGHC 264 ¶¶ 30.

³⁷⁵ *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)*, [2022] SGHC 264 ¶¶ 38.

³⁷⁶ *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)*, [2022] SGHC 264 ¶¶ 42.

³⁷⁷ *National Provincial Bank v Ainsworth [1965] 3 WLR 1.*

³⁷⁸ *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)*, [2022] SGHC 264 ¶ 69.

³⁷⁹ *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)*, [2022] SGHC 264 ¶ 70.

capability for assumption by third parties criterion as third parties could acquire the non-fungible tokens from the owner exclusively³⁸⁰, and the permanence criterion as the non-fungible tokens had as much permanence and stability as money in bank accounts³⁸¹. It is important to note however, that the judge expressed clearly that he does not express any conclusive views regarding the merits of whether the non-fungible tokens constituted property³⁸², hinting that this analysis was for deciding whether the non-fungible tokens can be subject to an injunction.

2.1.4. Non-Fungible Tokens: Securities or Commodities?

Classification of the non-fungible tokens as securities has been another major point of debate, for which there is not yet a consensus.³⁸³ The outcome of this discussion is very important for many NFT projects and actors. Because securities law has a much more stringent legislation, imposing licensing requirements and information providing obligations³⁸⁴, and therefore requires a much more sensitive analysis.³⁸⁵ If a non-fungible token project is defined as unregistered security by the relevant authorities, without complying with the strict regulations, it will cause problems for the continuation of the project.³⁸⁶ For the time being, the sale of non-fungible tokens is not specifically regulated, however, proposals and discussions continue.³⁸⁷

³⁸⁰ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶ 71.

³⁸¹ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶ 72.

³⁸² Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶ 78.

³⁸³ Beckman, pp.156-157.; Çağlayan Aksoy/ Üner Özkan, p.1120.; Von Appen.; Barbagallo, Margherita, “*Trading NFTs – do you have regulatory obligations?*”, <https://www.dragonargent.com/da-blog/trading-nfts-do-you-have-regulatory-obligations-nft-lawyers> (last accessed : 30.12.2022)

³⁸⁴ Barbagallo.

³⁸⁵ Beckman, pp.156-157; Barbagallo.

³⁸⁶ Vander Woude / Tan, p.35.

³⁸⁷ Von Appen.; Henderson, Todd/Raskin, Max, “*A Regulatory Classification of Digital Assets: Toward an Operational Howey Test For Cryptocurrencies, ICOs, and Other Digital Assets*” Columbia Business Law Review.

In the lack of specific regulation, general requirements for determining a token as security, which varies from one jurisdiction to another, will be resorted to. For instance, Under U.S law, the legal standard for determining whether a transaction is an investment contract for the purposes of the Securities Act, therefore a security, rests with the *Howey* test.³⁸⁸ This test was first laid with the United States Supreme Court case *Securities and Exchange Commission v. W.J. Howey Co. et al* in 1946, where the court held that offer of a land sales and service contract was indeed an investment contract within the relevant securities legislation.³⁸⁹ The court held:³⁹⁰

For purposes of the Securities Act, an investment contract (undefined by the Act) means a contract, transaction, or scheme whereby a person invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party, it being immaterial whether the shares in the enterprise are evidenced by formal certificates or by nominal interests in the physical assets employed in the enterprise.

The fact that non-fungible tokens can be qualified as securities if transactions relating to them passes the Howey test was confirmed by the Securities and Exchange Commission.³⁹¹ Therefore, the requirements for the presence of an investment contract is an investment of money, in a common enterprise, with the profits are expected to derive from the efforts of the promoter or another third party.³⁹²

³⁸⁸ Drylewski/ Levi.

³⁸⁹ U.S Supreme Court, *SEC v. Howey Co.*, 328 U.S. 293 (1946) at <https://supreme.justia.com/cases/federal/us/328/293/>.

³⁹⁰ 328 U. S. 298-299. (Emphasis added)

³⁹¹ Chittum, Morgan, “*SEC Reportedly Targets NFT Market Over Potential Violations of Securities Law*”, <https://blockworks.co/news/sec-reportedly-targets-nft-market-over-potential-violations-of-securities-law>, 3 March 2022.

³⁹² Drylewski/ Levi.

On the other hand, the European Union applies a formalistic approach for determining an asset as security, which searches for transferability, tradability on capital markets, standardization as established in Markets in Financial Instruments Directive II, along with material comparability to a typical security class.³⁹³

In that respect, in order to find whether non-fungible tokens are to be viewed as securities or commodities, is worth noting the main differences between securities and commodities and evaluate the position of non-fungible tokens. In addition, the aim and market influence are also factors to determine. For instance, the analysis as to whether the profits of a non-fungible token are the result of the minter or the result of the market itself is also a determining factor for qualifying an instrument as security.³⁹⁴

To briefly highlight the main differences, securities include bonds and stocks on which people invest, the motive for this investment comes from the possibility that their value may rise or fall.³⁹⁵ On the other hand, commodities are physical items, such as maize, wheat, and oil. Usually, they are purchased by the buyer for a predetermined price and these items are subsequently supplied to the buyer.³⁹⁶ The motive for buying the commodities derive from the possibility of reselling those items for profit.³⁹⁷

The much-debated question as to whether non-fungible tokens are securities, and therefore subject to securities laws and regulations, stems from the multi-category nature of non-fungible tokens.

Most commodities are thought of as inherently fungible³⁹⁸, which is already a starting point for the classification confusion between a commodity and security for the non-fungible tokens. The fact that fungibility is a core characteristic of a

³⁹³ Von Appen.

³⁹⁴ Drylewski/ Levi.

³⁹⁵ Beckman, pp.156-157.

³⁹⁶ Beckman, pp.156-157.

³⁹⁷ Beckman, pp.156-157.

³⁹⁸ Beckman, pp.156-157.

range of regulated financial services products such as stocks and bonds is admitted by United Kingdom HM Treasury on their consultation paper.³⁹⁹ The paper concluded that, rather than financial services products, non-fungible tokens are more akin to digital collection items and that the government does not intend to apply financial promotions regulations to non-financial products.⁴⁰⁰

On the one hand, non-fungible tokens are an indicator of ownership of some assets, and they do not reflect ownership of investment vehicles. This makes them more akin to tangible assets which are not usually considered as securities, such as artworks or real estate. In addition, non-fungible tokens' value depends on their uniqueness, one non-fungible token does not equal the other and they are not bought or transferred in certain number or amount, which are quite contrary to the features of securities.⁴⁰¹ These determinations arguably place the non-fungible tokens, especially those representing a single artwork, outside the scope of existing securities regulations.⁴⁰²

On the other hand, in some scenarios, non-fungible tokens are seen as investment opportunities, especially after the skyrocketing values for which they were sold in 2021. This was also underlined by the court decision *Hermès International and Hermès of Paris, Inc. v. Mason Rothschild*, where the court determined that “ [...] NFTs can be easily sold and resold with a transaction history securely stored on the blockchain, NFTs can function as investments that can store value and increase value over time.”⁴⁰³ In these cases, the actors in the market bought the non-fungible tokens in anticipation of potential future gains, which

³⁹⁹ UK HM Treasury, Cryptoasset promotions: Consultation response, January 2022, at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/950206/HM_Treasury_Cryptoasset_and_Stablecoin_consultation.pdf, ¶ 4.10.

⁴⁰⁰ UK HM Treasury, Cryptoasset promotions: Consultation response, January 2022, at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/950206/HM_Treasury_Cryptoasset_and_Stablecoin_consultation.pdf, ¶¶ 4.10; 4.13.

⁴⁰¹ Von Appen.

⁴⁰² Von Appen.

⁴⁰³ *Hermès International and Hermès of Paris, Inc. v. Mason Rothschild*, 22-cv-00384-JSR, at 2 (S.D.N.Y. May 18, 2022).

makes the non-fungible tokens more akin to investment vehicles, such as stocks or bonds, which are typically classified as securities.⁴⁰⁴ In addition, as caught the attention of certain regulators, where a set of issued non-fungible tokens represent a portional interest in an asset or revenue stream (referred as “fractionalization”); where assets are pooled into a single non-fungible token; where non-fungible tokens represent a right to a revenue stream and where a non-fungible token has a functionality in the presale phase which is not usable at the time of sale; they can resemble more to traditional securities.⁴⁰⁵ This is because in conventional art financing, the transaction will be covered by securities regulations if the sale of an artwork is fractionalized to produce shares that are exchanged in a secondary market and offer liquidity. Similarly, to fractionalize an NFT, which entails having numerous investors acquire pieces of an NFT to enable trading and liquidity, would probably be considered a security.⁴⁰⁶ Indeed, some state authorities have recognized certain types of tokens as securities, comparable to dividends from shares, due to their financial profit features.⁴⁰⁷

Considering the multi-category nature of non-fungible tokens, the answer to the question of whether the non-fungible tokens are securities will potentially be determined after an analysis of the particulars surrounding their sale and usage. This analysis will be conducted by relevant regulators and courts probably on a case-by-case basis.⁴⁰⁸

⁴⁰⁴ Barbagallo.

⁴⁰⁵ Wilson, 2022, p.50; McAndrew, *The Art Market 2022*, p.33;Gatto, James /Walter, Brittany, “*NFT Insider Trading Compliance Policies- What They cover and Why You Need One*”, <https://www.jdsupra.com/legalnews/nft-insider-trading-compliance-policies-4928022/>; Schickler, Jack/ Handagama, Sandali, “*EU Finalizes Legal Text for Landmark Crypto Regulations Under MiCA*”, <https://www.coindesk.com/policy/2022/09/21/eu-finalizes-legal-text-for-landmark-crypto-regulations-under-mica/>.

⁴⁰⁶ Barbagallo.

⁴⁰⁷ Von Appen.

⁴⁰⁸ Beckman,pp.156-157; Castle, pp.12-24; Drylewski/ Levi.

2.2. WHAT DOES BUYING A NON-FUNGIBLE TOKEN MEAN?

2.2.1. Overview

Perhaps one of the most asked questions about the NFTs what one would acquire when one purchases NFTs.⁴⁰⁹ Although some authors suggested that a useful question would be what one does not buy with an NFT.⁴¹⁰

The non-fungible token is not the underlying artwork itself, nor it is a copy.⁴¹¹ As indicated in Sections 1.2.1 and 1.2.2 above, the combination of the *metadata* and the *tokenID* is what creates the non-fungible token unique. Therefore, once one purchases a non-fungible token, they purchase the ability to access this information which is encoded.⁴¹²

What the NFT file establishes is in fact a contract-like statement indicating one party owes the counterparty a digital file.⁴¹³ For example, when Jack Dorsey sold a non-fungible token pointing to his first ever tweet on Twitter⁴¹⁴, the buyer received a verified certificate created by Jack Dorsey and digitally signed by him along with the metadata containing the time when the tweet was tweeted and the text content of his original tweet.⁴¹⁵ Similarly, when Beeple's notorious digital art *Everydays: The First 5000 Days* was sold, the buyer obtained a big JPEG file and a unique Ethereum blockchain code.⁴¹⁶

Especially for off-chain NFTs, the NFT file on the blockchain does not involve the artwork itself.⁴¹⁷ In that sense, it is said that owning an NFT provides

⁴⁰⁹ Beckman,p.17; Guadamuz, *Generative Art.*; Sullivan; Wilson, 2022, pp.48-49.

⁴¹⁰ Beckman,p.18.

⁴¹¹ Guadamuz, *The Treachery*, p.1371-2; Guadamuz, Andres, "Copyfraud and copyright infringement in NFTs", <https://www.technollama.co.uk/copyrfrud-and-copyright-infringement-in-nfts>, 14 March 2021; Çağlayan Aksoy/ Üner Özkan, p.1122.

⁴¹² Filorinalı, p.19.

⁴¹³ Okonkwo, p.297.

⁴¹⁴ Andres Guadamuz specifically points out that it was the non-fungible token and not the tweet which was sold. See Guadamuz, *Generative Art*.

⁴¹⁵ Çağlayan Aksoy/ Üner Özkan, p.1119.

⁴¹⁶ Çağlayan Aksoy/ Üner Özkan, p.1119.

⁴¹⁷ Okonkwo, p.297.

“bragging rights”⁴¹⁸ for the owner. As put by Marc Beckman, “*you buy the fact that you have bought the NFT.*”⁴¹⁹

As buying a non-fungible token is likened to buying digital art works with a unique serial number; there have been several analogies to explain the nature of the non-fungible tokens. Some authors compared the non-fungible tokens with snowflakes, as both being unique but the non-fungible tokens lasting indefinitely and transferable, unlike snowflakes.⁴²⁰ Other analogies included limited-edition items such as sport cards, luxury items, or a special print of a painting.⁴²¹ One author has likened the function of the NFTs to a library card, in the sense that even if the card exists and determines a certain somebody’s possession of a book, this does not hinder other people from borrowing the book from the shelf it stands and possibly making any copies.⁴²² They are also likened to signed copies of a work⁴²³, or physical trading cards.⁴²⁴

The purchase of a non-fungible token does not constitute the acquisition of all rights to or the underlying work of which the non-fungible token represents information.⁴²⁵ Possible copyright consequences when a non-fungible token is purchased, and their analysis is provided in Section 2.4. below.

From a purchaser’s point of view, the actual conditions of sale must be very well analyzed before making a purchase. Some purchasers might actually be interested in more than the fact that they have purchased the token, and this can lead

⁴¹⁸ Okonkwo, p.299.; Chen, J./ Friedmann, D., “*Jumping from mother monkey to bored ape: the value of NFTs from an artist’s and intellectual property perspective*”, Asia Pacific Law Review, 2022, pp.22-23.; Expoverse.

⁴¹⁹ Beckman,p.18.

⁴²⁰ Effros, Walter/ Goodman, Leonard/ Pochesci, Anthony/ Soled, Jay A., “*Tax consequences of nonfungible tokens (NFTs)*”, <https://www.journalofaccountancy.com/news/2021/jun/tax-consequences-of-nfts-nonfungible-tokens.html>, 24 June 2021. (last accessed : 30.12.2022)

⁴²¹ Beckman,p.18.

⁴²² Sullivan / Tremaine.

⁴²³ Guadamuz, *The Treachery*, p.1372.

⁴²⁴ Çağlayan Aksoy/ Üner Özkan, p.1125.

⁴²⁵ Guadamuz, Andres, “*Can Copyright Teach Us Anything about NFTs?*”, <https://www.technollama.co.uk/can-copyright-teach-us-anything-about-nfts>, 07 March 2021. last accessed : 30.12.2022)

to disappointment from the purchaser's point of view.⁴²⁶ It is important to beware from the situations where the purchased item is the (non-fungible) token itself, but not the underlying work or any rights associated thereto.⁴²⁷ This situation calls for enhanced due diligence burden on the purchaser, which extends to verifying the authenticity of the non-fungible token and the underlying artwork, permission given by the author of the underlying artwork for the commercialization of the underlying artwork of the NFT, analysis whether the selling party has good title to the non-fungible token and the situation regarding the resales for the non-fungible token.⁴²⁸ In this sense, the principle *caveat emptor*⁴²⁹ is embodied in the transactions relating to the non-fungible token transactions.⁴³⁰

Therefore, clarified and transparent communication as to what is the scope of the non-fungible token transaction and the situation with any related rights is essential, both in the pre-contractual phase and the contract negotiation phase. The purchase of the NFTs is governed by contracts after all. Therefore, transfer of any other rights or obligations other from purchasing the token may very well be possible pursuant to the provisions of the contract concluded by the purchaser and the seller.⁴³¹

⁴²⁶ Sullivan / Tremaine.

⁴²⁷ Sullivan / Tremaine.

⁴²⁸ Hambræus.

⁴²⁹ *Caveat emptor*, meaning "Let the buyer beware" in Latin, is the short form of the maxim "*Caveat emptor, quia ignorare non debuit quod jus alienum emit*" meaning "Let a buyer beware, for he ought not to be ignorant of the nature of the property which he is buying from another party." It is a general principle of contract law used in common law jurisdictions. However, with the development of consumer law and other attempts to protect buyers from the detrimental effects from information asymmetry, this principle is not resorted heavily. Its variation for the seller is *caveat venditor*. See. Kagan, Julia, "*Caveat Emptor (Buyer Beware): What It Is, and What Replaced It*", <https://www.investopedia.com/terms/c/caveatemptor.asp>, 1 September 2022. last accessed : 30.12.2022)

⁴³⁰ Pryor, Riah, "*Art collector sues NFT platform Nifty Gateway over Beeple auction*", The art Newspaper, <https://www.theartnewspaper.com/2021/10/01/art-collector-sues-nft-platform-over-beeple-auction>, 1 October 2021. last accessed : 30.12.2022); Senior researcher Emily Gould explains "*The old adage caveat emptor ('may the buyer beware') holds true as much in the world of NFT sales as in any marketplace- perhaps even more so.*"

⁴³¹ Sullivan / Tremaine.

In the following sections, Terms and Conditions for the purchase of non-fungible tokens will be analyzed in order to illustrate how certain rights transfers are (or not) made.

2.2.2. Terms and Conditions of NBA Top Shots Non-Fungible Tokens

In one example, NBA has launched its Top Shot Collectibles program, in which the purchasers also obtained a limited licence to use, copy and display the visuals linked to each NFT, for only non-commercial and personal use.⁴³² The TopShot website currently has four categories of moments which are categorized as legendary (0.09% of total moments), rare (1.6% of total moments), fandom (2.5% of total moments) and common (95.8% of total moments).⁴³³ In the Terms and Conditions of the website, the “moments” are defined as “showcase moments”⁴³⁴ which are each “an NFT on the Flow Network”.⁴³⁵ Article 4 titled Ownership, License, and Ownership Restrictions of the Terms of Use has illustrative provisions for what should be understood for the purchaser’s ownership and related rights, which tends to be almost repetitive especially for related right assignment information:

*[...] “Art” means any art, design, and drawings (in any form or media, including, without limitation, video or photographs) that may be associated with a Moment that you Own.*⁴³⁶

⁴³² Sullivan / Tremaine.

⁴³³ NBA Top Shot, <https://nbatopshot.com/>.

⁴³⁴ NBA Top Shot, Terms and Conditions, Article 2 (i).

⁴³⁵ NBA Top Shot, Terms and Conditions, Article 2 (i).

⁴³⁶ NBA Top Shot, Terms and Conditions, Article 4.

[...] “Own” means, with respect to a Moment, a Moment that you have purchased or otherwise rightfully acquired from a legitimate source (and not through any of the Category B Prohibited Activities (as defined below)), where proof of such purchase is recorded on the Flow Network.⁴³⁷

[...] (i) *Ownership of Moment.* Because each Moment is an NFT on the Flow Network, **when you purchase a Moment in accordance with these Terms (and not through any of the Category B Prohibited Activities), you own the underlying NFT completely.** This means that you have the right to swap your Moment, sell it, burn it, exchange it, upgrade it or give it away to the extent that such uses are made available in the App. **Ownership of the Moment is mediated entirely by the Flow Network.** Except as otherwise permitted by these Terms in cases where we determine that the Moment has not been rightfully acquired from a legitimate source (including, without limitation, through any of the Category B Prohibited Activities), at no point will we seize, freeze, or otherwise modify the ownership of any Moment.⁴³⁸

(ii) *We Own the App.* **You acknowledge and agree that we (or, as applicable, our licensors) owns all legal right, title and interest in and to all other elements of the App, and all intellectual property rights therein (including, without limitation, all Art, designs, systems, methods, information, computer code, software, services, “look and feel”, organization, compilation of the content, code, data, and all other elements of the App (collectively, the “App Materials”)).** You acknowledge that the App Materials are protected by copyright, trade dress, patent, and trademark laws, international conventions, other relevant intellectual property and proprietary rights, and applicable laws. All App Materials are the copyrighted property of us or our licensors, and all

⁴³⁷ NBA Top Shot, Terms and Conditions, Article 4.

⁴³⁸ NBA Top Shot, Terms and Conditions, Article 4 (i). (Emphasis added.)

trademarks, service marks, and trade names associated with the App or otherwise contained in the App Materials are proprietary to us or our licensors.⁴³⁹

(iii) *No User License or Ownership of App Materials.* **Except as expressly set forth herein, your use of the App does not grant you ownership of or any other rights with respect to any content, code, data, or other App Materials that you may access on or through the App. We reserve all rights in and to the App Materials that are not expressly granted to you in these Terms.**⁴⁴⁰

(iv) *Further User Ownership Acknowledgements.* For the sake of clarity, **you understand and agree: (a) that your purchase of a Moment, whether via the App or otherwise, does not give you any rights or licenses in or to the App Materials (including, without limitation, our copyright in and to the associated Art) other than those expressly contained in these Terms; (b) that you do not have the right, except as otherwise set forth in these Terms, to reproduce, distribute, or otherwise commercialize any elements of the App Materials (including, without limitation, any Art) without our prior written consent in each case, which consent we may withhold in our sole and absolute discretion; and (c) that you will not apply for, register, or otherwise use or attempt to use any of our trademarks or service marks, or any confusingly similar marks, anywhere in the world without our prior written consent in each case, which consent we may withhold at our sole and absolute discretion.**⁴⁴¹

(v) *User License to Art.* Subject to your continued compliance with these Terms, we grant you a **worldwide, non-exclusive, non-transferable, royalty-free**

⁴³⁹ NBA Top Shot, Terms and Conditions, Article 4 (ii). (Emphasis added.)

⁴⁴⁰ NBA Top Shot, Terms and Conditions, Article 4 (iii). (Emphasis added).

⁴⁴¹ NBA Top Shot, Terms and Conditions, Article 4 (iv). (Emphasis added).

license to use, copy, and display the Art for your Purchased Moments, solely for the following purposes: (a) for your own personal, non-commercial use; (b) as part of a marketplace that permits the purchase and sale of your Purchased Moments, provided that the marketplace cryptographically verifies each Moment owner’s rights to display the Art for their Purchased Moment to ensure that only the actual owner can display the Art; or (c) as part of a third party website or application that permits the inclusion, involvement, or participation of your Purchased Moment, provided that the website/application cryptographically verifies each Moment’s owner’s rights to display the Art for their Purchased Moment to ensure that only the actual owner can display the Art, and provided that the Art is no longer visible once the owner of the Purchased Moment leaves the website/application.⁴⁴²

2.2.3. Conditions of Sale of Non-Fungible Tokens at Christie’s

A more institutionalized example for setting the framework for what is being purchased is Christie’s online-only, auctions and buy-now Conditions of Sale.⁴⁴³ Defining an NFT as “a unique non-fungible token encrypted with an artist’s signature that confers to the holder of the NFT an ownership right to the corresponding lot, which is a work of digital art that may be identified on the blockchain effectively verifying the rightful owner and authenticity of an original digital artwork”⁴⁴⁴ and a lot as “an item to be offered for sale at an online auction or Buy-Now sale (or two or more items to be offered at auction or Buy-Now sale as a group)”,⁴⁴⁵ the Conditions underline that the ownership of an NFT “carries no rights, express or implied, other than property rights for the lot (specifically, digital

⁴⁴² NBA Top Shot, Terms and Conditions, Article 4 (v). (Emphasis added).

⁴⁴³ Conditions of Sale For Christie’s Inc, Glossary
<https://www.christies.com/pdf/onlineonly/EcommerceConditionsOfSale-NewYork-02SEP22.pdf>

⁴⁴⁴ Conditions of Sale For Christie’s Inc, Glossary
<https://www.christies.com/pdf/onlineonly/EcommerceConditionsOfSale-NewYork-02SEP22.pdf>

⁴⁴⁵ Conditions of Sale For Christie’s Inc, Glossary
<https://www.christies.com/pdf/onlineonly/EcommerceConditionsOfSale-NewYork-02SEP22.pdf>

*artwork tokenized by the NFT.)*⁴⁴⁶ These conditions imply that with a purchase, the purchaser will have the ownership of the token itself but any other rights. However, the wording suggests that each NFT will consist of digital artwork of which the ownership will be transferred, too. In the *Everydays* sale, the purchaser reportedly acquired certain display rights, with the artist potentially retaining the copyright of the collage as well as a digital copy⁴⁴⁷.

2.2.4. Conditions of Sale of Non-Fungible Tokens at Sotheby's

Another major auction house, Sotheby's, explains in more detail in their bidder's guide for NFTs that an NFT purchase does not constitute nor assign the copyright of the NFT or referenced content.⁴⁴⁸ The Metaverse Conditions of Business for Buyers online defines an NFT as "*a non-fungible token established on a blockchain using smart contracts.*"⁴⁴⁹ and a lot as "*an item (or more than one item grouped as one) of property offered for sale. In some cases, a Lot may be, or may be accompanied by, certain rights, which may include, but are not limited to, experiences, special access or other exclusive content (collectively "Experiences"). A Lot may be or include an NFT (or more than one NFT), and the term "NFT" may be used to refer to any such Lot.*"⁴⁵⁰ These Conditions for Buyers provides for a worldwide, non-exclusive, non-transferable, royalty-free licence to use, copy and display the NFT for certain specific purposes:⁴⁵¹

*We are only selling **the ownership rights to the NFT** and in **no way are we responsible for any resales or secondary market sales of the NFT or the Referenced Content or any iterations of the same.** Any copyright(s) in and to*

⁴⁴⁶ Conditions of Sale For Christie's Inc, Article 5, Buyer's Acknowledgements and Representations for NFTs.,

<https://www.christies.com/pdf/onlineonly/EcommerceConditionsOfSale-NewYork-02SEP22.pdf>

⁴⁴⁷ Sullivan / Tremaine.

⁴⁴⁸ Sotheby's, Bidder's Guide: NFTs and Cryptocurrency at Sotheby's, <https://www.sothebys.com/en/buy-sell/cryptocurrency-faq>.

⁴⁴⁹ Metaverse Conditions of Business for Buyers, Article 2, <https://www.sothebys.com/en/metaverse-terms-service>.

⁴⁵⁰ Metaverse Conditions of Business for Buyers, Article 2.

⁴⁵¹ Metaverse Conditions of Business for Buyers, Article 13 (2) (1). (Emphasis added).

the NFT and Referenced Content, including but not limited to, any reproduction rights in any Referenced Content, remain with the creator(s) thereof, and the purchase of the NFT does not constitute an assignment of any copyright(s) in and to the NFT or Referenced Content. If you purchase an NFT, then, subject to your compliance with the TOS, including without limitation, these Conditions of Business for Buyers, and any Listing Terms, we hereby grant you a worldwide, non-exclusive, non-transferable, royalty-free license to use, copy and display the NFT and the Referenced Content for such purchased NFT solely for the following purposes: (a) for your own personal, non-commercial use; (b) as part of a marketplace that permits the purchase and sale of your NFTs; or (c) as part of a third party website or application that permits the inclusion, involvement, or participation of your NFT. This license only lasts as long as you are the valid owner and holder of the NFT associated with the Referenced Content. If you sell or transfer the NFT to another person, this license will transfer to such other owner or holder of the NFT, and you will no longer have the benefits of such license. All rights not expressly granted herein are reserved.

2.3. HAVING THE RELATED RIGHTS FOR MINTING AND SELLING NON-FUNGIBLE TOKENS

2.3.1 Overview

A similar requirement to the fact that buyers who purchase non-fungible tokens must be very careful and scrutinize the principles of selling non-fungible tokens elaborated above in Section 2.2. above also applies to parties who wish to mint and sell non-fungible tokens.

The sellers of a non-fungible token must ensure that they are not violating any associated rights when using any underlying artwork created by others or using

an artwork that is their own creation but potentially has consequences on other's rights.⁴⁵²

Below, several lawsuits and injunction decisions will be briefly analyzed which highlight the importance of the examination of associated rights of an underlying artwork before minting and selling, or in general carrying out transactions relating to non-fungible tokens for the sellers.

2.3.2 Lawsuits and Injunction Decisions Relating to the Non-Fungible Tokens

As explained above, it is important for the sellers to analyze whether they have the necessary authorizations and permissions to mint, sell or otherwise transfer non-fungible tokens. Subsequent claims and lawsuits brought against them by various right holders may result in substantial consequences resulting in loss of time and money, loss of reputation, and the success and popularity of the non-fungible token project in question or other non-fungible token projects. This is better understood with the following lawsuits ongoing or settled in various jurisdictions.

2.3.1.1 Having the Related Copyright for Minting the Non-Fungible Tokens: Miramax v Tarantino

As highlighted in the previous chapter, the determination of who has the copyrights for minting an NFT is an issue which has high potential for being the center of many disputes, especially the ones involving many parties.

One of the early illustrations of this fact was provided by the dispute surrounding Quentin Tarantino's NFT project and the company Miramax. One of the first famous intellectual property disputes surrounding NFT, this dispute

⁴⁵² Pinsent Masons, "Juventus ruling highlights NFT trade mark risks", <https://www.pinsentmasons.com/out-law/news/juventus-ruling-highlights-nft-trade-mark-risks>, 16 November 2022.

arose⁴⁵³ when Oscar- winning American movie director Quentin Tarantino and his collaborators declared that they would offer seven uncut screenplay scenes⁴⁵⁴ from the popular 1994 movie “Pulp Fiction” for sale on auction. Tarantino had not consulted with Miramax⁴⁵⁵, to which Miramax LLC quickly reacted.⁴⁵⁶ For this project, Tarantino was in collaboration with SCRT Labs⁴⁵⁷, the founding development team of Secret Network⁴⁵⁸. What each NFTs (which were referred as “Secret NFTs”)⁴⁵⁹ would comprise as the underlying artwork was the original script in handwriting of a scene of Pulp Fiction⁴⁶⁰ that he claims to have kept confidential for decades,⁴⁶¹ along with Quentin Tarantino’s audio records having his commentaries about the scene.⁴⁶² These artworks, which were defined as “Publications” in the Article 1 (Definitions) of the Secret NFT Purchase and License Agreement, comprised of 7 pieces subsequently named as *Royale with Cheese*, *Pumpkin and Honey Bunny*, *Foot Massage*, *Check Out the Big Brain on*

⁴⁵³ Queen, Jack, “*Tarantino, Miramax settle copyright suit over 'Pulp Fiction' NFTs*”, [https://www.reuters.com/legal/tarantino-miramax-settle-copyright-suit-over-pulp-fiction-nfts-2022-09-09/#:~:text=The%20case%20was%20one%20of,%E2%80%9Cuncut%20Pulp%20Fiction%20scenes.%22](https://www.reuters.com/legal/tarantino-miramax-settle-copyright-suit-over-pulp-fiction-nfts-2022-09-09/#:~:text=The%20case%20was%20one%20of,%E2%80%9Cuncut%20Pulp%20Fiction%20scenes.%22;) ;

⁴⁵⁴ Pereira, Ana Paula, “*Quentin Tarantino settles Miramax lawsuit over Pulp Fiction NFTs*”, <https://cointelegraph.com/news/quentin-tarantino-settles-miramax-lawsuit-over-pulp-fiction-nfts>, 09 September 2022.

⁴⁵⁵ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶ 37.; Koonce/ Carron.

⁴⁵⁶ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶ 36. ; Koonce/ Carron.; Queen, Jack, “*Tarantino, Miramax settle copyright suit over 'Pulp Fiction' NFTs*”, <https://www.reuters.com/legal/tarantino-miramax-settle-copyright-suit-over-pulp-fiction-nfts-2022-09-09/#:~:text=The%20case%20was%20one%20of,%E2%80%9Cuncut%20Pulp%20Fiction%20scenes.%22>.

⁴⁵⁷ <https://www.scrtlabs.com/>; <https://tarantinonfts.com/#faq>.

⁴⁵⁸ Quentin Tarantino’s website called “Tarantino NFTs” defines Secret Network as “*the first blockchain with data privacy by default, allowing you to build and use applications that are both permissionless and privacy-preserving. This unique functionality protects users, secures applications, and unlocks hundreds of never-before-possible use cases for Web3.*” <https://tarantinonfts.com/#faq>.

⁴⁵⁹ <https://tarantinonfts.com/#power-of>. In the Secret NFT Purchase and Licence Agreement published on Tarantino NFTs’ website, “Secret NFT” is defined as “*a Non-Fungible Token minted on the Secret blockchain network containing a digital file of a Publication.*” <https://tarantinonfts.com/terms>.

⁴⁶⁰ <https://tarantinonfts.com/#power-of>

⁴⁶¹ <https://tarantinonfts.com>

⁴⁶² <https://tarantinonfts.com/#power-of>

*Brett, Captain Koons Monologue- The Gold Watch, Bring Out the Gimp and Last Scene: Coffee Shop-Ezekiel 25:17.*⁴⁶³ Thus, as the website advertises, purchase of these NFTs would allow the purchaser to “*be the first to look into the mind and unique creative process of Quentin Tarantino*”.⁴⁶⁴

However, apparently Miramax did not agree with these visionary pledges. On 4 November 2021, Miramax sent Tarantino a cease-and-desist letter⁴⁶⁵ demanding Tarantino; to immediately discontinue and terminate all efforts for selling of the Pulp Fiction NFTs or any other Pulp Fiction elements, to immediately withdraw and terminate any related agreement, to issue a public statement that the sale of Pulp Fiction NFTs are cancelled and will not continue.⁴⁶⁶

Tarantino did not comply, by asserting his Reserved Rights, especially the right to “screenplay publication”, are sufficient⁴⁶⁷. Tarantino reportedly believed that Miramax would not be able to block the auction, since the NFTs were based on his own screenplay to which Miramax did not have any rights.⁴⁶⁸ Miramax filed a complaint in California for breach of contract⁴⁶⁹, copyright infringement⁴⁷⁰, trademark infringement⁴⁷¹ and unfair competition⁴⁷² on 16 November 2021 against

⁴⁶³ Article 1 of the Terms and Conditions, at: <https://tarantinonfts.com/terms>

⁴⁶⁴ <https://tarantinonfts.com/#power-of>

⁴⁶⁵ Miramax LLC v. Quentin Tarantino; Visiona Romantica, https://deadline.com/wp-content/uploads/2021/11/TARANTINO-LAWSUIT.pdf_Complaint ¶¶4, 44-50. ; Diaz, Johnny, “*Miramax sues Quentin Tarantino*”, <https://www.nytimes.com/2021/11/17/business/miramax-tarantino-nft-pulp-fiction.html>.

⁴⁶⁶ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶ 44.

⁴⁶⁷ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶4, ¶46, ¶ 50.

⁴⁶⁸ Brittain, Blake, “*Tarantino tells court Miramax has no right to block 'Pulp Fiction' NFTs*”, <https://www.reuters.com/legal/litigation/tarantino-tells-court-miramax-has-no-right-block-pulp-fiction-nfts-2022-06-22/>, 22 June 2022.

⁴⁶⁹ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶¶ 51-53.

⁴⁷⁰ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶¶ 54-60.

⁴⁷¹ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶¶ 61-65.

⁴⁷² Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶¶ 66-72.

Tarantino.⁴⁷³ The firm was also in the course of an NFT-strategy development at the time.⁴⁷⁴

Miramax claimed that Tarantino kept the Pulp Fiction NFT plans secret from Miramax,⁴⁷⁵ that all of Tarantino's rights to Pulp Fiction were granted and assigned by him to Miramax in 1993⁴⁷⁶ and that any "Reserved Rights" granted to Tarantino under the relevant agreements were "too narrow" to be able to produce, market and sell the NFTs.⁴⁷⁷ Miramax accused Tarantino of seeking to unilaterally capitalize Miramax' rights on Pulp Fiction and that these acts have caused or likely to cause confusion among the relevant consumers as to the source of Pulp Fiction NFTs as if they had connection somehow with Miramax.⁴⁷⁸

The complaint had as exhibit, *inter alia*, the "Original Rights Agreement" concluded between Miramax's predecessor and Tarantino and Bender on 23 June 1993⁴⁷⁹ and the assignment defined as the "Tarantino-Miramax Assignment" in the compliant which was signed by Quentin Tarantino on 23 June 1993, notarized on 15 July 1993⁴⁸⁰ and also was recorded with the U.S. Copyright Office on 6 August 1993.⁴⁸¹

The Original Rights Agreement defined "Reserved Rights [for Tarantino]" in the Article 2 titled Grant of Rights as:

⁴⁷³Koonce/ Carron.; Miramax LLC v. Quentin Tarantino; Visiona Romantica, <https://deadline.com/wp-content/uploads/2021/11/TARANTINO-LAWSUIT.pdf>; Justia, Dockets & Filings, <https://dockets.justia.com/docket/california/cacdce/2:2021cv08979/836944>; Gray, LaTessa, "*Lights, camera, legal action: Quentin Tarantino in litigation with Miramax over NFT rights*", <https://www.worldtrademarkreview.com/article/lights-camera-legal-action-quentin-tarantino-in-litigation-miramax-over-nft-rights>

⁴⁷⁴ Pereira, Ana Paula, "*Quentin Tarantino settles Miramax lawsuit over Pulp Fiction NFTs*", <https://cointelegraph.com/news/quentin-tarantino-settles-miramax-lawsuit-over-pulp-fiction-nfts>, 09 September 2022.

⁴⁷⁵ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶2

⁴⁷⁶ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶ 3.

⁴⁷⁷ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint ¶ 3.

⁴⁷⁸ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶ 42.

⁴⁷⁹ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶ 19, Exhibit A.

⁴⁸⁰ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Compliant, ¶ 26.

⁴⁸¹ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Compliant, ¶ 27.

*The rights granted to Miramax herein are hereinafter referred to as the “Rights”. Producer hereby grants to Miramax for the “Territory” and “Term” (both defined below) all rights (including all copyrights and trademarks) in and to the Film (and all elements thereof in all stages of development and production) now or hereafter known including without limitation the right to distribute the Film in all media now or hereafter known (theatrical, non-theatrical, all forms of television, home video, etc.) but excluding only soundtrack album, music publishing, live performance, **print publication (including without limitation screenplay publication, “making of” books, comic books and novelization, in audio and electronic formats as well, as applicable), interactive media, theatrical and television sequel and remake rights, and television series and spinoff rights [...]** Tarantino shall have the right to use the title of the Film in connection with the exploitation of the Reserved Rights. **For the purpose of this agreement, “interactive media” means any interactive device or mechanism, such as a computer game based on the Film, which may include literary, or character elements used in the Film but shall not be a substantial replication or viewing of the Film.** Interactive media rights, if not hereafter acquired by Miramax, shall be subject to a holdback to be negotiated in good faith, with a particular view to avoiding competition with home video. Miramax may publish for promotional purposes excerpts up to 7500 words from the screenplay on a not-for-sale basis.⁴⁸²*

The “Territory” and the “Term” were subsequently defined as the Universe and Perpetuity.⁴⁸³ Article 9 of the Original Rights Agreement named Certain Reserved Rights/First and Last:

Miramax shall the right of first negotiation and last matching rights to any and all deals for soundtrack album, novelization, “making of” books and interactive media. If Miramax does not hereafter acquire those

⁴⁸² The Original Rights Agreement, Exhibit A, Article 2. (Emphasis added).

⁴⁸³ The Original Rights Agreement, Exhibit A, Articles 3 and 4.

Reserved Rights, Miramax shall receive 25% of Tarantino's non-refundable gross receipts from third party deals for those Reserved Rights, but Miramax's 25% fee for such soundtrack album deals is limited as set forth below. If Tarantino makes a third-party novelization or "making of" book deal in accordance herewith, the publisher of the novelization shall have a free licence to use artwork from the Film [...].

The Tarantino-Miramax Assignment stipulated:

"[...] the undersigned [Quentin Tarantino], for value received, hereby grants and assigns to Miramax Film Corp. and its successors and assigns (herein called the "Assignee"), the sole and exclusive right under copyright, trademark or otherwise to distribute, exhibit and otherwise exploit all rights (other than the rights reserved to Quentin Tarantino described hereinbelow) in and to the motion picture entitled "Pulp Fiction" (the "Work") (and all elements thereof in all stages of development and production) now or hereafter known including, without limitation,, the right to distribute the Work in all media now or hereafter known (theatrical, non-theatrical, all forms of television and "home video") in perpetuity, throughout the Universe, as more particularly set forth and upon and subject to the terms and conditions in that certain Agreement between the undersigned and said Assignee dated as of June 23, 1993 (the "Agreement"). The following rights are reserved to Quentin Tarantino: soundtrack album, music publishing, live performance, print publication (including, without limitation, screenplay publication, "making of" books, comic books and novelization, in audio and electronic formats as well, as applicable), interactive media, theatrical and television sequel and remake rights, and television series and spinoff rights (the "Tarantino Reserved Rights"). The exercise of certain Reserved Rights is subject to restrictions set forth in the Agreement."⁴⁸⁴

⁴⁸⁴ The Original Rights Agreement, Exhibit A, ¶ 1.

Miramax insisted that the sale of Pulp Fiction NFTs is a one-time transaction, which does not constitute “publication” and does not in any way fall within the aspired meaning of the definitions “print publications” or “screenplay publication”, and that any right to sell NFTs of screenplay excerpts of Pulp Fiction is controlled and owned by itself.⁴⁸⁵ The defendants filed their answer to the Complaint on 9 December 2021.⁴⁸⁶

It is important to underline that in the previous versions of the website, image representations of characters from the movie Pulp Fiction were also present.⁴⁸⁷

This dispute has brought the question as to what happens when some definitions of technical terms or scope of rights included in a contract in the past do not quite correspond with the state of today’s technology. Courts from different jurisdictions have come across the same essential question relating to different types of media. In *Random House Inc. v. Rosetta Books LLC*, the court determined whether a right to publish “in book form” applied to e-book rights and found that the language of the agreement was not broad enough to cover the use of electronic books.⁴⁸⁸ In *New York Times v. Tasini*, the court analyzed whether publishers had the rights to transfer the rights of articles to electronic databases and found that it did not.⁴⁸⁹

Miramax LLC and Tarantino then settled on this dispute, with Miramax depositing their notice of settlement on 8 September 2022⁴⁹⁰ and reportedly are ready to further collaborate in potential projects.⁴⁹¹ January 2022 marked the first

⁴⁸⁵ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶ 46.

⁴⁸⁶ Justia, Dockets & Filings,

<https://dockets.justia.com/docket/california/cacdce/2:2021cv08979/836944>

⁴⁸⁷ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶ 40.

⁴⁸⁸ Koonce/ Carron.

⁴⁸⁹ Koonce/ Carron.;

⁴⁹⁰ Justia, Dockets & Filings,

<https://dockets.justia.com/docket/california/cacdce/2:2021cv08979/836944>;

⁴⁹¹ Queen, Jack, “*Tarantino, Miramax settle copyright suit over 'Pulp Fiction' NFTs*”,

<https://www.reuters.com/legal/tarantino-miramax-settle-copyright-suit-over-pulp-fiction-nfts->

sale in auction of one of Tarantino NFTs for 1.1. million USD; however, Secret Network removed the remaining 6 items from auction, citing “extreme market volatility” as the reason.⁴⁹² It is also worthy to note that the image representations of characters from the movie Pulp Fiction do not exist on the page anymore.⁴⁹³

The settlement is somewhat unfortunate, considering a court analysis relating to the interpretation of relevant agreements between the parties in connection with the concept of NFTs could be illuminating for similar upcoming disputes.

In this case, the material from the case file suggests that Miramax was cautious regarding what rights were reserved for it. Both The Original Rights Agreement and Tarantino-Miramax Assignment Agreement entail the rights reserved in Miramax for Pulp Fiction with fair amount of detail.⁴⁹⁴ The question remained whether Tarantino’s “screenplay publication” reserved right indeed gave him the right to sell the script pages and footages from Pulp Fiction as NFTs, or Miramax was true to assert that the sale of Pulp Fiction NFTs, which Miramax described as “a one-time transaction” not constituting a publication did not fall within the scope of the aspired meaning of print or screenplay publication.⁴⁹⁵

Currently, the Tarantino NFT Terms and Conditions’ Article 4 titled Ownership of Tarantino NFT secures the non-transfer of intellectual property rights to the purchaser, by stating “[Visiona Romantica, Inc. and/or Quentin Tarantino

2022-09-09/#:~:text=The%20case%20was%20one%20of,%E2%80%9Cuncut%20Pulp%20Fiction%20scenes.%22;Pereira,AnaPaula,“*Quentin Tarantino settles Miramax lawsuit over Pulp Fiction NFTs*”,<https://cointelegraph.com/news/quentin-tarantino-settles-miramax-lawsuit-over-pulp-fiction-nfts>, 09 September 2022.

⁴⁹² https://twitter.com/TarantinoNFTs?ref_src=twsrc%5Etfw; Queen, Jack, “*Tarantino, Miramax settle copyright suit over 'Pulp Fiction' NFTs*”, <https://www.reuters.com/legal/tarantino-miramax-settle-copyright-suit-over-pulp-fiction-nfts-2022-09-09/#:~:text=The%20case%20was%20one%20of,%E2%80%9Cuncut%20Pulp%20Fiction%20scenes.%22>.

⁴⁹³ <https://tarantinonfts.com>

⁴⁹⁴ Koonce/ Carron.;

⁴⁹⁵ Miramax LLC v. Quentin Tarantino; Visiona Romantica, Complaint, ¶ 46.

defined as “IP Owners”.] *IP Owners reserve all rights and ownership in and to the Publication not expressly granted to you in Section 5 of this Agreement*”.⁴⁹⁶ And the following Article 5 titled NFT Licence Right indicates the Secret NFT transaction grants a non-exclusive, fully paid-up license (without any right to sublicense) to use and copy the work only for personal and non-commercial use including reasonable number of back-up copies and physical printouts, a non-exclusive, fully paid-up license (without any right to sublicense) to publicly display the work, and a royalty-bearing license to redistribute the artwork in a permitted manner.⁴⁹⁷

2.3.1.2 Minting Without Trademark Infringement: Hermès v MetaBirkins

Luxury fashion brand Hermès⁴⁹⁸ sued interdisciplinary digital artist Mason Rothschild in January 2022 for trademark infringement, claiming that Rothschild's sale of a collection of non-fungible tokens labeled "*MetaBirkins*" damaged the company's reputation.⁴⁹⁹ In their complaint consisting of 47 pages, Hermes defined Mason Rothschild as a “*digital speculator who is seeking to get rich quick*”⁵⁰⁰ and stated “*Although a digital image connected to an NFT may reflect some artistic creativity, (...), the title of “artist” does not confer a licence to use an equivalent to the famous BIRKIN trademark in a manner calculated to mislead consumers and undermine the ability of that mark to identify Hermes as the unique source of goods sold under the BIRKIN mark. (...)*”.⁵⁰¹

Rothschild filed a request to dismiss based on the *Rogers v. Grimaldi* test, which provides the standard for the balance between free speech and trademark

⁴⁹⁶ Article 4, <https://tarantinonfts.com/terms>

⁴⁹⁷ Article 5, <https://tarantinonfts.com/terms>

⁴⁹⁸ <https://www.hermes.com/us/en/>

⁴⁹⁹ *Hermes International and Hermes of Paris v. Mason Rothschild*, , <https://www.documentcloud.org/documents/21181175-hermes-international-vs-mason-rothschild?responsive=1&title=1>

⁵⁰⁰ *Hermes International and Hermes of Paris v Mason Rothschild*, ¶ 1.

⁵⁰¹ *Hermes International and Hermes of Paris v Mason Rothschild*, Complaint, ¶ 5.

rights, that users of a trademark are protected from infringement claims if their use amounts both to artistic expression and not a use that is misleading to consumers,⁵⁰² and asserted that the digital pictures of Birkin bags attached to the NFTs were protected under the First Amendment and therefore within his rights to freedom of expressions.⁵⁰³

On 18 May 2022, the court issued a decision⁵⁰⁴ where MetaBirkin non-fungible tokens were considered as artistic works:

“[b]ecause NFTs are simply code pointing to where a digital image is located and authenticating the image, using NFTs to authenticate an image and allow for traceable subsequent resale and transfer does not make the image a commodity without First Amendment protection any more than selling numbered copies of physical paintings would make the paintings commodities for purposes of Rogers.”⁵⁰⁵

Although the MetaBirkins met the Rogers test's artistic relevance element, the court dismissed the motion to dismiss because the revised complaint contained sufficient claims of explicit misleading.⁵⁰⁶ Hermès had the MetaBirkins withdrawn

⁵⁰² *Ginger Rogers v. Alberto Grimaldi, et al*, 875 F.2d 994 (2d Cir. 1989) ¶¶12, 18-20.

⁵⁰³ Boyd, Felicia J./ Chaudri, Abida/ Brazier, Jamie, “*Hermes Challenge of “MetaBirkin” NFTs to Continue*” <https://www.nortonrosefulbright.com/en/knowledge/publications/844123f5/hermes-challenge-of-metabirkins-nfts-to-continue>.

⁵⁰⁴ *Hermès International and Hermès of Paris, Inc. v. Mason Rothschild*, 22-cv-00384-JSR, at *1 (S.D.N.Y. May 18, 2022) at <https://www.sdnblog.com/files/2022/05/22-Civ.-00384-Hermes-v.-Rothchild.pdf>.

⁵⁰⁵ *Hermès International and Hermès of Paris, Inc. v. Mason Rothschild*, 22-cv-00384-JSR, at *12 (S.D.N.Y. May 18, 2022) at <https://www.sdnblog.com/files/2022/05/22-Civ.-00384-Hermes-v.-Rothchild.pdf>.

⁵⁰⁶ *Hermès International and Hermès of Paris, Inc. v. Mason Rothschild*, 22-cv-00384-JSR, at *14-18 (S.D.N.Y. May 18, 2022) at <https://www.sdnblog.com/files/2022/05/22-Civ.-00384-Hermes-v.-Rothchild.pdf>.

from the NFT exchange OpenSea, but they are still available for purchase on other platforms as well as the artist's website.⁵⁰⁷

Towards the end of this study, a decision on the issue was pending. The court was expected to analyze whether the use of the Birkin brand is a trademark infringement, and possibly consider in detail whether Rothschild's collection of non-fungible tokens amounts to a work of art complying with the originality criterion (which will be explained more in detail in Section 2.4.3 below) worthy of copyright protection or only a transformation of some other party's work.⁵⁰⁸

A decision on 8 February 2023 came from the jury which was much discussed.⁵⁰⁹ The jury held that the creator of the MetaBirkins non-fungible token, Mason Rothschild was liable for trademark infringement, dilution and cybersquatting, that the artist Rothschild was not protected by First Amendment protections and awarded Hermes in damages in approximately \$133,000.⁵¹⁰

2.3.1.3 Minting Without Trademark Infringement: Nike v StockX

Nike sued online sneaker marketplace StockX on 3 February 2021, for trademark infringement, false designation of origin, trademark dilution and related causes, by claiming that StockX was minting non-fungible tokens named "VaultNFTs" bearing Nike's trademarks without permission and selling them at

⁵⁰⁷ Boyd, Felicia J./ Chaudri, Abida/ Brazier, Jamie, "*Hermès Challenge of "MetaBirkin" NFTs to Continue*" <https://www.nortonrosefulbright.com/en/knowledge/publications/844123f5/hermes-challenge-of-metabirkins-nfts-to-continue>.

⁵⁰⁸ Filorinali, pp.79-80.

⁵⁰⁹ Miller, Joe/Klasa, Adrienne/Criddle, Cristina, "Hermès wins landmark lawsuit over 'MetaBirkin' NFTs" <https://www.ft.com/content/5f40179e-7124-4479-8124-df193c49c276>, 08.02.2023; The Fashion Law, "*Hermès v. Rothschild: A Timeline of Developments in a Case Over Trademarks, NFTs*", <https://www.thefashionlaw.com/hermes-v-rothschild-a-timeline-of-developments-in-a-case-over-trademarks-nfts/>, 24.02.2023.

⁵¹⁰ The Fashion Law; Miller/Klasa/Criddle.

exorbitant rates to customers who mistakenly assumed that Nike had given its consent.⁵¹¹

StockX on the other hand, claims that the non-fungible tokens provide merely “*track ownership of a physical Nike product safely secured in its vault*”⁵¹² and resorted to the fair use and first sale doctrine as justification, which permits the resale of items carrying a trademark after the trademark owner has sold them.⁵¹³ Nike argued in opposition to the first sale doctrine with the argument that it cannot be applied to VaultNFTs, because those non-fungible tokens are not physical goods and therefore the doctrine did not cover them.

While this case reminds the *Hermes v Rothschild* case, the defendant’s argument here which claims that the VaultNFTs are not virtual products or digital sneakers but simply “keys” which provide access to specific physical sneakers which had already been authenticated by StockX, such as digital twins. This argument is likely to justify their fair use argument.⁵¹⁴

⁵¹¹ Nike Inc v Stockx LLC, Complaint, at <https://heitnerlegal.com/wp-content/uploads/Nike-v-StockX.pdf> ¶ 1,4

⁵¹² Nike Inc v Stockx LLC, Complaint, at <https://heitnerlegal.com/wp-content/uploads/Nike-v-StockX.pdf> ¶ 5.

⁵¹³ Stasa, Benjamin, “Nike v. StockX Case Highlights Many Unanswered Questions About IP and NFTs”, <https://www.jdsupra.com/legalnews/nike-v-stockx-case-highlights-many-9205701/#:~:text=The%20complaint%20states%2C%20%E2%80%9CWithout%20Nike's,believe%20that%20those%20'investible%20digital> 7 September 2022.; Rossow, Andrew, “*The Nike v. StockX Lawsuit Could Determine What Type of NFTs Can Be Created*” <https://nftnow.com/features/the-nike-v-stockx-lawsuit-could-determine-what-type-of-nfts-can-be-created/>; Gogia, Anita, “What legal lines can’t NFTs cross? The Nike v StockX lawsuit may provide answers”, <https://www.iposgoode.ca/2022/06/what-legal-lines-cant-nfts-cross-the-nike-v-stockx-lawsuit-may-provide-answers/>, 21 June 2022.

⁵¹⁴ Stasa, Benjamin, “Nike v. StockX Case Highlights Many Unanswered Questions About IP and NFTs”, <https://www.jdsupra.com/legalnews/nike-v-stockx-case-highlights-many-9205701/#:~:text=The%20complaint%20states%2C%20%E2%80%9CWithout%20Nike's,believe%20that%20those%20'investible%20digital> 7 September 2022 ; Rossow, Andrew, “*The Nike v. StockX Lawsuit Could Determine What Type of NFTs Can Be Created*” <https://nftnow.com/features/the-nike-v-stockx-lawsuit-could-determine-what-type-of-nfts-can-be-created/>; Gogia, Anita, “What legal lines can’t NFTs cross? The Nike v StockX lawsuit may provide answers”, <https://www.iposgoode.ca/2022/06/what-legal-lines-cant-nfts-cross-the-nike-v-stockx-lawsuit-may-provide-answers/>, 21 June 2022.

This case raises very important legal issues, such as trademark infringements in the non-fungible tokens, the application of the first sale doctrine to the non-fungible tokens and the use of non-fungible tokens for representing the ownership of tangible assets. Therefore, if the dispute is heard in the courtroom, the decision certainly will constitute an important precedent. However, unfortunately there are reports which state that the parties may be heading towards settlement before the dispute reaching to the court.⁵¹⁵

2.3.1.4. Third Civil Intellectual Property Court of Istanbul

A preliminary injunction was granted by the 3rd Civil Intellectual Property Court of Istanbul. The claimant was Emrah Karaca, son of Cem Karaca, one of the most significant Turkish rock musicians⁵¹⁶ and was represented by Turkish lawyer Mr. Görkem Gökçe. Emrah Karaca filed the lawsuit, claiming that a portrait of late Cem Karaca painted by artist Yiğit Mohaç Yücel was used unlawfully and used as a basis for a non-fungible token which was put for sale on OpenSea. In addition to unlawful usage claims, the claimant also requested the court to issue a preliminary injunction to stop the sale of the portrait as a non-fungible token on OpenSea.⁵¹⁷ The expert report obtained within the scope of the file found that, as the underlying art work of the non-fungible token put on sale on OpenSea was based on a portrait of Cem Karaca, the appearance of Cem Karaca was commercialized and therefore violated the personality rights of Cem Karaca as well as provisions of the Law No 5846 on Intellectual and Artistic Works.⁵¹⁸ For the first time in Turkey, the Third

⁵¹⁵ Wilneff, Landon, “*Nike v. StockX: “Running” to NFTs, IP Bytes*”, <http://blogs.luc.edu/ipbytes/2022/11/19/nike-v-stockx-running-to-nfts/>, 19 November 2022.

⁵¹⁶ Wikipedia, Cem Karaca, at https://en.wikipedia.org/wiki/Cem_Karaca.

⁵¹⁷ Adcock, Rosie/ Mellor, Sophie/ Fitzpatrick, Simon, “*Boodle Hatfield’s August-September NFT Litigation Roundup*”, <https://insights.boodlehatfield.com/post/102hzj2/boodle-hatfields-august-september-nft-litigation-roundup>, 19 October 2022.

⁵¹⁸ Övet, Esin/ Açar, Mehmet, “*Cem Karaca’nın NFT portresine mahkeme engeli*”, Habertürk <https://m.haberturk.com/cem-karaca-nin-nft-portresine-mahkeme-engeli-magazin-haberleri-3472512-magazin>, 25 June 2022.

Civil Intellectual Property Court of Istanbul ordered a preliminary injunction⁵¹⁹ for a non-fungible token, which mandated the blocking of access to websites where the portrait of Cem Karaca is used without permission and prevention of the sale of the non-fungible taken on OpenSea.⁵²⁰ Despite the importance of an injunction relating to non-fungible tokens, it was stated that the enforceability of the injunction was debatable, as OpenSea is not a Turkey based or registered company and that the jurisdiction where the decision of the court can be enforced is Turkey.⁵²¹ The defendant's objection for the removal of the injunction was dismissed.⁵²² The claimant's attorney Mr. Gökçe explained that even though the legal nature of the non-fungible tokens is debated, the court has accepted that non-fungible tokens are assets which are subject to enforcement law.⁵²³ The court continues to examine the merits of the decision.

⁵¹⁹ Preliminary injunctions in Turkey are regulated by the provisions of the Law No 6100 on the Civil Procedure. Pursuant to Article 389 of the Law No 6100, the court may grant a preliminary injunction if serious damage might occur to the applicant due to the delay or it would be impossible or difficult to obtain rights due to changes in the current situation. In the decision dated 27 April 2012, the First Civil Chamber of the Turkish Court of Cassation defined a preliminary injunction as “*a temporary legal protection which may be broad or limited which is provided against the damages which might occur in legal situations of both the claimant and the defendant during the proceedings going on until the final judgment. As can be understood from this definition, preliminary injunction, other than its other functions, is a temporary legal protection preventing any new conflicts to arise on the subject matter of the case during the case and in the time period until the judgment to be rendered is finalized.*” See Yayla Sapan, Beril/ Sılacı Korkmaz, Melis, “*Preliminary Injunction Procedure*”, Gün & Partners, https://gun.av.tr/insights/articles/preliminary-injunction-procedure?utm_source=mondaq&utm_medium=syndication&utm_term=Litigation-Mediation-Arbitration&utm_content=articleoriginal&utm_campaign=article, 16 April 2018.

⁵²⁰ Övet, Esin/ Açar, Mehmet, “*Cem Karaca'nın NFT portresine mahkeme engeli*”, Habertürk <https://m.haberturk.com/cem-karaca-nin-nft-portresine-mahkeme-engeli-magazin-haberleri-3472512-magazin>, 25 June 2022.

⁵²¹ Köse, Mutlu Yıldırım / Yıldız, Havva, “*NFT'ler ile İlgili Güncel Hukuki Gelişmeler: Türkiye'de NFT'lerle İlgili İlk İhtiyati Tedbir Kararı Verildi*”, Gün & Partners, <https://gun.av.tr/tr/goruslerimiz/makaleler/nft-ler-ile-ilgili-guncel-hukuki-gelismeler-turkiye-de-nft-lerle-ilgili-ilk-ihiyati-tedbir-karari-verildi>, 14 September 2022.; Kaya, Baran Can, “*Cem Karaca NFT Portresi Üzerine İhtiyati Tedbir*”, at <https://hukukvebilisim.org/cem-karaca-nft-portresi-uzerine-ihiyati-tedbir/>.

⁵²² Odatv, “*Cem Karaca'nın NFT'sine geçit yok*”, <https://www.odatv4.com/digerhaberler/cem-karaca-nin-nft-sine-gecit-yok-250154>, 12 September 2022.

⁵²³ Övet, Esin/ Açar, Mehmet, “*Cem Karaca'nın NFT portresine mahkeme engeli*”, Habertürk <https://m.haberturk.com/cem-karaca-nin-nft-portresine-mahkeme-engeli-magazin-haberleri-3472512-magazin>, 25 June 2022.; NTV, “*Cem Karaca'nın NFT portresine mahkeme engeli*”,

2.3.1.5. Rome District Court of First Instance

A decision dated 20 July 2022, which is considered to be first European case⁵²⁴ analyzing trademark infringement by a non-fungible token and among the first decisions in Italy relating to the non-fungible tokens⁵²⁵ was given by the Rome District Court of First Instance.⁵²⁶

Turin based football club, Juventus FC⁵²⁷ initiated preliminary injunction proceedings in the District Court of Rome against Blockeras SRL⁵²⁸, which is a blockchain-based platform, claiming that Blockeras had violated Juventus' registered trademarks (including the word marks "JUVE" and "JUVENTUS" and the figurative trade mark consisting of a shirt with black and white vertical stripes and two stars⁵²⁹) by developing and disseminating non-fungible tokens and other digital content that featured an image of Christian "Bobo" Vieri wearing a Juventus shirt and the team's name.⁵³⁰ These non-fungible tokens were launched within the

<https://www.ntv.com.tr/n-life/kultur-ve-sanat/cem-karacanın-nft-portresine-mahkeme-engeli,JGyxOc4uYUGZAnkVs-aqgw>, 24 June 2022.

⁵²⁴ Speight, Sarah, "Juventus scores landmark NFT decision"

<https://www.worldipreview.com/news/juventus-scores-landmark-nft-decision-22821>, 17 November 2022.

⁵²⁵ Vantini, Andrea, "The first Italian decision on NFTs", Andrea Vantini,

<https://brandwrites.law/the-first-italian-decision-on-nfts/#page=1>, 10 November 2022.; Ercoli, Laura, "Unauthorised use of trademark in an NFT: Juventus scores victory in Italian court", <https://www.sib.it/en/flash-news/unauthorised-use-of-trademark-in-an-nft-juventus-scores-victory-in-italian-court/>, 14 November 2022.

⁵²⁶ See the decision in Italian for the case *Juventus FC v Blockrus SRL* No 32072/2022 at https://drive.google.com/file/d/1KEs2RnCQax5HE-1j32Naz_cs6JB-2uWH/view.

⁵²⁷ Juventus' official website at: <https://www.juventus.com/en/>.

⁵²⁸ See Blockeras' website, <https://blockeras.com/>.

⁵²⁹ Rosati, Eleonara, "Can an NFT infringe one's own trade mark rights? Yes, says Rome Court of First Instance", IPKitten, <https://ipkitten.blogspot.com/2022/11/can-nft-infringe-ones-own-trade-mark.html>, 11 November 2022.; Lavery, Niall J./ Casinader, Simon, "Old Lady Shows Her Youth with Win in Significant Trade Mark Ruling Concerning NFTS", <https://www.natlawreview.com/article/old-lady-shows-her-youth-win-significant-trade-mark-ruling-concerning-nfts>, 7 December 2022.; Ercoli, Laura, "Unauthorised use of trademark in an NFT: Juventus scores victory in Italian court", <https://www.sib.it/en/flash-news/unauthorised-use-of-trademark-in-an-nft-juventus-scores-victory-in-italian-court/>, 14 November 2022.

⁵³⁰ Rosati, Eleonara, "Can an NFT infringe one's own trade mark rights? Yes, says Rome Court of First Instance", IPKitten, <https://ipkitten.blogspot.com/2022/11/can-nft-infringe-ones-own-trade-mark.html>, 11 November 2022.; Lavery, Niall J./ Casinader, Simon, "Old Lady Shows Her Youth with Win in Significant Trade Mark Ruling Concerning NFTS",

scope of a project called “Coin of Champions”⁵³¹, and were sold on Binance marketplace between 7 April and 4 May 2022.⁵³² A secondary market for the resale of the non-fungible tokens had also emerged and thus generated extra income for Blockeras.⁵³³ According to the case's evidence, Blockeras earned \$35,796.87 from the sale of 529 NFTs that featured Vieri.⁵³⁴

Juventus requested an immediate action to halt the manufacturing and sale of any NFTs bearing its trademarks and to require the removal of any online materials pertaining to the sale of such NFTs.⁵³⁵ Blockeras maintained that Juventus' trademarks weren't registered for virtual goods and that it received authorization from Vieri to use his picture.⁵³⁶ However, the court approved Juventus' requests, after determining that Juventus' trademarks are well known marks with Juventus

<https://www.natlawreview.com/article/old-lady-shows-her-youth-win-significant-trade-mark-ruling-concerning-nfts>, 7 December 2022.; Ercoli, Laura, “*Unauthorised use of trademark in an NFT: Juventus scores victory in Italian court*”, <https://www.sib.it/en/flash-news/unauthorised-use-of-trademark-in-an-nft-juventus-scores-victory-in-italian-court/>, 14 November 2022.

⁵³¹ Examples of these non-fungible tokens, as well as the ones featuring Bobo Vieri can be seen at Binance and Opensea: <https://www.binance.com/ru/nft/collection/bobo-vieri-x-coin-of-champions-562271060940533761?isBack=1>; <https://opensea.io/collection/bobo-vieri-x-coin-of-champions>.

⁵³² Macchi di Cellere Gangemi, “*Juventus FC Scores Landmark Win for a TM Infringement Case in the Metaverse*”, https://www.macchigangemi.com/en/news/latest-news-insights-25-november-2022/?utm_source=mondaq&utm_medium=syndication&utm_term=Intellectual-Property&utm_content=articleoriginal&utm_campaign=article, 25 November 2022.

⁵³³ Macchi di Cellere Gangemi, “*Juventus FC Scores Landmark Win for a TM Infringement Case in the Metaverse*”, https://www.macchigangemi.com/en/news/latest-news-insights-25-november-2022/?utm_source=mondaq&utm_medium=syndication&utm_term=Intellectual-Property&utm_content=articleoriginal&utm_campaign=article, 25 November 2022.

⁵³⁴ Macchi di Cellere Gangemi, “*Juventus FC Scores Landmark Win for a TM Infringement Case in the Metaverse*”, https://www.macchigangemi.com/en/news/latest-news-insights-25-november-2022/?utm_source=mondaq&utm_medium=syndication&utm_term=Intellectual-Property&utm_content=articleoriginal&utm_campaign=article, 25 November 2022.

⁵³⁵ Rosati, Eleonara, “*Can an NFT infringe one's own trade mark rights? Yes, says Rome Court of First Instance*”, IPKitten, <https://ipkitten.blogspot.com/2022/11/can-nft-infringe-ones-own-trade-mark.html>, 11 November 2022.; Lavery, Niall J./ Casinader, Simon, “*Old Lady Shows Her Youth with Win in Significant Trade Mark Ruling Concerning NFTS*”,

<https://www.natlawreview.com/article/old-lady-shows-her-youth-win-significant-trade-mark-ruling-concerning-nfts>, 7 December 2022.; Ercoli, Laura, “*Unauthorised use of trademark in an NFT: Juventus scores victory in Italian court*”, <https://www.sib.it/en/flash-news/unauthorised-use-of-trademark-in-an-nft-juventus-scores-victory-in-italian-court/>, 14 November 2022.

⁵³⁶ Lavery, Niall J./ Casinader, Simon, “*Old Lady Shows Her Youth with Win in Significant Trade Mark Ruling Concerning NFTS*”, <https://www.natlawreview.com/article/old-lady-shows-her-youth-win-significant-trade-mark-ruling-concerning-nfts>, 7 December 2022

being the most winning Italian football team and Blockeras' actions (namely the unauthorized minting, advertising and sale of non-fungible tokens) constituted unfair competition and a misappropriation of benefits from the commercial use of Juventus' trademarks and were likely to harm Juventus.⁵³⁷ The court also highlighted that Juventus is involved in the fields of blockchain-based online games and NFTs and that the club's trademarks are registered in Class 9 of the Nice Classification, which covers downloadable electronic publications.⁵³⁸ Therefore, the injunction provided Juventus with a broad scope of protection, as the injunction granted by the court prohibited Blockeras from engaging in the production, marketing, or sale of non-fungible tokens or any digital content or images associated with the non-fungible tokens that featured Juventus' trademarks.⁵³⁹

The order has become final and was not appealed.⁵⁴⁰ However, the question of effective enforcement still remains as an important question.⁵⁴¹ As indicated in

⁵³⁷ Lavery, Niall J./ Casinader, Simon, “*Old Lady Shows Her Youth with Win in Significant Trade Mark Ruling Concerning NFTS*”, <https://www.natlawreview.com/article/old-lady-shows-her-youth-win-significant-trade-mark-ruling-concerning-nfts>, 7 December 2022.; Rosati, Eleonara, “*Can an NFT infringe one's own trade mark rights? Yes, says Rome Court of First Instance*”, IPKitten, <https://ipkitten.blogspot.com/2022/11/can-nft-infringe-ones-own-trade-mark.html>, 11 November 2022.

⁵³⁸ Rosati, Eleonara, “*Can an NFT infringe one's own trade mark rights? Yes, says Rome Court of First Instance*”, IPKitten, <https://ipkitten.blogspot.com/2022/11/can-nft-infringe-ones-own-trade-mark.html>, 11 November 2022.; Lavery, Niall J./ Casinader, Simon, “*Old Lady Shows Her Youth with Win in Significant Trade Mark Ruling Concerning NFTS*”, <https://www.natlawreview.com/article/old-lady-shows-her-youth-win-significant-trade-mark-ruling-concerning-nfts>, 7 December 2022.; Ercoli, Laura, “*Unauthorised use of trademark in an NFT: Juventus scores victory in Italian court*”, <https://www.sib.it/en/flash-news/unauthorised-use-of-trademark-in-an-nft-juventus-scores-victory-in-italian-court/>, 14 November 2022.

⁵³⁹ Lavery, Niall J./ Casinader, Simon, “*Old Lady Shows Her Youth with Win in Significant Trade Mark Ruling Concerning NFTS*”, <https://www.natlawreview.com/article/old-lady-shows-her-youth-win-significant-trade-mark-ruling-concerning-nfts>, 7 December 2022.;

⁵⁴⁰ Macchi di Cellere Gangemi, “*Juventus FC Scores Landmark Win for a TM Infringement Case in the Metaverse*”, https://www.macchigangemi.com/en/news/latest-news-insights-25-november-2022/?utm_source=mondaq&utm_medium=syndication&utm_term=Intellectual-Property&utm_content=articleoriginal&utm_campaign=article, 25 November 2022.

⁵⁴¹ Macchi di Cellere Gangemi, “*Juventus FC Scores Landmark Win for a TM Infringement Case in the Metaverse*”, https://www.macchigangemi.com/en/news/latest-news-insights-25-november-2022/?utm_source=mondaq&utm_medium=syndication&utm_term=Intellectual-Property&utm_content=articleoriginal&utm_campaign=article, 25 November 2022.

footnote 495 above, the non-fungible tokens subject to the injunction is still available on some platforms.

As can be deduced from this case, although Blockeras signed a valid licence agreement with the footballer Vieri until 2024 in order to mint and sell the non-fungible tokens in this project, it neglected to examine the rights of the Juventus team, and therefore was subject to a lawsuit. It was also indicated that had the non-fungible token in question included the logo of the kit maker Kappa and the sponsor Sony on Vieri's jersey, permission should have had also be obtained from them.⁵⁴² In summary, the importance of obtaining relevant permissions and rights from various parties in order to mint and sell non-fungible tokens without any infringements has been reiterated with this case.

2.3.1.6. 9th Commercial Law Court of Barcelona

Another injunction was granted by the 9th Commercial Law Court of Barcelona on 21 October 2022.⁵⁴³ The dispute was between the Spanish artist collective VEGAP (*Visual Entidad de Gestión de Artistas Plásticos*), which is a non-profit organization representing and overseeing the rights of artists in Spain⁵⁴⁴ and Punto Fa S.L, which is a famous clothing design and manufacturing company, trading under the name Mango.⁵⁴⁵ Mango declared in March 2022 that reinterpretations of copyrighted works, such as *Oiseau Volant Vers Le Soleil* by

⁵⁴² Hamson Charlie, "Lessons from Juventus' latest victory" *Onside Law*, <https://www.onsidelaw.co.uk/news-update/lessons-from-juventus-latest-victory/>, 6 December 2022.

⁵⁴³ Juzgado de lo Mercantil, Barcelona, Sección 9, 2022; Roj: AJM B 1900/2022 - ECLI:ES:JMB:2022:1900A. See <https://www.poderjudicial.es/search/AN/openDocument/fb7c927281ec693aa0a8778d75e36f0d/20221121> for the Spanish decision.

⁵⁴⁴ See VEGAP's website at <https://www.vegap.es/inicio.aspx>.

⁵⁴⁵ Juzgado de lo Mercantil, Barcelona, Sección 9, 2022; Roj: AJM B 1900/2022 - ECLI:ES:JMB:2022:1900A; Guadamuz. Andreas, "Court in Barcelona issues injunction against Mango's NFT use in the metaverse", <https://www.technollama.co.uk/court-in-barcelona-issues-injunction-against-mangos-nft-use-in-the-metaverse>, 25 November 2022.

famous Catalan painter Joan Miró, *Tête et Oiseau* by D.Alfredo, *Ulls i Creu* and *Esgrafiats* by D. Augustin and *Dilatation* by D. Alejo will be on exhibit at a virtual museum in Decentraland.⁵⁴⁶ VEGAP claimed that the exclusive moral rights of integrity and disclosure, as well as the economic rights of reproduction, public communication, and adaptation were violated when Mango displayed the reinterpretations as non-fungible tokens in Decentraland, OpenSea, Mango's physical store in New York and various digital and social media platforms such as Instagram, TikTok and LinkedIn.⁵⁴⁷ Mango, on the other hand claimed *inter alia* that VEGAP lacked standing to bring an injunction claim, as Mango owns the physical copies of the paintings, their usage, which are mere interpretations of these works, amounts to fair use which does not infringe the author's economic or moral rights and the non-fungible tokens in question are digital files that have never been converted as blockchain assets and they can only be viewed on the platform and cannot be downloaded, acquired or reproduced.⁵⁴⁸ The court determined that the main issue in this case was to determine the extent of Mango's rights as the owner of the physical paintings.⁵⁴⁹ Specifically, whether converting an artwork into a non-fungible token involves modifying the artwork in a way that would interfere with author's rights or whether the ownership of the physical copies is sufficient for

⁵⁴⁶ Decentraland is an Ethereum-based, user-owned 3D virtual world digital game platform, allowing the users all kinds of activities and interactions such as exchanging collectibles, playing games, buying and selling wearables for avatars and digital real estate. What is Decentraland, Investopedia, at <https://www.investopedia.com/what-is-decentraland-6827259#citation-18>; CoinDesk. "*Decentraland for Beginners: How to Get Started in Decentraland.*" At <https://www.coindesk.com/learn/getting-started-in-decentraland/>. See Decentraland's website at <https://decentraland.org/>.

⁵⁴⁷ Juzgado de lo Mercantil, Barcelona, Sección 9, 2022; Roj: AJM B 1900/2022 - ECLI:ES:JMB:2022:1900A; Guadamuz. Andreas, "*Court in Barcelona issues injunction against Mango's NFT use in the metaverse*", <https://www.technollama.co.uk/court-in-barcelona-issues-injunction-against-mangos-nft-use-in-the-metaverse>, 25 November 2022.

⁵⁴⁸ Guadamuz. Andreas, "*Court in Barcelona issues injunction against Mango's NFT use in the metaverse*", <https://www.technollama.co.uk/court-in-barcelona-issues-injunction-against-mangos-nft-use-in-the-metaverse>, 25 November 2022.

⁵⁴⁹ A Guadamuz. Andreas, "*Court in Barcelona issues injunction against Mango's NFT use in the metaverse*", <https://www.technollama.co.uk/court-in-barcelona-issues-injunction-against-mangos-nft-use-in-the-metaverse>, 25 November 2022.

transforming those paintings into non-fungible tokens.⁵⁵⁰ Had Mango acquired an absolute right to enjoy and exploit the paintings, their use as non-fungible tokens would be fair use which do not require further authorization from the authors.⁵⁵¹

The non-fungible tokens were taken off the OpenSea platform at VEGAP's request, therefore the court found that Mango no longer that the power to dispose of them, however had stayed there for fourteen days.⁵⁵² However, as there was uncertainty on how OpenSea would safeguard those non-fungible tokens, the court granted the injunction for the non-fungible tokens on OpenSea and ordered Mango to make the non-fungible tokens available to the court for safekeeping until the merits of the case is decided.⁵⁵³

2.4. NON-FUNGIBLE TOKENS AND SELECT COPYRIGHT CONSIDERATIONS

The emergence of the NFTs resulted in the estimations that NFTs would cause a paradigm shift in copyright law.⁵⁵⁴ Traditional digital art had problems for being able to be protected due to its dissipative nature.⁵⁵⁵ Lerner and Bresler underlined this problems for visual art works in general that copyright law “*in visual art highlights the tension between, on the one hand, the stampedes of creative expression spurred by ever-evolving technology that has fostered a culture of*

⁵⁵⁰ Guadamuz. Andreas, “*Court in Barcelona issues injunction against Mango’s NFT use in the metaverse*”, <https://www.technollama.co.uk/court-in-barcelona-issues-injunction-against-mangos-nft-use-in-the-metaverse>, 25 November 2022.

⁵⁵¹ Guadamuz. Andreas, “*Court in Barcelona issues injunction against Mango’s NFT use in the metaverse*”, <https://www.technollama.co.uk/court-in-barcelona-issues-injunction-against-mangos-nft-use-in-the-metaverse>, 25 November 2022.

⁵⁵² Guadamuz. Andreas, “*Court in Barcelona issues injunction against Mango’s NFT use in the metaverse*”, <https://www.technollama.co.uk/court-in-barcelona-issues-injunction-against-mangos-nft-use-in-the-metaverse>, 25 November 2022.

⁵⁵³ Guadamuz. Andreas, “*Court in Barcelona issues injunction against Mango’s NFT use in the metaverse*”, <https://www.technollama.co.uk/court-in-barcelona-issues-injunction-against-mangos-nft-use-in-the-metaverse>, 25 November 2022.

⁵⁵⁴ Okonkwo, p.297.

⁵⁵⁵ Kasdan, *Don’t Write Off NFTs.*; Vander Woude / Tan, p.37.

*mixing, matching and recycling of images perfectly suited to the Pictures Generation and, on the other hand, the efforts of many creators of images to harness the global dissemination of such expression in order to reap the benefits of the exclusive rights accorded by copyright.”*⁵⁵⁶

However, this brand-new technology of non-fungible tokens requires in-depth analysis, especially for issues related to copyright. Indeed, copyright questions surrounding the non-fungible tokens have been perhaps the most debated topics about NFTs to date.⁵⁵⁷ This is in fact, rightful, considering many disputes surrounding the non-fungible tokens have and will have copyright considerations at their core. And there are indeed numerous copyright questions surrounding the non-fungible tokens.⁵⁵⁸

2.4.1. Copyright In General: Fundamental Principles and Sources of Copyright Law

The fundamental idea behind copyright law is remuneration and providing control to the creators for their original works. Creators’ control extends to how their works are used and shared. This way, as creativity is rewarded, there is more incentive to engage in creative activities, more potential is created for innovation and the society benefits positively from the works of this creativity.

In that sense, copyright protects the expression of an idea, and not merely an idea. If only an idea or a concept is present and there is no concrete expression or form of that idea or the concept, copyright law does not provide protection. On the other hand, the expression within the protection scope of copyright law is shaped

⁵⁵⁶ Lerner, Ralph E./ Bresler, Judith, *Art Law*, Volume II, UNKNO, 2013, p.909.

⁵⁵⁷ See in general, Çağlayan Aksoy/ Üner Özkan, pp.1115-1126; Filorinalı, Kardelen, “*Non-fungible tokens (NFT’ler) ve fikir ve sanat eserleri hukuku yansımaları*”, İstanbul Bilgi University, 2022; Beckman, pp.18,20,31,48,160.

⁵⁵⁸ Çağlayan Aksoy/ Üner Özkan, p.1121.

as creative works which can be in manifold forms⁵⁵⁹, be it sound recordings, films, books or any other forms which would qualify as literary and artistic works.⁵⁶⁰

Copyright is therefore usually defined through the object that owns it, and in this sense, it has an indirect definition.⁵⁶¹ These objects find their categorization under the copyright acts in national jurisdictions, or international treaties. For instance, the UK Copyright, Designs and Patents Act 1998 defines copyright as “*a property right which subsists [...] in [...] original literary, dramatic, musical or artistic works; sound recordings, films or broadcasts, and the typographical arrangement of published editions.*”⁵⁶² The United States Code Title 17 codifying the copyright law protects the “*original works of authorship*” which include categories of “*literary works; musical works, including any accompanying words; dramatic works, including any accompanying music; pantomimes and choreographic works; pictorial, graphic, and sculptural works; motion pictures and other audiovisual works; sound recordings; and architectural works.*”⁵⁶³ Turkish Law No. 5846 on Intellectual and Artistic Works provides for protection which bears the individuality of the author and falls in the categories indicated in the law, which are scientific and literary works⁵⁶⁴, musical works⁵⁶⁵, works of fine art⁵⁶⁶ and cinematographic works⁵⁶⁷.⁵⁶⁸ Usually, the categories of art works protected by copyright legislations are similar through the United States, United Kingdom, the

⁵⁵⁹ Berne Convention, Article 2, Berne Convention for the Protection of Literary and Artistic Works, at <https://www.wipo.int/treaties/en/ip/berne/>.

⁵⁶⁰ Berne Convention, Article 1, Berne Convention for the Protection of Literary and Artistic Works, at <https://www.wipo.int/treaties/en/ip/berne/>.

⁵⁶¹ Okonkwo, p.298.

⁵⁶² Copyright, Designs and Patents Act 1998, s 1 (1).

⁵⁶³ U.S. Congress. (1958) United States Code: Copyright Office, 17 U.S.C. §§ 102.

⁵⁶⁴ Turkish Law No.5846 on Intellectual and Artistic Works, Official Gazette No. 7981 13 December 1951, enacted: 5 December 1951, Article 2.

⁵⁶⁵ Turkish Law No.5846 on Intellectual and Artistic Works, Official Gazette No. 7981 13 December 1951, enacted: 5 December 1951, Article 3.

⁵⁶⁶ Turkish Law No.5846 on Intellectual and Artistic Works, Official Gazette No. 7981 13 December 1951, enacted: 5 December 1951, Article 4.

⁵⁶⁷ Turkish Law No.5846 on Intellectual and Artistic Works, Official Gazette No. 7981 13 December 1951, enacted: 5 December 1951, Article 5.

⁵⁶⁸ Turkish Law No.5846 on Intellectual and Artistic Works, Official Gazette No. 7981 13 December 1951, enacted: 5 December 1951, Article 1/B/a.

European Union and majority of African nations, thanks to the ratification of international agreements such as the 1994 Agreement on Trade-Related Aspects of International Property Rights (TRIPS) and the Berne Convention for the Protection of Literary and Artistic Works Intellectual Property (Berne Convention).⁵⁶⁹

In summary, international, and regional treaties along with national laws mainly constitute the chief legal sources of copyright law. Most significant international treaties governing copyright include the Berne Convention for the Protection of Literary and Artistic Works, the World Intellectual Property (WIPO) Copyright Treaty and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Furthermore, European Union Directive on Copyright in the Digital Single Market is an example of a copyright treaty applicable in a specific region, which is the European Union. The international legal framework for copyright is shaped partly by these treaties as well as case law from national courts and international tribunals such as the International Court of Justice (ICJ), the Court of Justice of the European Union (CJEU), the European Court of Human Rights (ECHR).⁵⁷⁰

The Berne Convention for the Protection of Literary and Artistic Works was adopted in 1886 and is administered by World Intellectual Property Organization⁵⁷¹ (WIPO).⁵⁷² Ratified by 181 states around the globe⁵⁷³, it is one of the oldest and

⁵⁶⁹ Okonkwo, p.298.

⁵⁷⁰ See, European Union Intellectual Property Office's Report, Recent European Case-Law on the Infringement and Enforcement of Intellectual Property Rights for an overview on the European case-law relating to intellectual property, at https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/reports/New_Case_Law_en.pdf.

⁵⁷¹ World Intellectual Property (WIPO) is one of the fifteen self-funding specialized agencies of the United Nations, which was established in 1967 by the Convention Establishing the World Intellectual Property. The aim of the agency is to protect and promote intellectual property around the globe. See Inside WIPO at <https://www.wipo.int/about-wipo/en/>.

⁵⁷² Berne Convention for the Protection of Literary and Artistic Works, at <https://www.wipo.int/treaties/en/ip/berne/>.

⁵⁷³ Berne Convention for the Protection of Literary and Artistic Works, at <https://www.wipo.int/treaties/en/ip/berne/>.

most widely accepted international copyright conventions.⁵⁷⁴ Three guiding principles serve as the foundation for the Convention: national treatment (works created in one Contracting State receive the same level of protection in other Contracting States just as the works of their own nationals), automatic protection (which states that protection cannot be contingent on the fulfilment of any formality), and independence of protection (which states that protection of the Convention is not dependent on whether the country of origin of a work has the same protection.)⁵⁷⁵ The Convention lays out minimum requirements for the protection of works and rights; such as moral rights (such as the right to claim authorship and right to object to modifications that would damage the honour or reputation of the author), rights to translate, adapt and perform works in public.⁵⁷⁶ The protection provided by the Convention generally lasts for 50 years after the author's demise with some exceptions.⁵⁷⁷ In addition, the Convention permits restrictions and exceptions on economic rights for certain activities including criticism, new reporting, instruction, and research.⁵⁷⁸

The WIPO Copyright Treaty (WCT) is a special agreement under the Berne Convention.⁵⁷⁹ It was concluded in 1996, entered into force in 2002 and has 110 contracting parties.⁵⁸⁰ It attempts to safeguard author's rights and the works they produce in the digital sphere.⁵⁸¹ The WIPO Copyright Treaty includes two

⁵⁷⁴ Berne Convention for the Protection of Literary and Artistic Works, at <https://www.wipo.int/treaties/en/ip/berne/>.

⁵⁷⁵ Summary of the Berne Convention for the Protection of Literary and Artistic Works (1886), at https://www.wipo.int/treaties/en/ip/berne/summary_berne.html.

⁵⁷⁶ Summary of the Berne Convention for the Protection of Literary and Artistic Works (1886), at https://www.wipo.int/treaties/en/ip/berne/summary_berne.html.

⁵⁷⁷ Summary of the Berne Convention for the Protection of Literary and Artistic Works (1886), at https://www.wipo.int/treaties/en/ip/berne/summary_berne.html.

⁵⁷⁸ Summary of the Berne Convention for the Protection of Literary and Artistic Works (1886), at https://www.wipo.int/treaties/en/ip/berne/summary_berne.html.

⁵⁷⁹ Summary of the WIPO Copyright Treaty (WCT) (1996) at https://www.wipo.int/treaties/en/ip/wct/summary_wct.html.

⁵⁸⁰ Summary of the WIPO Copyright Treaty (WCT) (1996) at https://www.wipo.int/treaties/en/ip/wct/summary_wct.html.

⁵⁸¹ Summary of the WIPO Copyright Treaty (WCT) (1996) at https://www.wipo.int/treaties/en/ip/wct/summary_wct.html.

categories of works, computer programs and compilations of data or other materials known as databases.⁵⁸² Beyond the rights recognized by the Berne Convention, it offers authors additional rights such as the right to distribute and rent their works, broader right of communication to the public (including on-demand, interactive communication through the internet.)⁵⁸³ The WCT also incorporates the "three-step test" to identify restrictions and exceptions to copyright protection, and if requirements are met, it permits the continuation of current exceptions or the formation of new ones.⁵⁸⁴ Under the WCT, protection is granted for a minimum of 50 years.⁵⁸⁵ Additionally, it mandates that parties offer legal recourse in the event that technical safeguards utilized by authors to preserve their rights are disregarded, as well as in the event that data required for managing such rights is removed or altered.⁵⁸⁶ Parties must take action to guarantee the treaty's effective implementation and to provide penalties for violations of the rights it protects.⁵⁸⁷ Although the WCT formally officially did extend Berne principles to the world of digital art, unfortunately many signatories of the Berne Convention chose not to join the WCT, leaving the actors in the private sector to arrange themselves externally.⁵⁸⁸

The TRIPS Agreement is an annex of the 1954 Marrakesh Agreement Establishing the World Trade Organization (WTO).⁵⁸⁹ It establishes the minimal

⁵⁸² Summary of the WIPO Copyright Treaty (WCT) (1996) at https://www.wipo.int/treaties/en/ip/wct/summary_wct.html.

⁵⁸³ Summary of the WIPO Copyright Treaty (WCT) (1996) at https://www.wipo.int/treaties/en/ip/wct/summary_wct.html.

⁵⁸⁴ WIPO Convention, Article 10.

⁵⁸⁵ Summary of the WIPO Copyright Treaty (WCT) (1996) at https://www.wipo.int/treaties/en/ip/wct/summary_wct.html.

⁵⁸⁶ Summary of the WIPO Copyright Treaty (WCT) (1996) at https://www.wipo.int/treaties/en/ip/wct/summary_wct.html.

⁵⁸⁷ Summary of the WIPO Copyright Treaty (WCT) (1996) at https://www.wipo.int/treaties/en/ip/wct/summary_wct.html.

⁵⁸⁸ Jordan, Harrison, "No, NFTs aren't copyrights", https://techcrunch.com/2021/06/16/no-nfts-arent-copyrights/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xiLmNvbS8&guce_referrer_sig=AQAAADFlsOP19c5T7qdP6332e14qs6Tdn9bdzy7ixLAZarbIFV3i0l2oHJSELRPvqaagrOSm00cfwSKYeaB4Ctf_O9h3JPaNk3MwgicalIy3Xdv-SuuJJ0DGTt7osjiwf3VQFCDxcyX95zpFY6anEPGvw8IYJ05ZskVaNV1bcGFsbybO, 16 June 2021.

⁵⁸⁹ Agreement on Trade-Related Aspects of Intellectual Property Rights

requirements for copyright protection and other intellectual property rights within the global trade system.⁵⁹⁰ It mandates that member nations create legal safeguards against the unlawful use of copyrighted works and grant certain exclusive rights to copyright holders.⁵⁹¹

2.4.2. Exclusive Rights of Authors and Limitations to Copyright Protection

Exclusive rights of an author include economic rights and moral rights of a work.⁵⁹² Unless the author transfers or licenses these rights, they have the sole authority to decide if and how their works are reproduced, their adaptations are made, published, displayed and performed in public due to their economic exclusive rights.⁵⁹³ Exclusive moral rights, such as right of integration, right of attribution, and the right to the integrity of the work, of the author is also protected.⁵⁹⁴ Many international and national law resources underline these exclusive rights. For instance, the inherent rights in copyrighted work of the copyright owner are contained between Article 8 to 15 of the Berne Convention.⁵⁹⁵

Additionally, copyright owners have the authority to regulate adaptations of their works, which includes the creation of derivatives or adaptations such translations or adaptations into other media.⁵⁹⁶ The public interest in having access to and using creative works is weighed against the extent and length of the exclusive rights provided to copyright holders.⁵⁹⁷

(unamended), at https://www.wto.org/english/docs_e/legal_e/27-trips_01_e.htm.

⁵⁹⁰ Agreement on Trade-Related Aspects of Intellectual Property Rights (unamended), at https://www.wto.org/english/docs_e/legal_e/27-trips_01_e.htm.

⁵⁹¹ Agreement on Trade-Related Aspects of Intellectual Property Rights (unamended), at https://www.wto.org/english/docs_e/legal_e/27-trips_01_e.htm.

⁵⁹² Boicova-Wynants, Maria, "Copyright and NFTs: friends or foes?", <https://artlaw.club/en/artlaw/copyright-and-nfts-friends-or-foes/>, 9 June 2022.

⁵⁹³ Lerner/Bresler, Volume II, pp.910-942; Çağlayan Aksoy/ Üner Özkan, p.1123.

⁵⁹⁴ Lerner/Bresler, Volume II, pp.910-942; Filorinalı, p.17; Boicova-Wynants.

⁵⁹⁵ Okonkwo, p.298.

⁵⁹⁶ Lerner/Bresler, Volume II, pp.910-942.

⁵⁹⁷ Lerner/Bresler, Volume II, pp.910-942.

In the majority of jurisdictions, copyright protection is automatic and does not require registration once a work is created.⁵⁹⁸ However, copyright owners often need to register their works and give notice of their ownership for the enforcement of their rights.⁵⁹⁹

There are restrictions and exceptions to the exclusive rights that copyright holders have over their works.⁶⁰⁰ These restrictions and exceptions let third parties utilize copyright-protected works without the copyright holder's consent as long as the usage complies with the restriction or exemption.⁶⁰¹ Some examples include fair dealing and fair use.⁶⁰² These exemptions permit the restricted use of a work for certain purposes such as personal study, criticism, news reporting, teaching, scholarship, or research.⁶⁰³ There are other exemptions for certain user groups, who could be allowed to create copies of works for specific purposes like replacement or preservation, such libraries and archives.⁶⁰⁴

2.4.3. Minting a Non-Fungible Token: Status of Copyright

To begin with, as briefly mentioned in Section 2.4.1 above, copyright does not protect an idea, but the expression which is original. This point is crucial to determine whether the starting point, namely minting a non-fungible token, is an artistic work and therefore protected under copyright law. Therefore, the analysis of whether the creating of a non-fungible token is merely an idea is the first step. While this will be an ironically simple line of thought, minting a non-fungible token begins with the idea of minting. It is then accomplished by passing through the steps mentioned in Section 1.5.1. above. In this sense, minting does not remain in the idea realm and is concretized by producing a result, which is the non-fungible token

⁵⁹⁸ Lerner/Bresler, Volume II, pp.910-942.

⁵⁹⁹ Lerner/Bresler, Volume II, pp.910-942.

⁶⁰⁰ Lerner/Bresler, Volume II, pp.910-942.

⁶⁰¹ Lerner/Bresler, Volume II, pp.910-942.

⁶⁰² Lerner/Bresler, Volume II, pp.910-942.

⁶⁰³ Lerner/Bresler, Volume II, pp.910-942.

⁶⁰⁴ Lerner/Bresler, Volume II, pp.910-942.

itself. Therefore, it can be evaluated whether it is an expression which deserves copyright protection.

At this stage, the following question can be considered: in cases where an underlying artwork to be minted as a non-fungible token already exists (i.e., it was created by the minter, the minter physically owns the physical work, the work is completely owned by a third party, the work is in public domain, or a third party had licensed the work to the minter) does the *mere action of minting* constitute as an artistic work worthy of copyright protection? After all, it can be argued that a picture drawn by the minter, or a picture bought by the minter which was drawn by someone else, a picture in the public domain and therefore does not have copyright protection, or a picture drawn by a third party who transferred some of its related rights to the minter are all different then the idea and the action of removing them from being a mere picture and making non-fungible tokens out of them. This question becomes even more confusing when the pictures in question are unknown at all, for instance obsolete, or unpopular, and will only become popular after minting them as a non-fungible token. Similar questions were raised after Jack Dorsey's non-fungible tokenized tweet, and some authors opined that minting a non-fungible token can be regarded as an artistic performance, akin to Marcel Duchamp's famous *Fountain*⁶⁰⁵ ⁶⁰⁶.

The answer to this question necessitates the evaluation whether the act of minting fulfills the requirements of copyright.⁶⁰⁷ As mentioned in Section 2.4.1 above, copyright is provided for original works which reflect the personality of the author and have a creativity value.⁶⁰⁸ An additional requirements for works which

⁶⁰⁵ Fountain is one of the most renowned artworks of the French-American artist Marcel Duchamp and is regarded as a classic example of 20th century art. The original which does not exist anymore was an ordinary urinal which was signed "R Mutt 1917" and was displayed upside down. See Tate Modern <https://www.tate.org.uk/art/artworks/duchamp-fountain-t07573>.

⁶⁰⁶ Holmes, William, "What the NFT Craze Means for IP Law", <https://www.legalcheek.com/lc-journal-posts/what-the-non-fungible-token-craze-means-for-ip-law> 12 March 2021.; Çağlayan Aksoy/ Üner Özkan, p.1121.

⁶⁰⁷ Çağlayan Aksoy/ Üner Özkan, p.1121.

⁶⁰⁸ Çağlayan Aksoy/ Üner Özkan, p.1121.

qualify to be under copyright protection was that the work was tangible, or at least, could be perceived by the human eye.⁶⁰⁹ These requirements were established by various case law from different jurisdictions. For example, United States Supreme Court decision *Feist Publications, Inc v. Rural Telephone Service Co., Inc* found that “*independent creation plus a modicum of creativity*” was a prerequisite for copyright protection.⁶¹⁰ Another seminal decision of the European Court of Justice, *Infopaq International A/S v. Danske Dagblades Forening*, ruled that if a selection and arrangement of data is the outcome of the author’s original creative work and satisfied the standards for copyright protection, it can be protected by copyright.⁶¹¹

Considering all these criteria envisioned in the national and international copyright legislations, it appears that the mere act of minting is not an artistic work which qualified for copyright protection.⁶¹²

On the other hand, even if the act of minting is not an artistic work qualifying for copyright protection, it can constitute copyright infringement. Because it is possible that the minting process violates moral rights such as right of attribution or economic rights such as reproduction or communication to public.⁶¹³ This can occur even when a person is the physical owner of an artwork but does not While

⁶⁰⁹ The requirement of tangibility was also highlighted in the case law of various jurisdictions. See the United States Supreme Court Decisions *Apple v. Inc. v. Microsoft Corp.*, 35 F.3d 1435 (9th Cir. 1994) at <https://law.justia.com/cases/federal/appellate-courts/F3/35/1435/605245/>; *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239 (1903) at <https://supreme.justia.com/cases/federal/us/188/239/>; European Court of Justice case *Société des auteurs, compositeurs et éditeurs de musique (SACEM) v. HMI* (C-418/01), 2002 E.C.R. I-11519. Digital performances which can be recorded and fixed in a tangible form are considered within the scope of copyright protection. However, it is not quite possible to declare that non-fungible tokens fulfill the tangibility criteria. See Mezei, Peter/ Quintais, Joao Pedro/ Giannopoulou, Alexandra/ Bodo, Balazs, “*The Rise of Non-Fungible Tokens (NFTs) and the Role of Copyright Law- Part II*” <http://copyrightblog.kluweriplaw.com/2021/04/22/the-rise-of-non-fungible-tokens-nfts-and-the-role-of-copyright-law-part-ii/>, 22 April 2021.

⁶¹⁰ *Feist Pubs., Inc. v. Rural Tel. Svc. Co., Inc.*, 499 U.S. 340 (1991) at <https://supreme.justia.com/cases/federal/us/499/340/>.

⁶¹¹ Judgement in Case C-5/08 *InfopaqInternational A/S v Danske Dagblades Forening*, ECLI:EU:C:2009:465 ¶ 35.

⁶¹² Çağlayan Aksoy/ Üner Özkan, pp.1121-1123.

⁶¹³ Çağlayan Aksoy/ Üner Özkan, pp.1122-1123; Filorinalı, pp.43-45; Boicova-Wynants.

making these evaluations, it becomes important whether the NFT in question is on-chain or off-chain.⁶¹⁴

As explained in Section 1.2.2 above, since the work itself is located in the blockchain in on-chain systems, there are some authors who consider the minting process as communication to public.⁶¹⁵

In off-chain NFTs, since the work itself does not exist in the blockchain, but there is a link on the blockchain that allows everyone to access the work, there are discussions about whether the issue should be considered within the scope of linking or that it constitutes a public transmission.⁶¹⁶

In terms of the right of reproduction, there are different opinions. According to one view, the original work is not copied in off-chain systems, the work is only accessed via a link, thus it is not possible to violate the reproduction right.⁶¹⁷ On the other hand, there are other views which argue that reproduction of a digital file is necessarily inherent to the process of minting a non-fungible token from a work and then storing it.⁶¹⁸

Although there are various evaluations on these issues, it is commonly accepted that there will be copyright infringement if the work is made available by minting a non-fungible token without the permission of the copyright holder.⁶¹⁹ In addition, it should not be overlooked that there will be an infringement of the right of attribution in cases where a minter is portrayed as having created the work actually made by a third party author.⁶²⁰ For these reasons, when minting an NFT,

⁶¹⁴ Çağlayan Aksoy/ Üner Özkan, pp.1122-1123; Filorinalı, pp.43-45; Boicova-Wynants.

⁶¹⁵ Çağlayan Aksoy/ Üner Özkan, pp.1122-1123; Filorinalı, pp.43-45; Boicova-Wynants.

⁶¹⁶ For a detailed analysis of the Court of Justice of the European Union case law, see Çağlayan Aksoy/ Üner Özkan, pp.1122-1123.

⁶¹⁷ Çağlayan Aksoy/ Üner Özkan, pp.1122-1123; Filorinalı, pp.43-45; Boicova-Wynants.

⁶¹⁸ Çağlayan Aksoy/ Üner Özkan, pp.1122-1123; Filorinalı, pp.43-45; Boicova-Wynants.

⁶¹⁹ Çağlayan Aksoy/ Üner Özkan, pp.1122-1123.

⁶²⁰ Çağlayan Aksoy/ Üner Özkan, pp.1122-1123.

considerations regarding copyright protection should be made very carefully and infringements should be tried to be prevented.

2.4.4. Is there copyright protection on the non-fungible token itself?

There is disagreement as to whether NFTs are works and therefore qualify for copyright protection.⁶²¹

As mentioned before, copyright law provides works which are the result of individual creation and intellectuality which qualify as artistic works and does not protect functional items which lack the required level of creativity and originality. Therefore, if determined that they lack the originality and creativity criteria, non-fungible tokens are not protected by copyright at all.⁶²² However, as the underlying artwork will be worthy of copyright protection, and non-fungible tokens are quite useful with their ability to store authentic information permanently, non-fungible tokens can be used for strengthening the copyrights of the underlying artwork.⁶²³

2.4.5. Buying a Non-Fungible Token: Status of Copyright

Generally, when one buys a tangible visual artwork, such as a painting or a sculpture, or an installation, they purchase the artwork itself, but not the intellectual property rights of that artwork.⁶²⁴ This is also evidenced by the various court decisions analyzed in Section 2.3 above. This means that, even if the physical artwork is purchased by another individual, the intellectual property rights relating to the artwork, such as right to publish or display will remain with the original

⁶²¹ Filorinalı, pp.37-43.

⁶²² Guadamuz, *Generative Art.*; Sullivan; Filorinalı, p.45.

⁶²³ Von Appen..

⁶²⁴ Çağlayan Aksoy/ Üner Özkan, p.1124; Drylewski/ Levi.; Mahmood, G./ Naftalis J./ Ye WV, “*NFTs: What Are You Buying and What Do You Actually Own?*”, *The Fashion Law*, <https://www.thefashionlaw.com/nfts-what-are-you-buying-and-what-do-you-actually-own/>. 18 March 2021.

creator as the exclusive rights of the copyright owner.⁶²⁵ The same is true for the NFTs: when a buyer purchases an NFT, this purchase does not automatically transfer to the buyer intellectual property rights, unless special arrangements for the transfer of the related intellectual property rights are executed.⁶²⁶ Therefore, when a buyer purchases an NFT, they usually own only the NFT, and not the copyright of any source work.⁶²⁷ In addition, minting an NFT of an existing artwork which is protected under copyright law will not alter the protections against reproduction and distribution of the said artwork provided by copyright.⁶²⁸ Therefore, it is very important to determine whether the underlying artwork has copyright protection and to what extent, what rights are transferred by the sale of a non-fungible token, and how to keep any copyright related disputes to a minimum.

There have been questions raised relating to the purpose of purchasing NFTs when that purchase even cannot prevent others from reproducing or using in any way the source digital art.⁶²⁹ Copyright protection for an artwork is generally provided throughout the lifetime of the artist plus 50-70 years.⁶³⁰ When that protection expires and is not renewed, the work falls in public domain, and there is

⁶²⁵ Okonkwo, p.302; Çağlayan Aksoy/ Üner Özkan, pp.1123-1124; Drylewski/ Levi.; Mahmood, G./ Naftalis J./ Ye WV, “*NFTs: What Are You Buying and What Do You Actually Own?*”, *The Fashion Law*, <https://www.thefashionlaw.com/nfts-what-are-you-buying-and-what-do-you-actually-own/>. 18 March 2021.

⁶²⁶ Beckman, p.18; Drylewski/ Levi.

⁶²⁷ Majocha /HLS Staff.

⁶²⁸ Majocha /HLS Staff.; Çağlayan Aksoy/ Üner Özkan, p.1124.; Guadamuz, Andres, “*Can Copyright Teach Us Anything about NFTs?*”, <https://www.technollama.co.uk/can-copyright-teach-us-anything-about-nfts>, 07 March 2021.

⁶²⁹ Majocha /HLS Staff.; Okonkwo, p.297; Guadamuz, Andres, “*Can Copyright Teach Us Anything about NFTs?*”, <https://www.technollama.co.uk/can-copyright-teach-us-anything-about-nfts>, 07 March 2021; Çağlayan Aksoy/ Üner Özkan, pp.1125.

⁶³⁰ Okonkwo, p.301. While the duration for copyright protection varies according to the type of work and relevant jurisdiction, the essential rule for duration of protection under the Berne Convention is author’s lifetime plus 50 years, under TRIPS it is indicated as the author’s lifetime plus at least 50 years; under the United States and United Kingdom legislations as well as European legislation author’s lifetime plus 70 years. Mexico, for example, has a protection duration for 100 years. For a list of duration of copyright protection in different jurisdictions, see Wikipedia, https://en.wikipedia.org/wiki/List_of_countries%27_copyright_lengths#Table_of_copyright_duration_by_country.

no more the requirement for third parties to have permission from the copyright owner except for moral rights.⁶³¹ Or, the original artist of an artwork might have dedicated her work to the public domain herself.⁶³² In these cases, buying an NFT for a purchaser actually means to purchase a token representing the fact that the purchaser exclusively owns that NFT, but is not necessarily meaningful as one thousand other NFTs of such artwork could be derived by anyone else⁶³³. In any case, since each NFT is a unique and authentic proof of ownership relating to any work⁶³⁴, the purpose appears to be the ownership of this unique proof, albeit this might seem a little bit confusing.

However, one of the most important features of NFTs is the indisputable, undeniable, and unchangeable proof of the ownership of that particular NFT. Therefore, for such NFTs, it is the proof of ownership which is valuable.⁶³⁵ Furthermore, the importance of the minter as the artist, the date and order of minting can be factors determining the value. Indeed, some authors have taken the view that NFTs owe their value to the fact that they, as the end product, are surely the heritage of the original author (or the copyright owner).⁶³⁶ This authenticity contributes greatly to this value.⁶³⁷ In that respect, it is possible that in future as well, even the date, order or rank of ownership of that NFT will be an element of determining value. This value, of course, will depend on what the market stakeholders think and decide at the time.

⁶³¹ Okonkwo, p.302.

⁶³² Bianca Lessard, “*NFTs, Minting and Copyright: what you should know as an artist*”, Renno & Co, <https://www.rennoco.com/post/nfts-minting-and-copyright-what-you-should-know-as-an-artist>.

⁶³³ Okonkwo, p.297.

⁶³⁴ Okonkwo, p.297.

⁶³⁵ Çağlayan Aksoy/ Üner Özkan, pp.1125.

⁶³⁶ Okonkwo, pp.299, 302.

⁶³⁷ Expoverse.

2.4.6. Non-Fungible Tokens, Droit de Suite and Royalties

Droit de suite, also known as artist's resale, rights, means the right of an artist to participate in the earnings which are generated after the first sale of their work.⁶³⁸

The concept of *droit de suite* emerged in civil law culture, and as the French term suggests, was first codified in France.⁶³⁹ Its codification has a practical background: it was realized to financially support the wives of artists, whose spouses died during the World War 1, between 1914-1918.⁶⁴⁰ Though an artwork work of art is sold once and the artist benefits from it, the creativity, personality and expression of the artist continue to exist in that work of art.⁶⁴¹ In addition, it is seen in the art world that an artist's works are sold very cheaply in the first years of their artistic life, or this value of their artwork increases astronomically after the artist's death, when they can no longer benefit from it.⁶⁴² *Droit de suite* aims to change the injustice of one-time (and potentially low) remuneration for the artist in the face of these ongoing values, as long as the copyright protection in that artwork continues.⁶⁴³

The issues such as the receipt of the said royalty amount from the seller or the buyer, whether the royalty payment will be valid only for the auction sales or for each sale are controversial and varying, however, there are legal regulations regarding resale rights in the legislations of more than 70 countries today.⁶⁴⁴ Moreover, it is also recognized by international conventions. For example, Article 14ter of the Berne Convention recognizes the “*inalienable right to an interest in*

⁶³⁸ Lerner/Bresler, Volume II, p.1125; Wilson, 2022, pp.27.

⁶³⁹ Lerner/Bresler, Volume II, p.1127.

⁶⁴⁰ Lerner/Bresler, Volume II, pp.1127-1128.

⁶⁴¹ Lerner/Bresler, Volume II, pp.1127-1128.

⁶⁴² Wilson, 2022, p.27; Filorinali, p.49.

⁶⁴³ Lerner/Bresler, Volume II, pp.1127-1128; Wilson, 2022, p.27.

⁶⁴⁴ Lerner/Bresler, Volume II, pp.1129-1133; Wilson, 2022, p.27; Cour de Cassation de la France, decision n° 639 of 9 November 2018; European Court of Justice, 26 February 2015 (Case C-41/14).

any sale of the work subsequent to the first transfer by the author of the work.”⁶⁴⁵ However, this recognition is not mandatory, as in the absence of a national implementing legislation, the Convention does not have force.⁶⁴⁶ Therefore, several states such as China or the United States of America party to the Berne Convention do not have according adoptions.⁶⁴⁷

In addition, within the Within the European Union context, in order to eradicate the discrepancies between European Union states which have *droit de suite* legislation and which do not, the Council the European Union adopted on 27 September 2001 the Directive 2001/84/EC.⁶⁴⁸ Accordingly, each member state must adopt or comply with this Directive's *droit de suite* legislation regarding the reselling of art.⁶⁴⁹ This Directive provide *droit de suite* to be paid in certain thresholds⁶⁵⁰ for artwork transactions which are not private sales and comply with some additional criteria.⁶⁵¹ Accordingly, only the original works of art that are made by the artist or their limited number of copies can be subject to this right.⁶⁵² Article 2 defines the “original work of art” *as works of graphic or plastic art such as pictures, collages, paintings, drawings, engravings, prints, lithographs, sculptures, tapestries, ceramics, glassware and photographs*”.⁶⁵³ Additionally, for the royalty to be paid, the seller, the buyer or the intermediary must be an art market professional, such as an art dealer, art gallery, or a salesroom, as the transactions

⁶⁴⁵ Berne Convention, Article 14ter.

⁶⁴⁶ Çağlayan Aksoy/ Üner Özkan, p.1125.

⁶⁴⁷ Çağlayan Aksoy/ Üner Özkan, p.1125.

⁶⁴⁸ Lerner/Bresler, Volume II, p.1128; Directive 2001/84/EC of the European Parliament and of the Council of 27 September 2001 on the resale right for the benefit of the author of an original work of art (OJ L 272, 13.10.2001, pp. 32-36)

⁶⁴⁹ Lerner/Bresler, Volume II, p.1128.

⁶⁵⁰ Lerner/Bresler, Volume II, p.1128. For the key points of the regulation, please see Eurolex, Resale Right for the Benefit of the Author of an Original Work of Art, at <https://eur-lex.europa.eu/EN/legal-content/summary/resale-right-for-the-benefit-of-the-author-of-an-original-work-of-art.html>.

⁶⁵¹ Directive 2001/84/EC of the European Parliament and of the Council of 27 September 2001 on the resale right for the benefit of the author of an original work of art (OJ L 272, 13.10.2001, pp. 32-36) Article 1; Lerner/Bresler, Volume II, p.1128. Similar conditions are also available in Turkish law, see; Filorinalı, pp.49-50.

⁶⁵² Directive 2001/84/EC, Article 2.

⁶⁵³ Directive 2001/84/EC, Article 2.

effected between persons acting in their private capacity are excluded from the scope of the Directive.⁶⁵⁴ Transactions with museums which are non-profit and open to public also excluded from the scope.⁶⁵⁵ For transactions that are subject to the resale right, EU countries are required to establish a minimum sale price, which may not exceed €3,000.⁶⁵⁶ Royalties are paid to artists in the form of a portion of the proceeds from the sale of their creations.⁶⁵⁷ The royalty rate varies from 4% to 0.25% depending on the chunk, and the sale price is divided into five equal parts. However, the total royalty cannot be more than €12,500. States can determine that resale right does not apply in transactions where the seller acquired the artwork directly from the author less than three years before its resale.⁶⁵⁸

Although *droit de suite* has applied traditionally in European countries, especially France and Germany, and did not exist in common law, the application with the European Union Directive has spread to the UK, a common law country, with the Artist's Resale Right Regulations 2006⁶⁵⁹ despite the first resistances. This regulation also provides for compulsory rules regarding *droit de suite* in non-commercial art transactions where the artwork and the transaction in question complies with criteria similar to the ones indicated in the Directive 2001/84/EC.⁶⁶⁰ Although the reason was to be in unification with the European Union, it is expected to remain after Brexit.⁶⁶¹

Unfortunately, in the USA, regulations for *droit de suite* are stated to conflict with existing copyright legislation.⁶⁶² Therefore, in the United States, there currently is no regime for artists' resale rights.⁶⁶³ Even the California Resale

⁶⁵⁴ Directive 2001/84/EC, Preamble; Lerner/Bresler, Volume II, p.1128.

⁶⁵⁵ Directive 2001/84/EC, Preamble; Lerner/Bresler, Volume II, p.1128.

⁶⁵⁶ Directive 2001/84/EC, Article 3, Lerner/Bresler, Volume II, p.1128.

⁶⁵⁷ Directive 2001/84/EC, Article 3, Lerner/Bresler, Volume II, p.1128.

⁶⁵⁸ Directive 2001/84/EC, Preamble; Lerner/Bresler, Volume II, p.1128.

⁶⁵⁹ United Kingdom Artist's Resale Right Regulations 2006 (S.I. 2006/346)

⁶⁶⁰ Wilson, 2022, pp.28-37.

⁶⁶¹ Wilson, 2022, pp.27-28.

⁶⁶² *Estate of Graham v. Sotheby's Inc.*, 860 F. Supp. 2d 1117, 103 U.S.P.Q.2d (BNA) 1142 (C.D. Cal. 2012)

⁶⁶³ Wilson, 2022, p.28.

Royalties Act of 1977, which is a legislation containing *droit de suite* regulations, has been stated to be in conflict to the federal Copyright Act 1976, and currently the CRRA can only be applied to works created between 1977 and 1978, the effective date of the Copyright Act.⁶⁶⁴

As for non-fungible tokens, they can allow the direct execution of *droit de suite* through royalties.⁶⁶⁵ With a condition to be added to the smart contract, the creators of a non-fungible token can receive an automatic commission determined beforehand for each subsequent sale of that non-fungible token.⁶⁶⁶ For example, Ethereum standards such as ERC 1190 or ERC-721 allow for the construction of receiving royalties.⁶⁶⁷

It is important to highlight that the existing *droit de suite* regimes will not be applicable to many non-fungible tokens. The first obstacle seems to be that non-fungible tokens may not be considered as “artwork” with the scope of *droit de suite* legislations. However, in some cases, such as the Directive 2001/84/EC⁶⁶⁸ of the European Union or Turkish Law No. 5846 on Intellectual and Artistic Works⁶⁶⁹ also covers the copies made by, or under the control and permission of the author of the artwork, which are considered to be original works of art.⁶⁷⁰ Therefore, even if non-fungible tokens are not considered as artwork within the scope of such legislations, they can overcome this obstacle by qualifying as appropriate copies. Secondly, non-fungible tokens may be out of the scope of *droit de suite* protections because of the strict criteria required by various legislations’ scope for resale

⁶⁶⁴ Close v. Sotheby’s, Case Nos. 16-56234, -56235, -56252 (9th Cir. Dec. 3, 2018).

⁶⁶⁵ Von Appen.

⁶⁶⁶ Beckman, p.57; Çağlayan Aksoy/ Üner Özkan, pp.1125-1126; Filorinalı, pp.27,51; Wilson, 2022, pp.28, 45-46

⁶⁶⁷ Beckman, p.57.; Çağlayan Aksoy/ Üner Özkan, p.1126.

⁶⁶⁸ Directive 2001/84/EC.

⁶⁶⁹ Turkish Law No. 5846 on Intellectual and Artistic Works, Article 45.

⁶⁷⁰ Filorinalı, p.52.

payments indicated above.⁶⁷¹ It will be seen with time whether non-fungible tokens will work as a catalyzer for general *droit de suite* discussions.⁶⁷²

On the other hand, as indicated above in Section 1.4.2., the ability of non-fungible tokens to provide for automatic royalties was welcomed as revolutionary and was greeted with great excitement. Indeed, many non-fungible token platforms give the artists the opportunity to claim resale royalties.⁶⁷³ For instance, one author has provided a step-by-step basis guide for minting a non-fungible token in the OpenSea platform, in which the minter can opt for a royalty up to 10%.⁶⁷⁴

It is very important to underline that the royalty payments in most platforms arise out of contractual relations and not due to *droit de suite*.⁶⁷⁵ Therefore, in case of non-performance, it will be the violation of a contractual obligation and not relating to copyright law.⁶⁷⁶ In cases, such as Turkey mentioned above, where the non-fungible tokens can be considered as qualifying for resale rights, claims can be made for remuneration for subsequent sales.⁶⁷⁷

Of course, there are some reservations about contractual royalty payments as well. For example, it is stated that the technical features that make the royalty payment possible can only be used when staying on the same platform, that is, the royalty mechanism will not work when a non-fungible token is purchased from one platform and sold on another platform.⁶⁷⁸ This is because non-fungible token platforms are not yet interoperable and still allows for resale of non-fungible tokens

⁶⁷¹ Çağlayan Aksoy/ Üner Özkan, pp.1125-1126.

⁶⁷² Çağlayan Aksoy/ Üner Özkan, p.1126.

⁶⁷³ Chinlund, Gregory J./ Gordon, Kelley S., “*What are the copyright implications of NFTs?*,” Reuters, <https://www.reuters.com/legal/transactional/what-are-copyright-implications-nfts-2021-10-29/>, 29 October 2021.

⁶⁷⁴ Oramas, Jose, “*How to Mint Your First NFT on OpenSea? A Step-by-Step Guide*”, <https://cryptopotato.com/how-to-mint-nft-opensea-guide/>, 29 December 2021.

⁶⁷⁵ Filorinalı, p.52.

⁶⁷⁶ Çağlayan Aksoy/ Üner Özkan, p.1126.

⁶⁷⁷ Filorinalı, p.52.

⁶⁷⁸ Barcella, Kimberly, “*And We’ll Never Be Royals’ If NFT Royalties Are Made Optional*”, <https://www.jdsupra.com/legalnews/and-we-ll-never-be-royals-if-nft-8386777/>, 2 November 2022.

on another platform.⁶⁷⁹ In addition, when this transfer is made from one platform to the other, the royalty payment policies do not automatically transfer.⁶⁸⁰ NBA TopShots however, is an exception to this where their own proprietary chain Flow is used, which permits the transactions for those non-fungible tokens exclusively on that chain.⁶⁸¹

Another remark is that the enforcement of royalties is dependent on the collaboration of the non-fungible token marketplace. While some of them have some special smart contracts where the integration for providing the payment is easily made, some do not, and in any event, it requires an additional level of trust.⁶⁸²

Lastly, even though the number of artists who are in favor of royalty payments have been high since the beginning of the non-fungible token stream, recently some non-fungible token marketplaces started to be in favor of optional royalty clauses or removing royalties altogether.⁶⁸³ This caused increased worries over the protection of resale royalties.⁶⁸⁴ Some marketplaces resorted to provide

⁶⁷⁹ Feder, Katarina “*Can I Earn Royalties Anytime Someone Resells My NFT? + Other Artists’ Rights Questions, Answered*”, <https://news.artnet.com/opinion/royalty-nft-other-artists-rights-questions-answered-2052319>, 21 December 2021.

⁶⁸⁰ Gilbert, John/ Hernandez Ornella, “*How NFT Royalties Work- and Sometimes Don’t*”, <https://blockworks.co/news/nft-royalties-sometimes-they-work-sometimes-they-dont>, 4 November 2022.

⁶⁸¹ Feder, Katarina “*Can I Earn Royalties Anytime Someone Resells My NFT? + Other Artists’ Rights Questions, Answered*”, <https://news.artnet.com/opinion/royalty-nft-other-artists-rights-questions-answered-2052319>, 21 December 2021.

⁶⁸² Langston Thomas, “*Here’s What You Need to Know About the NFT Creator Royalty Debate*”, <https://nftnow.com/features/nft-community-is-split-over-creator-royalties/>, 26 August 2022.

⁶⁸³ Barcella, Kimberly, “*And We’ll Never Be Royals’ If NFT Royalties Are Made Optional*”, <https://www.jdsupra.com/legalnews/and-we-ll-never-be-royals-if-nft-8386777/>, 2 November 2022.; James, Benjamin, “*Is Web3’s Promise of Creator Royalties Broken?*”,

https://www.billboard.com/pro/nft-creator-royalties-cut-web3-artists-reaction/?utm_source=linkedin&utm_medium=social, 16 December 2022.; Akers, Torey, “*Crypto winter is here- and NFT artist royalties are under threat*”,

<https://www.theartnewspaper.com/search?query=Crypto+winter+is+here%E2%80%94and+NFT+artist+royalties+are+under+threat>, 2 December 2022.

⁶⁸⁴ Barcella, Kimberly, “*And We’ll Never Be Royals’ If NFT Royalties Are Made Optional*”, <https://www.jdsupra.com/legalnews/and-we-ll-never-be-royals-if-nft-8386777/>, 2 November 2022.; James, Benjamin, “*Is Web3’s Promise of Creator Royalties Broken?*”,

https://www.billboard.com/pro/nft-creator-royalties-cut-web3-artists-reaction/?utm_source=linkedin&utm_medium=social, 16 December 2022.; Akers, Torey, “*Crypto winter is here- and NFT artist royalties are under threat*”,

alternative types of protection for creators, such as sharing a percentage of transaction costs with the creators or giving the buyers (and not the creators) choose the rate of a royalty fees.⁶⁸⁵ However, this secession from once readily accepted royalties encountered backlash and remains to be settled.⁶⁸⁶

2.4.7. Non-Fungible Tokens and the First Sale Doctrine

The first-sale doctrine is an American doctrine, which permits people and organizations to resale legally acquired copies of copyrighted information without having further consequences of copyright infringement from the intellectual property owner.⁶⁸⁷ In a way, it is in contrast with the *droit de suite* perspective of traditional civil law jurisdictions.⁶⁸⁸

The doctrine has not, however, historically been extended to include digital works of art, such as MP3 files or digital download codes.⁶⁸⁹ Instead, it has

<https://www.theartnewspaper.com/search?query=Crypto+winter+is+here%E2%80%94and+NFT+artist+royalties+are+under+threat>, 2 December 2022.

⁶⁸⁵ Barcella, Kimberly, “*And We’ll Never Be Royals’ If NFT Royalties Are Made Optional*”, <https://www.jdsupra.com/legalnews/and-we-ll-never-be-royals-if-nft-8386777/>, 2 November 2022.; James, Benjamin, “*Is Web3’s Promise of Creator Royalties Broken?*”,

https://www.billboard.com/pro/nft-creator-royalties-cut-web3-artists-reaction/?utm_source=linkedin&utm_medium=social, 16 December 2022.; Akers, Torey, “*Crypto winter is here- and NFT artist royalties are under threat*”,

<https://www.theartnewspaper.com/search?query=Crypto+winter+is+here%E2%80%94and+NFT+artist+royalties+are+under+threat>, 2 December 2022.; Gilbert, John/ Hernandez Ornella, “*How NFT Royalties Work- and Sometimes Don’t*”, <https://blockworks.co/news/nft-royalties-sometimes-they-work-sometimes-they-dont>, 4 November 2022.

⁶⁸⁶ Barcella, Kimberly, “*And We’ll Never Be Royals’ If NFT Royalties Are Made Optional*”, <https://www.jdsupra.com/legalnews/and-we-ll-never-be-royals-if-nft-8386777/>, 2 November 2022.; James, Benjamin, “*Is Web3’s Promise of Creator Royalties Broken?*”,

https://www.billboard.com/pro/nft-creator-royalties-cut-web3-artists-reaction/?utm_source=linkedin&utm_medium=social, 16 December 2022.; Akers, Torey, “*Crypto winter is here- and NFT artist royalties are under threat*”,

<https://www.theartnewspaper.com/search?query=Crypto+winter+is+here%E2%80%94and+NFT+artist+royalties+are+under+threat>, 2 December 2022.

⁶⁸⁷ Lerner/Bresler, Volume II, p.938; Moshayedi, Desiree, “*Does the First Sale Doctrine Apply to NFTs?*”, <https://clsbluesky.law.columbia.edu/2022/01/05/does-the-first-sale-doctrine-apply-to-nfts/>, 5 January 2022.

⁶⁸⁸ Lerner/Bresler, Volume II, p.938.

⁶⁸⁹ Reis, Sarah, “*Toward a “Digital Transfer Doctrine”? The First Sale Doctrine in the Digital Era*” *Northwestern University Law Review*, 2015, Issue 173, 182-184.

traditionally only been applied to tangible, physical objects.⁶⁹⁰ This is because, with tangible objects, each artwork is “one-off” and does not have identical substitutes.⁶⁹¹ Each reproduction of any existing physical artwork will result in, even if minor, some changes.⁶⁹² In most cases, it is practically nearly impossible to clone an existing physical artwork, as some changes will appear. These changes will surely exist if the reproduction is made by human hands, but also will exist when using tools and digital machines. If it is a printed material, such as a book or booklet, the color and texture of the paper, the density of the ink may change. Even if one designs and prints a three-dimensional model, reproductions of that model may be different due to the differences in types of resins and filaments. Therefore, any reproduction of a physical artwork may be purchased and transferred to others in secondary market without the original creator’s approval, or even knowledge. In a sense, the intangible authorship protected by copyright law is separated from the tangible artwork.⁶⁹³

However, this is not the case in digital content. As digital content artworks can easily be reproduced identically, scarcity does not apply to them as a phenomenon.⁶⁹⁴ Sale of digital content on secondary market is not protected by copyright in general⁶⁹⁵, and secondary market for used digital content, such as music files, online graphics or e-books does not exist.⁶⁹⁶ The first sale theory only applies to specific copies, and as digital works must be copied in order to be transferred, the sale of a digital work functions more like a license to access the

⁶⁹⁰ Majocho /HLS Staff.; Moshayedi, Desiree, “Does the First Sale Doctrine Apply to NFTs?”, <https://clsbluesky.law.columbia.edu/2022/01/05/does-the-first-sale-doctrine-apply-to-nfts/>, 5 January 2022.

⁶⁹¹ McAndrew, p.18.

⁶⁹² McAndrew, p.18.; Sullivan / Tremaine.

⁶⁹³ Sullivan / Tremaine.

⁶⁹⁴ Kasdan, *Don't Write Off NFTs.*; Expoverse.; Koonce/ Carron.

⁶⁹⁵ Koonce/ Carron.

⁶⁹⁶ Okutan Nilsson, Gül/ Kahveci, Zeynep Ülkü, Dijitalleştirilmiş Eserlerin İkinci El Satışı Meselesi, <https://www.bilgi.edu.tr/tr/haber/10774/mesele-nedir-9-dijitallestirilmis-eserlerin-ikinci-el-satisimeselesi-zeynep-ulku-kahveci-gul-okutan-nilsson/>; Koonce/ Carron.;

work.⁶⁹⁷ For instance, ReDigi Inc. developed a website that enables users to resale their digital music files to other users after establishing that the music files had been legitimately obtained by the seller in *Capitol Records LLC v. ReDigi Inc.*⁶⁹⁸ The seller would lose access to the file after the sale.⁶⁹⁹ ReDigi was sued by Capitol Records, which claimed that the program had breached their reproduction rights.⁷⁰⁰ The court rules in favor of Capital Records was awarded a victory by the court , which stated that resale would necessitate producing an illegal duplicate of the digital music file, which would violate the copyright owner's reproduction right, and so the first sale doctrine is not applicable.⁷⁰¹

While it is not yet very clear, the first sale doctrine is likely not to be applicable to the resale of non-fungible tokens, as non-fungible tokens provide a link to access to a digital file (or even in cases where the non-fungible token is tied to a physical object), which acts rather as an option to create a copy, rather than the ownership of a particular physical artwork, it is most likely that this doctrine will not apply⁷⁰² For instance, in *Disney Enterprises Inc. v. Redbox Automated Retail LLC*, the court analyzed the function of creating a copy, and held that the doctrine does not apply to digital download codes, as the sale essentially contained “*an option to create a physical copy at some point in the future*”, not a “*particular, fixed copy of a copyrighted work.*”⁷⁰³ With a same logic, non-fungible tokens are likely not to be within the scope of right of first sale, and the right to sell or distribute

⁶⁹⁷ Moshayedi, Desiree, “*Does the First Sale Doctrine Apply to NFTs?*”, <https://clsbluesky.law.columbia.edu/2022/01/05/does-the-first-sale-doctrine-apply-to-nfts/>, 5 January 2022.

⁶⁹⁸ *Capitol Records., LLC v. ReDigi Inc.*, 910 F.3d 649, 653 (2nd Cir. 2018).

⁶⁹⁹ *Capitol Records., LLC v. ReDigi Inc.*

⁷⁰⁰ *Capitol Records., LLC v. ReDigi Inc.*

⁷⁰¹ *Capitol Records., LLC v. ReDigi Inc.*

⁷⁰² Moshayedi, Desiree, “*Does the First Sale Doctrine Apply to NFTs?*”, <https://clsbluesky.law.columbia.edu/2022/01/05/does-the-first-sale-doctrine-apply-to-nfts/>, 5 January 2022.; Balthazor, O. Joseph Jr, “*Does the first-sale doctrine apply to NFTs?*” <https://www.worldtrademarkreview.com/article/does-the-first-sale-doctrine-apply-nfts>, 1 September 2022.

⁷⁰³ *Disney Enterprises Inc. v. Redbox Automated Retail LLC*, 336 F. Supp. 3d 1146, 1149 (C.D. Cal. 2018).

the digital copies of a copyrighted artwork stays with the original copyright holder.⁷⁰⁴

2.4.8. Are Smart Contracts Used for Non-Fungible Tokens Literary Works?

It is also an intriguing question to analyze whether the mere act of writing the codes for a smart contract which will create the NFT can be counted as literary work, protected by copyright.⁷⁰⁵ This question is indeed interesting as source codes are often counted as literary work protected by copyright.⁷⁰⁶

However, NFTs are also unique in the sense that their code does not create the *essence* of the creator's creation. Rather, they point out information relating to any sort of file which already exists before the NFT indicates the information relating to them. Therefore, while it is possible for NFT operational platforms' smart contracts to be protected by patent protection, the act of creating a non-fungible token by itself does not constitute a creation which would amount to meriting copyright protection.⁷⁰⁷

2.4.9. Generative Non-Fungible Tokens and Their Copyright Protection

⁷⁰⁴ Moshayedi, Desiree, "*Does the First Sale Doctrine Apply to NFTs?*", <https://clsbluesky.law.columbia.edu/2022/01/05/does-the-first-sale-doctrine-apply-to-nfts/>, 5 January 2022.; Balthazor, O. Joseph Jr, "*Does the first-sale doctrine apply to NFTs?*" <https://www.worldtrademarkreview.com/article/does-the-first-sale-doctrine-apply-nfts>, 1 September 2022.

⁷⁰⁵ Okonkwo, p.298.

⁷⁰⁶ Pearlman, Russ, "*Do code snippets violate copyright law?*", <https://www.linkedin.com/pulse/do-code-snippets-violate-copyright-law-russ-pearlman/>, 23 January 2019.

⁷⁰⁷ Okonkwo, p.298 Çağlayan Aksoy/ Üner Özkan, p.1122.

2.4.9.1. Generative Art in General

With the Christie's sale of *Portrait of Redmond Bellamy*⁷⁰⁸ on 25 October 2018, which was a painting made through a technique named Generative Adversarial Network algorithm by Parisian art collective Obvious Art, the discussions relating to technology generated artworks and copyright flared.⁷⁰⁹ The painting, which was created through the processing of a total of 15,000 paintings on the non-profit visual art encyclopedia, WikiArt⁷¹⁰, was signed as “ $\min G \max D x [\log (D(x))] + z [\log (1 - D (G(z)))]$ ”, which is a part of the code of the algorithm of the producer.⁷¹¹ Artificial intelligence technologies and the community involved have indeed come to an advanced level in creativity. As of the writing of this study, there is even an essay generated by an artificial-intelligence powered program which is ironically on the intellectual property protection for artificial intelligence generated the works.⁷¹²

Generative art is defined as an art form, which usually uses algorithms or autonomous systems for random content generation.⁷¹³ This term refers to art that

⁷⁰⁸ The surname of the fictional character Redmond Bellamy was chosen by Obvious as a tribute to Ian Goodfellow, who is an accomplished computer scientist and the designer of the generative adversarial network. “Bel Ami” translated as “Good Friend”, similar to the phrase Goodfellow. See Vincent, James, “*How three French students used borrowed code to put the first AI portrait in Christie's*”, the Verge, <https://www.theverge.com/2018/10/23/18013190/ai-art-portrait-auction-christies-belamy-obvious-robbie-barrat-gans>, 23 October 2018.

⁷⁰⁹ Guadamuz, Andreas, “Do Androids Dream of Electric Copyright? Comparative analysis of originality in artificial intelligence generated works”, Sweet & Maxwell in *Intellectual Property Quarterly*, 2017, Issue 2, pp.169-186.; Wilson, 2019, pp.45-46; Christie's Lot 363 <https://www.christies.com/en/lot/lot-6166184>;

⁷¹⁰ WikiArt, Visual Art Encyclopedia, <https://www.wikiart.org/en/about>.

⁷¹¹ Alleyne, Allyssia, “*A sign of things to come? AI-produced artwork sells for \$433K, smashing expectations*”, <https://edition.cnn.com/style/article/obvious-ai-art-christies-auction-smart-creativity/index.html>, 25 October 2018.

⁷¹² Jougleux, Philippe, “*Intellectual Property Protection for AI-Generated Creations: What You Need to Know*”, A.I Article Writer 3.0, <https://www.linkedin.com/feed/update/urn:li:activity:6994538261448646656/>; Copyright Law in the Digital Age: A Legal Analysis of AI and Copyright Cases, generated by AI Article Writer 3.0 and published by Andres Guadamuz on Technollama, <https://www.technollama.co.uk/an-ai-wrote-this-blog-post-about-ai-copyright>, 5 November 2022.

⁷¹³ Marcobello, Mason, “*What are generative art NFTs?*”, <https://www.coindesk.com/learn/what-are-generative-art-nfts/>, 25 October 2022. (last accessed : 30.12.2022)

mostly uses predetermined systems comprising element of arbitrariness.⁷¹⁴ Historically, its emergence is attributed to Dada movement.⁷¹⁵ Other ushering examples include the AARON⁷¹⁶ of Harold Cohen⁷¹⁷ created in 1972⁷¹⁸ and ArtMachine of Keith Tyson.⁷¹⁹

Philip Galanter, associate professor at the School of Architecture at Texas A&M University⁷²⁰ and whose practice focuses on art theory, complexity science, sound art and music, physical computing, and generative art⁷²¹, defines generative art in his courses as:

*“Generative art refers to any art practice where the artist uses a system, such as a set of natural language rules, a computer program, a machine, or other procedural invention, which is set into motion with some degree of autonomy contributing to or resulting in a completed work of art.”*⁷²²

Generative methods since the second half of the 20th century have been used for producing many works, from visual artworks to music songs, and even

⁷¹⁴ The Tate Guide to Modern Art Terms, Simon Wilson and Jessica Lack, p.88; Tate, Art Term: Generative Art at <https://www.tate.org.uk/art/art-terms/g/generative-art>.

⁷¹⁵ Tate, Art Term: Generative Art at <https://www.tate.org.uk/art/art-terms/g/generative-art>; Marcobello, *Generative*.

⁷¹⁶ AARON is a computer software developed by Harold Cohen between 1972 and 2010s for producing visual art autonomously. See Encyclopedia of Artificial Intelligence, Philip Frana/Michael J Klein(Ed.), 2021, pp. 1-2.

⁷¹⁷ Harold Cohen, at <http://www.aaronshome.com/aaron/index.html>.

⁷¹⁸ Encyclopedia of Artificial Intelligence, Philip Frana/Michael J Klein(Ed.), 2021, p.xxix.

⁷¹⁹ Wilson, Simon/ Lack, Jessica, *The Tate Guide to Modern Art Terms*, Tate, 2009, p.88; Tate, Art Term: Generative Art at <https://www.tate.org.uk/art/art-terms/g/generative-art>.

⁷²⁰ Philip Galanter, <https://scholars.library.tamu.edu/vivo/display/n4c1898c6>

⁷²¹ Philip Galanter, <http://philipgalanter.com/about/>.

⁷²² Galanter, Philip, “*What is generative art? Complexity theory as a context for art theory*”, in 6th International Conference on Generative Art, 2003, Milan, Italy, www.philipgalanter.com/downloads/ga2003_paper.pdf.

poems⁷²³.⁷²⁴ Margaret Boden and Ernest Edmonds in their publication expanded the sub-concepts related to the definition of generative art and stated that creation of generative art is not limited to computers, and that some rule-based art does not qualify as generative art.⁷²⁵

However, for the current uses which depend heavily on the utilization of computers, it is important to note the difference between computer-assisted and computer-generated art.⁷²⁶ The former refers to art that is produced with the aid of a computer but still contains a considerable degree of human input and creativity is referred to as computer-assisted art. This might involve utilizing a computer to make digital paints or sketches or to edit and modify already-existing photos or works of art.⁷²⁷ In computer-assisted art, the computer is used as a tool to aid the artist in creating their work, but the finished piece still mostly reflects the vision and talent of the artist.⁷²⁸ Contrarily, computer-generated art is defined as art that is

⁷²³ See, for example, a haiku generated by Ray Kurzweil's Cybernetic Poet: "*You broke my soul/ the juice of eternity,/the spirit of my lips*" at Kurzweil CyberArt Technologies, at http://www.kurzweilcyberart.com/poetry/rkcp_poetry_samples.php.

⁷²⁴ Pearson, Matt. *Generative art: a practical guide using processing*. Simon and Schuster, 2011, p.6.; Guadamuz, Andreas, "Do Androids Dream of Electric Copyright? Comparative analysis of originality in artificial intelligence generated works", Sweet & Maxwell in *Intellectual Property Quarterly*, 2017, Issue 2, p172.

⁷²⁵ Boden, Margaret A./ Edmonds, Ernest A. "What is generative art?", *Digital Creativity*, 2009, Volume 20, Issue 1-2, p.23.

⁷²⁶ Biernacki, Mark, "*Generative art NFTs- what brand owners need to know about copyright protection*", <https://www.jdsupra.com/legalnews/generative-art-nfts-what-brand-owners-1344223/>, 19 April 2022.; Graves, Franklin, "*Sorry, Your NFT is Worthless: The Copyright and Generative Art Problem for NFT Collections*", <https://ipwatchdog.com/2022/02/20/sorry-nft-worthless-copyright-generative-art-problem-nft-collections/id=146163/>, 20 February 2022.; Filorinali, pp.47-49.

⁷²⁷ Biernacki, Mark, "*Generative art NFTs- what brand owners need to know about copyright protection*", <https://www.jdsupra.com/legalnews/generative-art-nfts-what-brand-owners-1344223/>, 19 April 2022.; Graves, Franklin, "*Sorry, Your NFT is Worthless: The Copyright and Generative Art Problem for NFT Collections*", <https://ipwatchdog.com/2022/02/20/sorry-nft-worthless-copyright-generative-art-problem-nft-collections/id=146163/>, 20 February 2022.; Filorinali, pp.47-49.

⁷²⁸ Biernacki, Mark, "*Generative art NFTs- what brand owners need to know about copyright protection*", <https://www.jdsupra.com/legalnews/generative-art-nfts-what-brand-owners-1344223/>, 19 April 2022.; Graves, Franklin, "*Sorry, Your NFT is Worthless: The Copyright and Generative Art Problem for NFT Collections*", <https://ipwatchdog.com/2022/02/20/sorry-nft-worthless-copyright-generative-art-problem-nft-collections/id=146163/>, 20 February 2022.; Filorinali, pp.47-49.

totally produced by a machine, with little or no human involvement.⁷²⁹ This can include artwork produced by algorithms or software tools that produce visuals or patterns according to predetermined criteria or guidelines.⁷³⁰ In computer-generated art, the artist has little to no direct involvement and the machine effectively creates the piece on its own.⁷³¹

2.4.9.2. Copyright Considerations for Generative Non-Fungible Tokens

In the context of the NFTs, generative art NFT collection refers to an NFT collection where NFTs are generated from a pool of limited designs or other layers created by an algorithm which randomly chooses, mixes and appoints predesigned design layers.⁷³² In such a collection, there are a series of common traits shared by all NFTs of the collection, with each of them having some unique traits.⁷³³ The designs for the layers of unique traits as well as the common traits are usually

⁷²⁹ Biernacki, Mark, “*Generative art NFTs- what brand owners need to know about copyright protection*”, <https://www.jdsupra.com/legalnews/generative-art-nfts-what-brand-owners-1344223/>, 19 April 2022.; Graves, Franklin, “*Sorry, Your NFT is Worthless: The Copyright and Generative Art Problem for NFT Collections*”, <https://ipwatchdog.com/2022/02/20/sorry-nft-worthless-copyright-generative-art-problem-nft-collections/id=146163/>, 20 February 2022.; Filorinali, pp.47-49.

⁷³⁰ Biernacki, Mark, “*Generative art NFTs- what brand owners need to know about copyright protection*”, <https://www.jdsupra.com/legalnews/generative-art-nfts-what-brand-owners-1344223/>, 19 April 2022.; Graves, Franklin, “*Sorry, Your NFT is Worthless: The Copyright and Generative Art Problem for NFT Collections*”, <https://ipwatchdog.com/2022/02/20/sorry-nft-worthless-copyright-generative-art-problem-nft-collections/id=146163/>, 20 February 2022.; Filorinali, pp. 47-49.

⁷³¹ Biernacki, Mark, “*Generative art NFTs- what brand owners need to know about copyright protection*”, <https://www.jdsupra.com/legalnews/generative-art-nfts-what-brand-owners-1344223/>, 19 April 2022.; Graves, Franklin, “*Sorry, Your NFT is Worthless: The Copyright and Generative Art Problem for NFT Collections*”, <https://ipwatchdog.com/2022/02/20/sorry-nft-worthless-copyright-generative-art-problem-nft-collections/id=146163/>, 20 February 2022.; Filorinali, pp.47-49.

⁷³² Ghelani, Diptiben, “*What is Non-fungible token (NFT)? A short discussion about NFT Terms used in NFT*”, Authorea. 04 October 2022, p.6, DOI: 10.22541/au.166490992.24247550/v1 <https://www.authorea.com/doi/full/10.22541/au.166490992.24247550>; PCMag Encyclopedia, [https://www.pcmag.com/encyclopedia/term/generative-nft#:~:text=A%20non%20fungible%20token%20\(NFT\),faces%20of%20people%20and%20apes.](https://www.pcmag.com/encyclopedia/term/generative-nft#:~:text=A%20non%20fungible%20token%20(NFT),faces%20of%20people%20and%20apes.)

⁷³³ Ghelani, Diptiben, “*What is Non-fungible token (NFT)? A short discussion about NFT Terms used in NFT*”, Authorea. 04 October 2022, p.6, DOI: 10.22541/au.166490992.24247550/v1 <https://www.authorea.com/doi/full/10.22541/au.166490992.24247550>.

created in advance and then fed to the algorithm to combine them.⁷³⁴ These combinations can be generated before or after the minting of the NFTs and are extensively used in current NFT communities and market places.⁷³⁵ Users are also able to create generative NFT collections through enabling codes, which are open source and comfortably accessible.⁷³⁶ Most common versions are generative avatars, such as CryptoPunks⁷³⁷, which are usually abbreviated as PFPs, short for “profile picture”.⁷³⁸

It is very important to make the distinction between the computer-assisted and computer-generated art while analyzing the copyright status of generative non-fungible tokens.⁷³⁹ If the former is chosen, then the work will be considered as a human creation or a co-creation which will be assigned to the human creator.⁷⁴⁰ However, as explained in Section 2.4.3 above, since copyright focuses on the pieces that are original artistic works which carries the authorship and creativity of the author, it is long emphasized that artworks which are created in a completely autonomous manner without any human intervention will not be protected by copyright.⁷⁴¹ This element of authorship is also stipulated in many jurisdictions where relevant legislation defines the author as “the person” creating it.⁷⁴²

⁷³⁴ PCMag Encyclopedia, [https://www.pcmag.com/encyclopedia/term/generative-nft#:~:text=A%20non%20fungible%20token%20\(NFT,faces%20of%20people%20and%20apes;Guadamuz, Generative Art.; Sullivan / Tremaine.](https://www.pcmag.com/encyclopedia/term/generative-nft#:~:text=A%20non%20fungible%20token%20(NFT,faces%20of%20people%20and%20apes;Guadamuz, Generative Art.; Sullivan / Tremaine.)

⁷³⁵ Guadamuz, *Generative Art.*; Sullivan / Tremaine.

⁷³⁶ Guadamuz, *Generative Art.*; Sullivan / Tremaine.; Filorinali, pp. 47-49.

⁷³⁷ <https://www.larvalabs.com/cryptopunks>.

⁷³⁸ Graves, Franklin, “*Sorry, Your NFT is Worthless: The Copyright and Generative Art Problem for NFT Collections*”, <https://ipwatchdog.com/2022/02/20/sorry-nft-worthless-copyright-generative-art-problem-nft-collections/id=146163/>, 20 February 2022.; Casale-Brunet, S./ Zichichi, M./ Hutchinson, L./ Mattavelli, M./ Ferretti, S., “*The impact of NFT profile pictures within social network communities*”, ACM GoodIT, p.1.; Koller, Michael, “*PFP NFTs: A Beginner’s Guide*”, <https://builtin.com/blockchain/nft-pfp>. 30 September 2022.

⁷³⁹ Franceschelli, Giorgio/ Musolesi, Mirco, “*Copyright in generative deep learning*”, Data&Policy, 2022, Volume 4, e17.

⁷⁴⁰ Franceschelli, Giorgio/ Musolesi, Mirco, “*Copyright in generative deep learning*”, Data&Policy, 2022, Volume 4, e17.

⁷⁴¹ Wilson, 2019, p.46.; Sullivan / Tremaine.; Guadamuz, Andreas, “Do Androids Dream of Electric Copyright? Comparative analysis of originality in artificial intelligence generated works”, Sweet & Maxwell in Intellectual Property Quarterly, 2017, Issue 2, p. 176.

⁷⁴² Franceschelli, Giorgio/ Musolesi, Mirco, “*Copyright in generative deep learning*”, Data&Policy, 2022, Volume 4, e17.

Therefore, it seems far to accept a non-person author for art works when the fully computer-generated for now.⁷⁴³ However, currently many legislations determine the author of non-human generated works as the person who was involved in the creation of the non-human generator as well.⁷⁴⁴ If such authorship can be determined, the generative non-fungible tokens can be considered as having copyright, provided that other criteria for having copyright protection are present.

2.5. LIABILITY OF NFT MARKETPLACES AND OTHER INTERMEDIARIES

NFT marketplaces act as intermediaries, allowing and facilitating both the minting and relevant transactions (such as facilitation of sale and purchase of the NFTs⁷⁴⁵) relating to the NFTs.⁷⁴⁶ As mentioned, NFT marketplaces bring together many actors and thousands of NFTs. One Twitter user explained this volume as *“There are now more NFTs on OpenSea than there were websites on the internet in 2010.”*⁷⁴⁷ Currently, each NFT present on these platforms are not audited for necessary copyright or other relevant intellectual property rights.⁷⁴⁸ Some marketplaces rely on clauses relating to conduct of the users in their terms of service, providing a legal protection in form of a contract. For instance, Article 9 of Rarible’s Terms of Service provides for the permitted and prohibited conducts.⁷⁴⁹

⁷⁴³ Guadamuz, Andreas, “Do Androids Dream of Electric Copyright? Comparative analysis of originality in artificial intelligence generated works”, Sweet & Maxwell in *Intellectual Property Quarterly*, 2017, Issue 2, p.172.; Guadamuz, *Generative Art.*; Franceschelli, Giorgio/ Musolesi, Mirco, “*Copyright in generative deep learning*”, *Data&Policy*, 2022, Volume 4, e17.

⁷⁴⁴ Guadamuz, *Generative Art.*

⁷⁴⁵ Vardhan, Yash, “*Understanding the Liability of Net Marketplaces in Copyright Infringement*”, <https://www.iiprd.com/understanding-the-liability-of-net-marketplaces-in-copyright-infringement/>, 7 October 2022.

⁷⁴⁶ Huertas / Hinkl, p.132.; Zalewski, Tomasz, “*How to Conduct a Due Diligence Review of NFTs*”, Bird and Bird, <https://www.twobirds.com/en/insights/2022/poland/how-to-conduct-a-due-diligence-review-of-nfts>, 22 March 2022.

⁷⁴⁷ Alex Atallah, Twitter, <https://twitter.com/xanderatallah/status/1501619723338924039>.

⁷⁴⁸ Okonkwo, pp.299,302.

⁷⁴⁹ Rarible Terms of Service, Last Updated 8 September 2022, at <https://static.rarible.com/terms.pdf> Article 9. See also Article 6 titled User Conduct in Open Sea’s

Accordingly, the use of Rarible’s services in a manner to violate any local, state, national or international law⁷⁵⁰ or knowingly selling, transferring or using the NFTs in a manner that does or may infringe any copyright, trademark, patent, trade secret or other intellectual property or other proprietary rights⁷⁵¹ is prohibited. Others rely on codes of conduct in order to ensure the orderly interactions on the marketplace⁷⁵², which has more soft law weight. Rarible Community Guidelines has do’s and don’ts lists for both creators and collectors, which summarizes as “*Treat people well. Be cool, kind and helpful. And never to anything illegal, unethical, or hateful*”.⁷⁵³ Also these guidelines also have a reminder as not to “*mint anyone else’s work as NFTs (unless you’ve got permission)*.”⁷⁵⁴

The legal question as to the extent and scope of liability of NFT platforms requires diligent analysis of copyright law and contract law, with special analytical emphasis on negligence (breach of duty of care) and misrepresentation by platform owners.⁷⁵⁵

When a third party who does not have the distinguished rights of the copyright owner, who can be either the original author or the current owner of the work but exercises those rights without permission of the right owner, copyright

Terms of Service: Opensea, Terms of Service, Last Updated 2 August 2022 at: <https://opensea.io/tos>.

⁷⁵⁰ Rarible Terms of Service, Last Updated 8 September 2022, at <https://static.rarible.com/terms.pdf> Articles 9.2 (a) and (o).

⁷⁵¹ Rarible Terms of Service, Last Updated 8 September 2022, at <https://static.rarible.com/terms.pdf> Article 9.2.(n).

⁷⁵² Zhu, Catherine/Lehot, Louis, “*A Checklist Of Legal Considerations For The NFT Marketplace*” at <https://news.crunchbase.com/fintech-ecommerce/a-checklist-legal-nft-marketplace/>, 9

November 2021.; See, for example, an NFT Creators’ Code of Ethics shared in GitHub: NFT Creators Code of Ethics, Leonard Schoelch @windspiek, at

<https://github.com/hicetnunc2000/hicetnunc/wiki/NFT-Creators-Code-of-Ethics>.

⁷⁵³ Rarible Community Guidelines, <https://rarible.com/community-guidelines>.

⁷⁵⁴ Rarible Community Guidelines, <https://rarible.com/community-guidelines>.

⁷⁵⁵ Okonkwo, p.299.

infringement occurs.⁷⁵⁶ The moral element of intention does not have to be present for copyright infringement to occur.⁷⁵⁷

In most jurisdictions, parties who do not directly engage in the infringing activity might still come across consequences by way of secondary liability.⁷⁵⁸

The approaches for determining the damages due to this liability vary among jurisdictions, but most jurisdictions within the EU and the USA does not make a distinction in the result of the liability caused by direct infringement or secondary infringement.⁷⁵⁹

Therefore, an NFT platform which exhibits, possesses, communicates, publishes, distributes, sells or rents NFTs which already infringes copyright of some other work might be liable for copyright infringement.⁷⁶⁰ This can be evaded by certain obligations for the marketplaces. For example, India has a “notice and takedown” rule for the intermediaries, which require for the intermediaries to remove the infringing content upon notification.⁷⁶¹ This notice-and-takedown system is also foreseen by Section 512 of the United States Digital Millennium Copyright Act of 1998 (DMCA).⁷⁶²

Okonkwo argued that NFT marketplaces constitute mere vehicle platforms, and they should enjoy defensive rights which are provided to e-commerce platforms.⁷⁶³ One author analyzing the relevant Indian legislation also provided that

⁷⁵⁶ Lerner/Bresler, Volume II, p.993; Wilson, 2019, pp.41-42; Okonkwo, pp.299,302.

⁷⁵⁷ Okonkwo, p.299.

⁷⁵⁸ Dinwoodie, Graeme B./ Dreyfuss, Rochelle C./ Kur, Annette, “*The Law Applicable to Secondary Liability in Intellectual Property Cases*”, International Law and Politics, 2010, Volume 42, Issue 2, pp. 203.

⁷⁵⁹ Okonkwo, fn. 21.

⁷⁶⁰ Okonkwo, p.301; Law, Sarah, “NFT Marketplaces and the DMCA Safe Harbors”, <https://studentorgs.kentlaw.iit.edu/ckjip/nft-marketplaces-and-the-dmca-safe-harbors/>, 9 February 2022.

⁷⁶¹ Indian IT Act 2000 Section 79(3).

⁷⁶² Online Copyright Infringement Liability Limitation Act, Title II of Digital Millennium Copyright Act, Pub. L. No. 105-304, §§ 201–02, 112 Stat. 2860, 2877 (1998) (codified as amended at 17 U.S.C. § 512).

⁷⁶³ Okonkwo, p.299.

Section 79 of the Indian Information Technology Act 2000⁷⁶⁴ allows for a conditional immunity for intermediaries⁷⁶⁵, whose role is rather technical, passive and automatic, for escape from liability.⁷⁶⁶ Similarly, Section 512 of the American Digital Millennium Copyright Act 1998 (DMCA) and European Union E-Commerce Directive also provides for safe harbors for internet service providers to apply in situations of copyright infringement caused by users.⁷⁶⁷ NFT market places are deemed to be comparable to platforms such as Amazon and Facebook⁷⁶⁸, there this argument has potential to be used by the NFT marketplaces. Indeed, OpenSea is considered⁷⁶⁹ to rely on a DMCA 512 safe harbor provision in their Terms of Service which reads “*If you believe that your content has been copied in a way that constitutes copyright or trademark infringement, or violates your publicity or other intellectual property rights, please fill out our form here or you may submit written notice to our designated copyright agent [...].*”⁷⁷⁰

In addition, since the NFT marketplaces enter into a contractual relationship with the purchasers, claims from the purchasers relating to misrepresentation, breach of duty of care might arise.⁷⁷¹ However, most NFT marketplaces protect

⁷⁶⁴Indian IT Act 2000,

<https://eprocure.gov.in/cppp/rulesandprocs/kbadqkdclswfjdelrquehwuxcfmijmuixngudufgbuubgubfugbububjxcgfvsbdihbfgGhdfgFHtyyhRtMjk4NzY=#:~:text=%5B9th%20June%2C%202000%5D%20An,communication%20and%20storage%20of%20information%2C>

⁷⁶⁵ Intermediaries in the scope of Indian IT Act 2000 is defined in section 2(w) of the Act, as: “any person who on behalf of another person receives, stores or transmits that record or provides any service with respect to that record and includes telecom service providers, web-housing service providers, search engines, online payment sites, online auction sites, online market places and cyber cafes”.

⁷⁶⁶ Vardhan, Yash, “*Understanding the Liability of Net Marketplaces in Copyright Infringement*”, <https://www.iiprd.com/understanding-the-liability-of-net-marketplaces-in-copyright-infringement/>, 7 October 2022.

⁷⁶⁷ Online Copyright Infringement Liability Limitation Act, Title II of Digital Millennium Copyright Act, Pub. L. No. 105-304, §§ 201–02, 112 Stat. 2860, 2877 (1998) (codified as amended at 17 U.S.C. § 512); Directive 2000/31/EC.

⁷⁶⁸ Vardhan, Yash, “*Understanding the Liability of Net Marketplaces in Copyright Infringement*”, <https://www.iiprd.com/understanding-the-liability-of-net-marketplaces-in-copyright-infringement/>, 7 October 2022.

⁷⁶⁹ Law.

⁷⁷⁰ *Terms of Service*, OpenSea, <https://opensea.io/tos> (last accessed: 30 December 2022).

⁷⁷¹ Okonkwo, p.301.

themselves through extensive terms of use⁷⁷², carefully drafted for their benefit. These terms of use should of course, provide the disclaimer that the marketplace only is an offering platform having no guarantees relating to any intellectual property rights in a clear and concise manner.⁷⁷³

In any case, as with many other terms of use texts, NFT market places should beware that some limitation of liability provisions of their terms of use will be treated as void or voidable in case they conflict fundamentally with existing laws, or create undetailed general transaction conditions, which may result in the inability to evade liability.⁷⁷⁴ Similarly, contractual escape or recourse to disclaimers does not provide relief from liability due to negligence in many jurisdictions.⁷⁷⁵

Various disputes regarding the liability of non-fungible token marketplaces are analyzed below.

2.5.1. Shenzhen Qice Diechu Cultural Creativity Co., Ltd. v Hangzhou Yuanyuzhou Technology Co., Ltd

The first court case concerning a dispute on non-fungible tokens in China has been *Shenzhen Qice Diechu Cultural Creativity Co., Ltd. v Hangzhou Yuanyuzhou Technology Co., Ltd.*⁷⁷⁶ This is a corner stone decision in the sense that a court has found a non-fungible token platform liable for copyright infringement. The case concerned the user of a non-fungible token marketplace (Grand Metaverse or Bigverse) having had created and sold non-fungible tokens of an illustration series which is called “*I am Not a Fat Tiger*”, a caricature depicting a tiger receiving a vaccine shot made by a Chinese artist and published on China’s social media site,

⁷⁷² Okonkwo, p.301.

⁷⁷³ Okonkwo, p.301.

⁷⁷⁴ Okonkwo, p.301.

⁷⁷⁵ Okonkwo, p.301.

⁷⁷⁶ (2022) Zhe 0192 Minchu No. 1008, For an English translation of the case, see https://www.taylorwessing.com/-/media/taylor-wessing/files/germany/2022/06/mv-nl_04-2022_first-nft-decision-in-china_urteil--internet-court-hangzhou_final_neu_pdfa.pdf.

Weibo.⁷⁷⁷ The copyrights of Fat Tiger were with Shenzhen Qice Diechu Cultural Creativity Co., Ltd., who brought the case to the court.⁷⁷⁸ The plaintiff claimed that Grand Metaverse or Bigverse was in breach of its duty to perform a preliminary investigation to confirm that the person who generated the NFT digital work on its platform was the owner of the copyright of the underlying artwork.⁷⁷⁹ The case was heard by Hangzhou Internet Code on 20 April 2022, After considering extensively questions regarding whether the illustration series “*I am Not a Fat Tiger*” was protected under copyright, what a non-fungible token is, how it is minted, how an NFT transaction takes place and the terms and conditions of the market place, the court found that it is possible under Chinese law for non-fungible token platforms to be liable for copyright infringement, and that the defendant Grand Metaverse or Bigverse contributorily violated the copyright holder’s rights, and ordered the destruction of non-fungible tokens by burning the tokens.⁷⁸⁰

It is important that the court highlighted that the particularities of the NFT digital works, such as the trading mode, technical characteristics, platform controls, profit-making mode, and other aspects of the non-fungible token digital works, should be considered when evaluating the responsibility of a network platform providing NFT digital works trading services.⁷⁸¹ Accordingly, the platform was found to have breached its duty of inspection and attention since it served as a

⁷⁷⁷ (2022) Zhe 0192 Minchu No. 1008, For an English translation of the case, see https://www.taylorwessing.com/-/media/taylor-wessing/files/germany/2022/06/mv-nl_04-2022_first-nft-decision-in-china_urteil--internet-court-hangzhou_final_neu_pdfa.pdf.

⁷⁷⁸ (2022) Zhe 0192 Minchu No. 1008, For an English translation of the case, see https://www.taylorwessing.com/-/media/taylor-wessing/files/germany/2022/06/mv-nl_04-2022_first-nft-decision-in-china_urteil--internet-court-hangzhou_final_neu_pdfa.pdf.

⁷⁷⁹ (2022) Zhe 0192 Minchu No. 1008, For an English translation of the case, see https://www.taylorwessing.com/-/media/taylor-wessing/files/germany/2022/06/mv-nl_04-2022_first-nft-decision-in-china_urteil--internet-court-hangzhou_final_neu_pdfa.pdf.

⁷⁸⁰ (2022) Zhe 0192 Minchu No. 1008, For an English translation of the case, see https://www.taylorwessing.com/-/media/taylor-wessing/files/germany/2022/06/mv-nl_04-2022_first-nft-decision-in-china_urteil--internet-court-hangzhou_final_neu_pdfa.pdf.

⁷⁸¹ Hu, Gang “*What we should know from the first NFT infringement case in China*”, <https://www.asiaiplaw.com/section/in-depth/what-we-should-know-from-the-first-nft-infringement-case-in-china>, 8 July 2022.

trading service for NFT works, and the defendant had subjective culpability because of its activity that aided in infringement.⁷⁸²

The court made some other important determinations, for instance, that the transmission of works over an information network is a type of "information flow," not a direct communication of the work, and does not result in the transfer of ownership or control of the works. As a result, it is not subject to the distribution right and the concept of rights exhaustion is not applicable. As a result, the court ruled that the sale of NFT digital works does not fall under the "exhaustion of rights" doctrine.⁷⁸³

2.5.2. Free Holdings Inc. v. McCoy et al

A very interesting case which also involve different parties such as, a digital artist, an auction house and a company which provides condition reports, is *Free Holdings Inc. v. McCoy*, which involves the first non-fungible token to be ever sold, Quantum.⁷⁸⁴

2.5.2.1.Overview

As mentioned before in Section 1.3.1, Quantum was minted by Kevin McCoy on 3 May 2014 on Namecoin blockchain. The NFT was later minted on

⁷⁸² Hu, Gang "What we should know from the first NFT infringement case in China", <https://www.asiaiplaw.com/section/in-depth/what-we-should-know-from-the-first-nft-infringement-case-in-china>, 8 July 2022.

⁷⁸³ (2022) Zhe 0192 Minchu No. 1008, For an English translation of the case, see https://www.taylorwessing.com/-/media/taylor-wessing/files/germany/2022/06/mv-nl_04-2022_first-nft-decision-in-china_urteil--internet-court-hangzhou_final_neu_pdfa.pdf; Hu, Gang "What we should know from the first NFT infringement case in China", <https://www.asiaiplaw.com/section/in-depth/what-we-should-know-from-the-first-nft-infringement-case-in-china>, 8 July 2022.

⁷⁸⁴ Free Holdings Inc. v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel, 1:2022cv00881 Complaint at <https://ledgerinsights.com/wp-content/uploads/2022/02/Quantum-nft-sothebys.pdf>.

Ethereum blockchain on 28 May 2021 and sold in Sotheby's auction on 10 June 2021.

The original blockchain Namecoin, is a key/value pair registration and transfer system based on the Bitcoin technology, with certain differences to make it function as domain names.⁷⁸⁵ It requires renewal of domain names for regular intervals, however, after the creation of Quantum, Kevin McCoy did not renew his registration.⁷⁸⁶ In principle, if the renewal is not done, somebody else can claim the NameCoins.⁷⁸⁷ This manual renewal feature of NameCoin is stated to be in contrast with the concept that is the uniqueness of non-fungible tokens and the immutability of blockchain.⁷⁸⁸ In this case, no one, including McCoy, had claimed the name created by McCoy for several years.⁷⁸⁹

In 2021, where interest over non-fungible tokens spiked everywhere, and Quantum's name began being highlighted as being one of the earliest specimens of the new technology⁷⁹⁰, a third party with the twitter alias @EarlyNFT registered the name on NameCoin around 5 April 2021.⁷⁹¹ After this registration, @Early NFT

⁷⁸⁵ <https://www.namecoin.org/>; Ledger Insights, Sotheby's sued over Quantum NFT auction, at <https://www.ledgerinsights.com/sothebys-sued-over-quantum-nft-auction/>.

⁷⁸⁶ Ledger Insights, Sotheby's sued over Quantum NFT auction, at <https://www.ledgerinsights.com/sothebys-sued-over-quantum-nft-auction/>.

⁷⁸⁷ Ledger Insights, Sotheby's sued over Quantum NFT auction, at <https://www.ledgerinsights.com/sothebys-sued-over-quantum-nft-auction/>.

⁷⁸⁸ Racheal Muldoon, Twitter, <https://twitter.com/RachealMuldoon/status/1489984207120220162?cxt=HHwWhIC-pb-vvq0pAAAA>; "*NameCoin's manual renewal feature sits uncomfortably with the inherent uniqueness of #NFTs and the immutability of the #blockchain. Did McCoy's #title lapse upon the NameCoin expiry in favour of #EarlyNFT, or subsist in the metadata?*"; <https://www.bakerlaw.com/AD-ttorneyslaw-February-16-2022>.

⁷⁸⁹ Ledger Insights, Sotheby's sued over Quantum NFT auction, at <https://www.ledgerinsights.com/sothebys-sued-over-quantum-nft-auction/>.

⁷⁹⁰ See, Axiom's article on Quantum : Felix Salmon, Exclusive : The first-ever NFT from 2014 is on sale for \$7 million plus, <https://www.axios.com/2021/03/25/nft-sale-art-blockchain-millions>.

⁷⁹¹ Ledger Insights, Sotheby's sued over Quantum NFT auction, at <https://www.ledgerinsights.com/sothebys-sued-over-quantum-nft-auction/>; Complaint ¶ 24.

tried to contact McCoy several times through Twitter, to which McCoy never responded.⁷⁹²

Sotheby's then began the advertisement of the auction Natively Digital: A Curated NFT Sale around May 2021 and the sale occurred on 10 June 2021⁷⁹³ Sotheby's explained that the NFT was “ [o]riginally minted on 3 May 2014 on Namecoin blockchain, and preserved on a token minted on 28 May 2021, by the artist”.⁷⁹⁴ In addition, Sotheby's provided a condition report prepared by Nameless, which reads *inter alia*⁷⁹⁵:

“The hash and all the information about the artwork are stored on the Ethereum blockchain, and therefore cannot be modified. This token was minted May 2021, but the referenced pieces were originally made public in 2014, with a link to the image hosted on the Namecoin network. [...] To avoid domain squatting, Namecoin was designed to include removal of pointers after 36,000 blocks. Accordingly, this specific Namecoin entry was removed from the system after not being renewed and was effectively burned from the chain.”

@EarlyNFT, represented by the Canadian company Free Holdings, started the lawsuit for title slander, deceptive and unlawful trade practice and commercial disparagement against Kevin McCoy, Sotheby's, an NFT startup Nameless, who

⁷⁹² Free Holdings Inc. v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel, 1:2022cv00881, Complaint, ¶¶ 26-32; 36.

⁷⁹³ Free Holdings Inc. v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel, 1:2022cv00881, Complaint, ¶ 33, 49.

⁷⁹⁴ Sotheby's, Natively Digital: A Curated NFT Sale, Lot 2 at <https://www.sothebys.com/en/buy/auction/2021/natively-digital-a-curated-nft-sale-2/quantum>.

⁷⁹⁵ Sotheby's, Natively Digital: A Curated NFT Sale, Lot 2 at <https://www.sothebys.com/en/buy/auction/2021/natively-digital-a-curated-nft-sale-2/quantum> (Emphasis added).

prepared the condition report published in Sotheby’s website, and Alex Amsel, the buyer (who was later dismissed⁷⁹⁶ from the case on 8 March 2022).⁷⁹⁷

The statement of Sotheby’s for describing the NFT sold at the auction is qualified as “*false and misleading*” by Free Holdings, because “*Quantum is still extant on the Namecoin blockchain and requires no “preservation”*”⁷⁹⁸ and also objects to the condition report⁷⁹⁹ on Sotheby’s website, which was prepared by Nameless, because “*a Namecoin blockchain record cannot be “removed”, and the blockchain record for Quantum has not been “removed” or “burned”. Rather [it] remains active and under the control of Free Holdings*”.⁸⁰⁰ The defendants on the other hand declare that when Quantum was minted as an Ethereum-based non-fungible token, all related rights and ownership of Quantum was transferred to that NFT which was minted in 2021.⁸⁰¹

It had been stated that, the original text of Quantum’s value read “*I assert title to the file at the URL <http://static.mccoyspace.com/gifs/quantum.gif>.” and “*Title transfers to whoever controls this blockchain entry.*”⁸⁰² However, the resource indicated for viewing the token could not be accessed for this study, and*

⁷⁹⁶ Brian Klein, Teresa Huggins, Waymaker Client Dismissed in NFT Case Also Involving Sotheby’s and Artist Kevin McCoy, at <https://www.waymakerlaw.com/index.php/newsroom/detail/waymaker-client-dismissed-in-nft-case-also-involving-sothebys-and-artist-ke#:~:text=Through%20Sotheby's%20%E2%80%9CNatively%20Digital%E2%80%9D%20auction,moniker%20SillyTuna%2C%20in%20June%202021.>

⁷⁹⁷ Free Holdings Inc. v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel, 1:2022cv00881 Complaint at <https://ledgerinsights.com/wp-content/uploads/2022/02/Quantum-nft-sothebys.pdf>; Shanti Escalante-De Mattei, Sotheby’s, Artist Kevin McCoy Sued Over Sale \$1.5 M. NFT at <https://www.artnews.com/art-news/news/sothebys-kevin-mccoy-quantum-nft-sale-lawsuit-1234618249/>.

⁷⁹⁸ Free Holdings Inc. v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel, 1:2022cv00881, Complaint, ¶ 45.

⁷⁹⁹ <https://www.sothebys.com/en/buy/auction/2021/natively-digital-a-curved-nft-sale-2/quantum>.

⁸⁰⁰ Free Holdings Inc. v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel, 1:2022cv00881, Complaint, ¶ 5,7,39,40,44,50,60,61,62,63,64,70,77,78,79,81,82,89,90,91,92.

⁸⁰¹ Shanti Escalante-De Mattei, Sotheby’s, Artist Kevin McCoy Sued Over Sale \$1.5 M. NFT at <https://www.artnews.com/art-news/news/sothebys-kevin-mccoy-quantum-nft-sale-lawsuit-1234618249/>.

⁸⁰² Rhea Myers, at <https://rhea.art/regarding-quantum>.

an alternative resource indicates that this expression was inserted around 30 April 2021, which is after the registration of @EarlyNFT.⁸⁰³

2.5.2.2. Questions

This dispute raises many crucial questions, encircling issues such as the meaning of ownership of artworks and non-fungible tokens; the unique circumstances caused by characteristics of Namecoin and the fact that the non-fungible token sold at Sotheby's was a non-fungible token which was later created on another blockchain.

Especially, the question of who gets to claim they own and are able to sell Quantum appears as the main legal question.⁸⁰⁴ It is stated that this case will provide important insight on how the courts will approach the concept of ownership in the blockchain realm.⁸⁰⁵

In that respect, it is advisable to first understand how the artwork Quantum (as the underlying artwork) was created and minted (twice) into a non-fungible token. Many discussions surrounding this dispute may be arising because of the readily misunderstanding to attribute non-fungible tokens the quality of artwork worthy of copyright. Whereas, most probably, in this case, there are two non-fungible tokens connected to a digital artwork; however, the artwork in itself has its own intellectual property and other rights, owned -most likely- by one person.

⁸⁰³ The link provided in resources was <https://nmc.tokenview.com/en/tx/fa8b9a6ad4d266ffbec4f9a1217e0dbcd657bb1eb3ed49912a2ab1bd3bb48f8d>, to which access could not be provided.

⁸⁰⁴ BakerHostetler, "AD-torneys@law – February 16, 2022", <https://www.bakerlaw.com/AD-torneyslaw-February-16-2022>

⁸⁰⁵ Fitzpatrick, Simon/ Adcock, Rosie/, Mellor, Sophie, "February NFT Litigation Roundup: Art Wars, Hermes "MetaBirkins", and more...", https://insights.boodlehatfield.com/post/102hjdd/february-nft-litigation-roundup-art-wars-hermes-metabirkins-and-more_23 February 2022.

Understanding whoever has the related rights for claiming the ownership of Quantum and thereby mint and sell its non-fungible token depends on the answer of many questions, such as, whether the non-fungible tokens of Quantum are on-chain or off-chain, whether the artist Kevin McCoy indeed transferred the related rights of Quantum to the owner of the non-fungible token originally minted back in 2014, whether NameCoin indeed allows for the assumption of non-fungible tokens which were not renewed this easily (such as lost or abandoned property).⁸⁰⁶

As it contains these and many other questions, this event and the resolution of its dispute is of great importance in clarifying the legal issues surrounding non-fungible tokens.

2.5.2.3.The Condition Report and Liability

Within the scope of the Section 2.5., this case is important that the lawsuit filed is specifically directed against Sotheby's, with the agency of whom the non-fungible token minted in 2021 was sold, and Nameless, who prepared the contested condition report, along with its artist Kevin McCoy, who did not renew the Namecoin.

In their complaint, the plaintiff repeatedly states that the condition report published on Sotheby's website is not accurate.⁸⁰⁷ Therefore, it is worth analyzing the liability in relation to condition reports.

While auction houses usually guarantees the authenticity of the artwork they sell, the same is not always true for the condition of the artwork, as the condition of an artwork generally is understood through invasive tests and often are not

⁸⁰⁶ Nou Nft, "New NFT IP infringement, ownership lawsuits: Nike v. StockX, Free Holdings v. McCoy, Sotheby's (complaints)", <https://nounft.com/2022/02/07/new-nft-ip-infringement-ownership-lawsuits-nike-v-stockx-free-holdings-v-mccoy-sothebys-complaints/>, 7 February 2022.

⁸⁰⁷ Free Holdings Inc. v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel, 1:2022cv00881, Complaint, ¶¶ 5,7,39,40,44,50,60,61,62,63,64,70,77,78,79,81,82,89,90,91,92.

apparent.⁸⁰⁸ Generally, the auction houses tend not to assume responsibility for the condition of the artwork they sale, as it is the buyer's responsibility to inspect the condition of the artwork before the sale.⁸⁰⁹ Therefore, it is the general practice of most auction houses to sell the lots "*as is*", which refers that the auction house is selling the artwork in the conditions they are at the time of the auction sale.⁸¹⁰ However, in practice, auction houses commonly prepare a note called the condition report, which describes the condition of the artwork to the attention of any bidders who might be interested in the artwork.⁸¹¹ This provides a general practical knowledge background for buyers from all around the world for a lot, considering that many art transactions now happen with parties from the different sides of the world through the internet.⁸¹²

On the other hand, auction houses generally provide these condition reports with various disclaimers in order to exclude liability, such as: the condition report is based on simple inspection, the condition report does not include all potential defects of the artwork, the auction house does not warrant condition, the buyer should search themselves the condition, the condition report is no substitute for an inspection of the buyer, and the provision of the condition report does not absolve the buyer of the responsibility to inspect the lot themselves.⁸¹³ In case dispute arises depending on the condition report of a purchased artwork arises, which frequently happens, the buyer seeks to cancel the sale, obtain compensation for diminution in value or recover cost of repair if the condition deficiency is fixable.⁸¹⁴ The auction house seeks to be absolved of liability based on their conditions of sale.⁸¹⁵

⁸⁰⁸ Wilson, 2022, pp.369-370.

⁸⁰⁹ Wilson, 2022, pp.66, 108.

⁸¹⁰ Wilson, 2022, p.66.

⁸¹¹ Wilson, 2022, p.66, 111, 369-370.

⁸¹² Wilson, 2022, p.66.

⁸¹³ Wilson, 2022, pp.66,111, 369-370.

⁸¹⁴ Wilson, 2022, p.370.

⁸¹⁵ Wilson, 2022, p.370.

With Quantum, this seems to be the case, as in the Condition Report published in Sotheby's website read:⁸¹⁶

nameless™ Condition Reports are statements of opinion only and not representation of fact. [...], however, such reports may not refer to or identify all faults and potential vulnerabilities that may exist. The images of a lot form part of the condition report for the lot, however certain images of a lot provided online may not accurately reflect the actual condition of the lot. Condition reports may make reference to particular imperfections of a lot, although the lot may have other faults or issues not expressly referred to in the condition report for the lot or shown in the online images of the lot.

Condition reports are not an alternative to carrying out your own inspection and investigation of a lot and/or seeking your own independent professional advice. All auction participants should inspect a lot and satisfy oneself as to its condition prior to bidding. The responsibility for ascertaining the condition of a lot remains with the purchaser, and nameless cannot be held responsible for the content of condition reports, which are provided for guidance only in assessing the condition of a lot. NOTWITHSTANDING THIS ONLINE CONDITION REPORT OR ANY DISCUSSIONS CONCERNING A LOT, ALL LOTS ARE OFFERED AND SOLD "AS IS" IN ACCORDANCE WITH THE CONDITIONS APPLICABLE TO THE RESPECTIVE SALE(S).

It is also interesting in the context of Quantum NFT is that, while issues relating to the condition of the artwork generally arises after the sale is complete⁸¹⁷ (as, for example, after the buyer purchases and receives a painting), in this case, it

⁸¹⁶ <https://www.sothebys.com/en/terms-conditions>.

⁸¹⁷ Wilson, 2022, p.111.

seems that the information which is contested by the plaintiff had been on Sotheby's website for a while.

In addition, the conditions of sale for an auction are generally standard terms which are not negotiable, and they are incorporate the contract of sale and the general conditions surrounding the sale.⁸¹⁸ Therefore, they are generally made quite visible to the participants of an auction in order to avoid any later objection or claim as not having seen them.⁸¹⁹ Hence, the more effort the auction house puts into making its conditions of sale easily available, the more difficult for a buyer to assert that he was not aware of the conditions of sale and therefore is not bound by them.⁸²⁰ In addition, the conditions of sale often makes clear that a description of a lot or statements about the artwork's history, ownership, authorship are expressions of opinion and not to be relied upon as statements of fact, in order to limit the ability of the buyer to cancel the sale afterwards in case any of this description are incorrect.⁸²¹

In this case, the Conditions of Sale of Sotheby's provides explicitly that the buyers should carry their own inspection, and that they do not conduct extensive due diligence for the condition of the lots, that any report is for opinion only, and, that there is special exclusion for the lots which are non-fungible tokens.⁸²² In addition, the article titled Disclaimer of Warranties explicitly states that:⁸²³

[...] Neither we nor the Seller give you any guarantee, representation or warranty as to the correctness of the Catalogue or other images or descriptions of the condition, completeness, size, quality, rarity, value, importance, medium, frame, provenance, exhibition history, or literary or historical relevance of any Lot, and no statement anywhere

⁸¹⁸ Wilson, 2022, p. 108.

⁸¹⁹ Wilson, 2022, p. 108.

⁸²⁰ Wilson, 2022, p. 108.

⁸²¹ Wilson, 2022, p.110,115.

⁸²² Sotheby's Conditions of Business, <https://www.sothebys.com/en/buy/auction/2021/natively-digital-a-curated-nft-sale-2>, Article 3.

⁸²³ Sotheby's Conditions of Business, <https://www.sothebys.com/en/buy/auction/2021/natively-digital-a-curated-nft-sale-2>, Article 3. (Emphasis added.)

In the case of NFTs, in addition to the above, neither we nor the Seller make any representations or warranties as to the followings: [...] the nature, character, contents, condition, behavior, operation, performance, security, integrity, metadata, persistence, quality, technical details or terms of the NFT or the Referenced Content, including without limitation any further iterations of the same.

To conclude, this dispute is an intricate one which brings to the forefront analysis of many aspects in art law and is especially important for analyzing the liability of intermediaries in an NFT sale.

2.6. NON-FUNGIBLE TOKENS AND OWNERSHIP

Ownership is one of the most controversial issues in the art world.⁸²⁴ The discussions surrounding the ownership of artwork ranges from the basis of ownership of the artwork, to the analysis of good title on an art work, the discussion of stolen artworks, and the status of looted artworks in time of peace or war.⁸²⁵ Apart from this, there are various rules, and also debates, in various jurisdictions about how ownership is formed, transferred and terminated. It is stated that the perspective on these issues surrounding the concept of ownership will change when non-fungible tokens are involved.⁸²⁶ Some commentators even suggested that the non-fungible tokens will change entirely the concept of ownership.⁸²⁷ For digital artworks, there was no commonly accepted method of proving and transferring the

⁸²⁴ Wilson, 2019, p.128.

⁸²⁵ Wilson, 2019, p.128.

⁸²⁶ Von Appen.; Harfoush, Rahaf, “*Hey, I’m an art collector! How NFTs are changing ownership*”, L’Atelier BNP Paribas, <https://atelier.net/insights/nfts-art-ownership-collecting> 8 October 2021. (last accessed : 30.12.2022)

⁸²⁷ Beckman,p.2; Christie’s, “*10 Things to Know About CryptoPunks the Original NFTs*”, <https://www.christies.com/features/10-things-to-know-about-CryptoPunks-11569-1.aspx>., 8 April 2021.

ownership, which is commonly highlighted as being changed with non-fungible tokens.⁸²⁸

Both from civil law and common law perspectives, the concept of ownership is based on two criteria, which are control and exclusion.⁸²⁹ Thanks to their technicalities mentioned in Sections 1.2. and 1.4. above, the non-fungible tokens seem to satisfy both these criteria⁸³⁰, as they provide a distinct digital identity that cannot be changed,⁸³¹ and the restricted access through a private key given only to the owner of the non-fungible token allows the owner of the non-fungible token to control it as they please in exclusion of others.⁸³²

As digital content is associated with only one single token in a smart contract with non-fungible tokens, the token is owned by only one person with their ownership confirmed, and third parties can only have a copy of that token.⁸³³ This is quite important for demonstrating the ownership of an NFT. Unless there are trustable records or publications on media, demonstrating the ownership of an artwork still can be difficult.⁸³⁴ However currently, the NFTs are generally used to determine the ownership of some digital content.⁸³⁵

However, considerations on the concept of ownership of artworks come to the fore. As noted in the sections above, NFTs are a token of ownership rather than the artwork itself. In addition, owning an NFT does not imply ownership of the underlying artwork, its physical copy, or related intellectual property. Therefore, there is a difference between ownership in the sense of owning a non-fungible token and the full ownership of an artwork. Disputes such as *Free Holdings v McCoy* mentioned above further illustrate this. It has been emphasized that this difference

⁸²⁸ Kugler, Logan, “*Non-Fungible Tokens and the Future of Art*”, Communications of the ACM, 2021, Volume 64, Issue 9, pp.19-20.

⁸²⁹ Von Appen..

⁸³⁰ Von Appen..

⁸³¹ Von Schlenhenried, p.111.

⁸³² Von Appen..

⁸³³ Çağlayan Aksoy/ Üner Özkan, p.1118.

⁸³⁴ Okonkwo, p.303.

⁸³⁵ Koonce/ Carron.

is less in on-chain non-fungible tokens that are deemed as “blockchain-native” and store the artwork entirely on the blockchain.⁸³⁶

The advantages of NFTs to demonstrate their own ownership are directly linked to the discussion in section 2.1.2 above about whether non-fungible tokens can be qualified as property. Because, as stated above, in jurisdictions where non-fungible tokens are not considered as property, the title or transfer of title of non-fungible tokens in some jurisdictions are not yet recognized.⁸³⁷ As also highlighted in section 2.1.2. above, common law jurisdictions have appeared to be more flexible in accepting non-fungible tokens as property. However, various injunction decisions coming slowly from European jurisdictions such as Italy, Spain and Turkey may also be an indicator that civil law countries can also opt for a more flexible approach in the future for practical reasons, too. Whether they will have such a flexible approach,⁸³⁸ and if otherwise, how they would regulate these questions remains to be seen.

Lastly, another novelty in the sense of art ownership coming with the non-fungible tokens is that with the non-fungible tokens, it is possible to own a portion of an artwork.⁸³⁹ While splitting a painting or a sculpture in five pieces is not practical or desired solution, non-fungible tokens by their nature create a more attainable and practical alternative for joint ownership of artworks through tokenization.⁸⁴⁰ This is referred as the fractionalized ownership of art, and albeit not widespread yet, it is said to render art ownership accessible through a smaller amount of investment and shared costs of ownership.⁸⁴¹ The reason why it is not widespread may be that they could amount to having features of securities, as

⁸³⁶ *Guadamuz, The Treachery*, p.1372.

⁸³⁷ Von Appen.; For an overview on the rules of passing of the title in China, France, Germany, Greece, Hong Kong, Italy, Mexico, Switzerland, United Kingdom, Unites States of and America, see *Lexology Getting the Deal Through 2022*, on 12 September 2022, pp.9-11.

⁸³⁸ Von Appen..

⁸³⁹ Çağlayan Aksoy/ Üner Özkan, p.1119.

⁸⁴⁰ Çağlayan Aksoy/ Üner Özkan, p.1119.

⁸⁴¹ See Wilson, 2022, p.50.

discussed in Section 2.1.4. above, and therefore may be expecting regulation before widespread use.⁸⁴²

2.7. NON-FUNGIBLE TOKENS AND AUTHENTICITY OF AN ARTWORK

The authenticity of an artwork has its own situational definition.⁸⁴³ An artwork is considered authentic in the if the artwork is believed to be it: if it has the production history that it is portrayed as having or gives the appearance of having, if it was made where, when, how, and by whom it is believed to have been created.⁸⁴⁴ A philosophical definition of authenticity for original artworks was provided by the philosopher Walter Benjamin in his work titled “*The Work of Art in the Age of Mechanical Reproduction*”:⁸⁴⁵

*In even the most perfect reproduction, one thing is lacking: the **here and now** of the work of art-its unique existence in a particular place. It is this **unique existence**-and nothing else-that bears the mark of the history to which the work has been subject. This history includes changes to the physical structure of the work overtime, together with any changes in ownership. **Traces of the former can be detected only by chemical or physical analyses (which cannot be performed on a reproduction)**, while changes of ownership are part of a tradition which can be traced only from the standpoint of the original in its present location.*

⁸⁴² Wilson, 2022, p.50.

⁸⁴³ For the etymological roots of the word authentic, see:
<https://www.etymonline.com/word/authentic>.

⁸⁴⁴ Encyclopedia, Authenticity in Art: <https://www.encyclopedia.com/humanities/encyclopedias-almanacs-transcripts-and-maps/art-authenticity>.

⁸⁴⁵ Walter Benjamin, *The Work of Art in the Age of Its Technological Reproducibility*, Jennings, Michael W./ Doherty, Brigid/ Levin, Thomas Y., 2008, Harvard University Press, London.

Swiss art and culture historian Jakob Burckhardt theories that the phenomenon of individualism that emerges in the Renaissance era, led to the foreground of authenticity in art as well.⁸⁴⁶ Art historian and professor Alexander Nagel furthers this fact by theorizing that although art forgery was long time present in Asia, however in Europe art forgery became more prevalent in the 16th century (not before Renaissance), as the appreciation of art began focusing on the provenance and historical context of the work along with its originality and authenticity.⁸⁴⁷ Thus, the value and quality of an artwork began to be connected to its artists.⁸⁴⁸

The authenticity of an artwork therefore determines the value placed on an aesthetic object.⁸⁴⁹ In the context of sales at auctions or individual sales, there is a large vocabulary of phrases that explain the various levels of authenticity.⁸⁵⁰ Therefore, it is important to somehow confirm and demonstrate the authenticity of the artwork. There are numerous techniques to confirm the authenticity of an artwork. Typically, documentation, aesthetic analysis, and scientific verification are used to authenticate an artwork.⁸⁵¹

It is highly recommended to artwork buyers to obtain and sustain the relevant certificate of authenticity.⁸⁵² Authenticity certificates, which are written

⁸⁴⁶ Burckhardt, Jacob, "The Civilization of the Renaissance in Italy", Middlemore, S.G.C. (trans.), <https://web.archive.org/web/20081003000844/http://www.boisestate.edu/courses/hy309/docs/burckhardt/2-1.html>.

⁸⁴⁷ Nagel, Alexander, "*Beyond the Relic Cult of Art, the Held Essays on Visual Art*", Neil, Jonathan T.D.(Ed.), the Brooklyn Rail, July-August 2014, pp.27.

⁸⁴⁸ Holmes, William, "*What the NFT Craze Means for IP Law*", <https://www.legalcheek.com/lc-journal-posts/what-the-non-fungible-token-craze-means-for-ip-law> 12 March 2021

⁸⁴⁹ The Dictionary of Art, Jane Turner(Ed.), 1996, Macmillan Publishing, Nelson Goodman, Volume II Authenticity, p.834.

⁸⁵⁰ Wilson, 2019, pp.109-110. This vocabulary includes expressions such as "*after [...], attributed to [...], circle of [...], follower of [...], manner of [...], signed/dated/inscribed [...], studio of/workshop of [...], with signature/with date/with inscription [...]*" For the explanation of each term of this vocabulary, see Wilson, 2019, pp.19-20.

⁸⁵¹ Lerner/Bresler, Volume I, p.320.

⁸⁵² von Habsburg, Elizabeth/ Goodman, Rachel/ Johns, Gurr/ McAndrew, Claire, "Art Appraisals, Prices and Valuations", McAndrew, Claire (Ed.), *Fine Art and High Finance: Expert Advice on the Economics of Ownership*, Bloomberg Press, New York, 2010, p.45.

confirmations of the authenticity of an artwork provided by the artist, a scholar, a qualified authority, or another competent organization, are obtained for verifying the authenticity of an artwork.⁸⁵³ In fact, in some cases, the potential value of art depends on the certificate of authenticity as much as the artwork itself.⁸⁵⁴

However, despite all kinds of techniques and to high level of expertise of the confirming the authenticity of an artwork, there is always a risk of undetected forgery and fake artworks.⁸⁵⁵ The completion of a work left unfinished by the artist, the copying of a specific original work of art, the use of another artist's style to create a work otherwise original in subject matter, and the assemblage of various compositional elements from original paintings to produce new compositions attributed to a specific artist are all examples of techniques used to simulate fake artworks.⁸⁵⁶ Currently the art market is unfortunately infested with authenticity concerns for artworks.⁸⁵⁷

It has been underlined that; especially contemporary art has brought many different challenging questions for authenticating works.⁸⁵⁸

With the development of blockchain technology, new discussions about authenticity verification began to emerge.⁸⁵⁹ For the last several years, it has been underlined in the art world that blockchain technology can serve to establish authenticity.⁸⁶⁰ This has been an exciting technology in all circles, especially as it allows for authentic work and provenance to be recorded.

It is also stated that digital artworks, which can be copied very easily, would benefit greatly from blockchain technology in terms of provenance and

⁸⁵³ Wilson, 2019, p.16.

⁸⁵⁴ von Habsburg / Goodman / Johns / McAndrew, p.45. The authors use the example of Dan Flavin, an artist famous for his abstract light installations.

⁸⁵⁵ Beckman,p.21.

⁸⁵⁶ Lerner/Bresler, Volume I, p.286.

⁸⁵⁷ Von Appen..

⁸⁵⁸ von Habsburg / Goodman / Johns / McAndrew, p.45.

⁸⁵⁹ Wilson, 2019, pp.144-145.

⁸⁶⁰ Wilson, 2019, pp.144-145.

authenticity.⁸⁶¹ (save for the possibility of changing the blockchain record and hacking.)

While it seemed possible to link digital artworks with blockchain, it was a question of how this link would be made for non-digital artworks.⁸⁶²

A new wave of discussions came to the forefront with the introduction of non-fungible tokens onto the scene. Although, a non-fungible token of a digital artwork does not guarantee that the person who mints that non-fungible token from that artwork is the real author, as we mentioned above, or even that the non-fungible token in question was created by obtaining all the relevant rights from the said author; non-fungible tokens can be very important in establishing authenticity as an indicator.

For example, if a digital artist establishes a connection to an NFT at the time of first revealing their artwork, then doubts about that digital creator of that artwork being that person will be reduced. (again, without prejudice to hacking and security risks.) Or, if an artist producing a physical work of art enters the first information about the work into the metadata of the non-fungible token, the non-fungible token will act as a kind of authenticity certificate for that work, and its further safe transfer will be possible, as long as the address of the person entering the information is confirmed. NFTs seem to have big potential in this regard as they represent unique tokens.

Thanks to the advanced traceability, it is relatively easier to avoid fakes of non-fungible tokens than with conventional artworks.⁸⁶³ Indeed, the non-fungible tokens have the potential to infer whether a code of an NFT has been manipulated, and therefore not authentic.⁸⁶⁴ Therefore, the possibility to confirm the authenticity

⁸⁶¹ Wilson, 2019, pp.144-145.

⁸⁶² Wilson, 2019, pp.144-145.

⁸⁶³ Beckman, p.4.

⁸⁶⁴ Gourvenec, Yann, “*Behind the scenes of an Art auction with NFTs*”, Podcast, <https://visionarymarketing.com/en/2022/02/art-auction-nfts/>

of the non-fungible token contributes to its value as well.⁸⁶⁵ Some authors have adopted the stance that non-fungible tokens get their worth from the fact that, as the finished result, they are unquestionably the legacy of the original author (or the copyright owner).⁸⁶⁶ For instance, in the case of NFTs, it was stated that when the Beeple or Jack Dorsey tweet sales took place, the great prices were not due to the intrinsic values of the non-fungible tokens in question, but due to the fame and popularity of its creator.⁸⁶⁷

2.8. NON-FUNGIBLE TOKENS AND PROVENANCE OF AN ARTWORK

The term provenance comes from the French word *provenir*, which means “to come from, to be result of.”⁸⁶⁸ The English term provenance has a dual meaning⁸⁶⁹ referring both to the origins and to the history of ownership⁸⁷⁰, of an (in most cases, movable⁸⁷¹) artwork.⁸⁷² Generally, the current use of the term refers to the latter meaning of the term provenance, meaning the history or chain of ownership of the artwork.⁸⁷³ There can be various reasons explaining this inclination to use the latter meaning. One of the reasons can be deduced that the origin (most likely the creator and her whereabouts) is also inherent to the chain of ownership. Another reason is stated as the augmented importance of the chain of ownership of artworks evidenced by the restitution claims made by the victims of

⁸⁶⁵ Expoverse.

⁸⁶⁶ Okonkwo, pp.299, 302.

⁸⁶⁷ Holmes, William, “*What the NFT Craze Means for IP Law*”, <https://www.legalcheek.com/lc-journal-posts/what-the-non-fungible-token-craze-means-for-ip-law> 12 March 2021

⁸⁶⁸ Collins Dictionary, “Provenir”, <https://www.collinsdictionary.com/dictionary/french-english/provenir>.

⁸⁶⁹ Wilson, 2019, pp.69-70.

⁸⁷⁰ Beckman, p.10.

⁸⁷¹ The Dictionary of Art, Jane Turner (Ed.), 1996, Macmillan Publishing, Michael Jaffé, Volume XXV Provenance, p.663.

⁸⁷² von Habsburg / Goodman / Johns / McAndrew, p.56.

⁸⁷³ Wilson, 2019, pp.69-70.

Nazi looted art⁸⁷⁴ or cultural property source countries⁸⁷⁵ for illicit antiquities trading. In addition, the word “provenience” commonly used in archeology⁸⁷⁶ meaning the location or exact spot of the object’s discovery⁸⁷⁷ can be used in the former meaning, leaving the word “provenance” more commonly to be used for history or chain of ownership of the artwork.

The various information provided by auction records, records of conversation, sale documentation and other resources form the basis of the provenance.⁸⁷⁸ This way, provenance, which constitute ideally a complete and dependable record of the work since it left the creator’s hand usually, is solicited for answering the questions surrounding authenticity as to where, when and by whom an artwork was created.⁸⁷⁹

Historically, artwork collections started to see physical provenance registries attached to the artwork itself in the 17th century and accelerated its importance in the art world in the 20th century.⁸⁸⁰

⁸⁷⁴ Wilson, 2019, pp.69-70.

⁸⁷⁵ Source countries are defined as countries producing high volume of desirable cultural property (such as nations like Mexico, Egypt, India, Turkey, Greece) as opposed to market countries which buys and receives cultural property and whose demand for cultural property exceeds the internal supply (such as United States, Switzerland and Germany). See Merryman, John Henry, “*Two Ways of Thinking About Cultural Property*”, *The American Journal of International Law*, 1986, Volume 80, Issue 4, p. 832.; Roehrenbeck, Carol A., “*Repatriation of Cultural Property—Who Owns the Past? An Introduction to Approaches and to Selected Statutory Instruments*”, *International Journal of Legal Information*, 2010, Volume 38, Issue 2, Article 11, p.189.

⁸⁷⁶ Price, T. Douglas/ Burton, James H., “*Provenience and Provenance*”, *An Introduction to Archaeological Chemistry*, Springer, 2011, pp.213-242.; Colburn, Henry P., “*Provenience vs provenance*”, <https://henrycolburn.hcommons.org/2019/05/22/provenience-vs-provenance/>, 22 May 2019.

⁸⁷⁷ Levine, J. A., “*Importance of provenance documentations in the market for ancient art and artifacts: the future of the market may depend on documenting the past*”, *the DePaul Journal of Art, Technology and Intellectual Property Law*, 2009, Volume 19, Issue 2, f.n.9.

⁸⁷⁸ Levine, J. A., “*Importance of provenance documentations in the market for ancient art and artifacts: the future of the market may depend on documenting the past*”, *the DePaul Journal of Art, Technology and Intellectual Property Law*, 2009, Volume 19, Issue 2, pp.229-232; von Habsburg / Goodman / Johns / McAndrew, p.56.

⁸⁷⁹ *The Dictionary of Art*, Jane Turner (Ed.), 1996, Macmillan Publishing, Nelson Goodman, Volume II Authenticity, p.834.

⁸⁸⁰ *The Dictionary of Art*, Jane Turner (Ed.), 1996, Macmillan Publishing, Michael Jaffé, Volume XXV Provenance, p.664.; For a detailed history of provenance research, see: Tompkins, Artur, “*The History and Purposes of Provenance Research*”, Artur Tompkins (Ed.), *Provenance research today: Principles, practice, problems*, Lund Humphries, 2020, pp 16-24.

Provenance is a delicate matter for the art market. It certainly provides great insight for dealers and buyers about the authenticity and the background of the artwork. It enables the actors of the art market to deflect many serious, criminal, civil and reputational risks.⁸⁸¹ The provenance of an artwork is also one of the elements determining the attractiveness⁸⁸², therefore the value of an artwork.⁸⁸³ A distinguished, orderly provenance is not only an indication of accurate attribution but may be of quality of the artwork.⁸⁸⁴ The fact that an artwork was previously owned by some famous people or celebrity also contributes to the value of the artwork.⁸⁸⁵ And lastly, provenance information is of great importance when there is an art and antiquities dispute, as the records provide a legal basis for restitution claims and constitute evidence to authenticity of an item.⁸⁸⁶

There are usually specialized provenance researchers in order to trace and prove the ownership history of an artwork.⁸⁸⁷ Considering temporal factors, older artworks require much more complex and detailed provenance works, as the chain of ownership prolongs.⁸⁸⁸ Therefore it has been suggested that contemporary investors are more interested in collecting contemporary artworks, for which ownership and provenance questions are less complicated than older artworks.⁸⁸⁹

The nature of precious artworks and antiquities and their trade has suggested for long time that, in spite of even the most thorough and strict controls and

⁸⁸¹ Levine, J. A., “*Importance of provenance documentations in the market for ancient art and artifacts: the future of the market may depend on documenting the past*”, the DePaul Journal of Art, Technology and Intellectual Property Law, 2009, Volume 19, Issue 2, p.224.

⁸⁸² Wilson, 2019, p.70.

⁸⁸³ von Habsburg / Goodman / Johns / McAndrew, p.45; Wilson, 2019, p.70; Amineddoleh, Leila, “*The Role of Provenance in Resolving Art-World Disputes*”, Artur Tompkins (Ed.), Provenance research today: Principles, practice, problems, Lund Humphries, 2020, pp 35.

⁸⁸⁴ The Dictionary of Art, Jane Turner (Ed.), 1996, Macmillan Publishing, Michael Jaffé, Volume XXV Provenance, p.664.

⁸⁸⁵ von Habsburg / Goodman / Johns / McAndrew, pp.47, 55,56

⁸⁸⁶ Amineddoleh, Leila, “*The Role of Provenance in Resolving Art-World Disputes*”, Artur Tompkins (Ed.), Provenance research today: Principles, practice, problems, Lund Humphries, 2020, pp 25-37.

⁸⁸⁷ See in general: Provenance research today: Principles, practice, problems, Tompkins, Arthur Tompkins (Ed.), Lund Humphries, 2020.

⁸⁸⁸ von Habsburg / Goodman / Johns / McAndrew, p.56.

⁸⁸⁹ von Habsburg / Goodman / Johns / McAndrew, p.56.

provenance researching attempts, most of the artworks and antiquities will always continue to have incomplete and undocumented provenances.⁸⁹⁰ In addition, there have been cases of fabricated provenances, both due to dishonest practices such as forgeries and carelessness.⁸⁹¹

However, thanks to the blockchain technology, the non-fungible tokens are more unlikely to be subject to this concern. As each owner of the non-fungible token is automatically carved onto the token, the provenance chain of the non-fungible token is quite clear and open to the public. This way, the non-fungible tokens, except for cases where blockchain records are somehow hacked or altered, will have the chance to greatly aid the resolution of the provenance question. Furthermore, as the previous owners can be easily seen and will be kept permanently on the blockchain, this will boost the market vivacity of the non-fungible tokens. In a way, once one purchases an NFT, the chain of ownership up to the time of the purchase also becomes a part of the elements offered by the sale.⁸⁹²

Taking into consideration the smashing success of some second-hand item sales⁸⁹³ in auction or private sales, it is not uneasy to see that this chain of ownership will certainly be determining in the future value of a non-fungible token. In that respect, it is possible that in future as well, even the date, order or rank of ownership of that non-fungible token will be an element of determining its value.

It is indeed beneficial that determining the provenance of an NFT is easy. However, one must keep in mind that, when an NFT is minted from an underlying work, the provenance of that very NFT will be obvious, however, from the same

⁸⁹⁰ The Dictionary of Art, Jane Turner (Ed.), 1996, Macmillan Publishing, Michael Jaffé, Volume XXV Provenance, p.665.

⁸⁹¹ The Dictionary of Art, Jane Turner (Ed.), 1996, Macmillan Publishing, Michael Jaffé, Volume XXV Provenance, p.665.

⁸⁹² Beckman, pp.4, 18.

⁸⁹³ In order to see the hype and the astronomic amounts paid for celebrity memorabilia such as Michael Jackson's famous white glove, Princess Diana's dark blue gown she sported while dancing with John Travolta, and Elizabeth Taylor's jewelry connection, see: McDowell, Erin, "25 of the Most Expensive Celebrity Memorabilia Items Sold At Auction", Business Insider, https://www.businessinsider.com/most-expensive-celebrity-memorabilia-items-sold-at-auction_18 May 2020.

underlying work, thousands of non-fungible tokens can be created. In this sense, the possibility of proliferating non-fungible tokens for an underlying artwork does not contribute too much for determining the provenance of the artwork itself. There seems to be no method present yet to prevent this, however, creating a framework which accepts and states that for artworks, be it digital or tangible, there should be only one non-fungible token which provides authentic information relating to the provenance of the artwork can be beneficial. This way, non-fungible tokens can serve as an inalterable provenance certificate.

2.9. NON-FUNGIBLE TOKENS AND THEIR EFFECT ON ARTISTS

The convergence of digital art, blockchain technology and cryptocurrencies has caused a shift in the art market. Non-fungible tokens are a part of this shift, and provide many opportunities for artists, who are the creator group of the market.⁸⁹⁴ Indeed, many visual artists saw great potential in NFTs for increasing their various revenues and enhanced potential uses of their art.⁸⁹⁵ Some of them qualified the non-fungible tokens as “transformative mediums” which constitute a conceptual art movement, having the potential to go as far as extending the perception of what art is.⁸⁹⁶

As someone who has spent his creative life in a system where data is infinitely movable and copyable, Kevin McCoy, an artist and professor in the Department of Art and Art Professions at New York University, and the creator of Quantum, which is thought to be the first non-fungible token on the Namecoin blockchain, explains that he was struck by Bitcoin's transparency, open-source nature, and the simultaneous existence of ubiquity and scarcity. He made the

⁸⁹⁴ Resch.

⁸⁹⁵ Beckman, p.5.

⁸⁹⁶ Whyte, Luke, “*From Dada to digital: Discussing NFTs and Art World Disruption with Renowned Artist and Director Marco Brambilla*”, <https://exainc.com/edition/from-dada-to-digital/>. 17 June 2021.

decision to employ the technology for digital art because they realized how Bitcoin might benefit digital artists and open new possibilities for the medium.⁸⁹⁷ Therefore, as early as 2013, he wrote in his paper:

*One big issue in the art world right now is buying and selling digital-based media. Although there are some interesting efforts made to address this issue, often artists resorted to making some kind of physical output or embodiment of digital code objects that can circulate more easily within the existing art market. I am interested in developing a method or system where a **contractual ownership token** or message **can be embedded within a blockchain transaction**. This way, **artists working digitally can present their work in its native form on the internet**. At the same time, they would have a mechanism for selling it to a collector who would have a **verifiable and secure way of showing ownership and transferring ownership** to another party.⁸⁹⁸*

These ideas actually seem to have come to life with non-fungible tokens, and they are among the reasons why there has been great excitement for non-fungible tokens in the artist community.

In addition, non-fungible tokens have created the belief within the creators that despite the art market has been in general secluded for a small community of non-diverse actors as mentioned in Section 1.6. above, the innovative and dynamic nature of the non-fungible tokens market is more open for the access and entry of artists from all around the globe, which promises more equal opportunities for all.⁸⁹⁹

⁸⁹⁷ McCoy, Kevin, “*Art and NFTs: Past and Future*”, Columbia Journal of Law & the Arts, 2022, Volume 35, pp.354.

⁸⁹⁸ mccoyspace, Comment to Using the Blockchain as a Method for Assigning Ownership of DigitalArtworks?, BITCOIN TALK(Oct. 24, 2013, 4:20 AM), <https://perma.cc/5MJJ-EAXF>. (Emphasis added).

⁸⁹⁹ ArtTactic (Host). ArtTactic's Anders Petterson on the State of the NFT Market [Audio podcast episode] in *ArtTactic Podcast*, <https://soundcloud.com/arttactic/arttactics-anders-petterson-on-the-state-of-the-nft-market>.

2.9.1. Monetizing digital creations

The reason for the excitement for non-fungible tokens by many artists was explained by many causes, *inter alia*, the potential of the NFTs to provide a viable mechanism for monetizing digital art, which was conventionally quite difficult to do.⁹⁰⁰ NFTs indeed serve the opportunity for digital art works to give their creators traceable profit opportunities. Therefore, trading of copyright protected art works in digital space was qualified as disruptive.⁹⁰¹ In that respect, the NFTs are said to be brand-new way of commercializing intellectual property.⁹⁰² The opportunity to earn royalties from resales thanks to enhanced traceability and automation gives the artists an unparalleled chance to earn from their creations.⁹⁰³ As non-fungible tokens allow the authenticity and tracking of the ownership of artworks, artists have more control over their creations.⁹⁰⁴ Moreover, the possibility of payment of royalties to the original creator or the owner of a non-fungible token, enables the artists to enjoy second market benefits.⁹⁰⁵

NFTs are also value creating for artists, in the sense that they offer opportunities to the artists not only for secured financial returns for their works but also the chance to present the underlying artwork to the public.⁹⁰⁶

2.9.2. Reducing intermediaries

Another rather disruptive point for the art market is that non-fungible tokens can decrease the effect of intermediaries of the art market.⁹⁰⁷ These intermediaries,

⁹⁰⁰ Kasdan, *Don't Write Off NFTs.*; Vander Woude / Tan, p.37.

⁹⁰¹ Okonkwo, p.297.

⁹⁰² Okonkwo, p.297, 304.

⁹⁰³ Resch.

⁹⁰⁴ Beckman,p.48; Resch.

⁹⁰⁵ Mahmood, G./ Naftalis J./ Ye WV, "NFTs: What Are You Buying and What Do You Actually Own?", The Fashion Law, <https://www.thefashionlaw.com/nfts-what-are-you-buying-and-what-do-you-actually-own/> 18 March 2021.

⁹⁰⁶ Beckman,p.57.

⁹⁰⁷ Beckman,pp.49, 57-58.

which traditionally are dealers and auction houses⁹⁰⁸, can be reduced according to the choice of the artist. Because in theory, the non-fungible tokens can very easily be created, promoted, put up for sale directly and sold, all by the efforts of the artist, without any intermediary.⁹⁰⁹ This allows more power, more economic benefit, more room for flexibility and more independence for artists.

On the other hand, as will be explained in more detail in Section 3.6. below, the market for non-fungible tokens is a market with many risks, uncertainties, and concerns. Non-transparent NFT market behavior as will be mentioned in Section 3.7.2 below could harm solo artists greatly. The artists may require the assistance of larger or more established institutions with a good understanding of the art market and therefore less susceptible to manipulation and speculation, to increase their effectiveness in this complex and unclear market. Therefore, experienced intermediaries, well-established art galleries and auction houses, can be important actors for regulating the market and protecting less entrepreneurial and novice standalone artists.⁹¹⁰

In addition, the artists who would like to benefit from the lack of intermediaries will have to become more entrepreneurial⁹¹¹ and dedicate more time to the business and management of their creations, maybe even more time than for their creative process. In that respect, as indicated in Section 1.5.2 above, creating a community is very important for the success of a non-fungible token project. Therefore, the contribution of an intermediary with great insight and experience regarding how to build and engage with the community should not be disregarded.

⁹⁰⁸ McAndrew, p.10.

⁹⁰⁹ Beckman, pp.49, 57-58.

⁹¹⁰ Wilson, Martin, on “*Madonna, Justin Bieber, Paris Hilton and others accused of fraud in star-studded NFT lawsuit*”, https://www.linkedin.com/posts/activity-7009450555827716096-9DPw?utm_source=share&utm_medium=member_desktop; Akers, Torrey, *Madonna, Justin Bieber, Paris Hilton and others accused of fraud in star-studded NFT lawsuit*, <https://www.theartnewspaper.com/2022/12/14/celebrities-accused-fraud-bored-ape-yach-club-nft-lawsuit-celebrities>, 14 December 2022.

⁹¹¹ Resch.

THIRD CHAPTER

VARIOUS REGULATORY CONCERNS SURROUNDING NON-FUNGIBLE TOKENS AND THE FUTURE

3.1. IN GENERAL

In spite of the increased use cases and the fluctuating hype, the creation, offer, trading and taxation of non-fungible tokens remain to be largely unregulated and fractured globally.⁹¹²

This is because, blockchain technology, with its decentralized and worldwide nature, presents challenges for governments in terms of regulation and control.⁹¹³ The transnational scope of blockchains means that traditional methods of regulation may not be effective, leading to questions about how to effectively govern and potentially constrain these systems.⁹¹⁴ This is particularly relevant for decentralized applications and services that operate on a global scale.⁹¹⁵

The difficulties of making a legal definition of non-fungible tokens were mentioned in Section 2.1 above. Many problems start from here. Therefore, it will not be possible to answer the questions on regulation without fully making legal classifications and developing the case law on this subject. However, it is also possible that both definition and other regulatory questions can be resolved gradually in the light of comprehensive regulatory texts.

As mentioned separately in the sections above, jurisdictions where NFTs are defined and regulated categorically are not currently in the majority. The situation is parallel in the European Union, where non-fungible tokens have not yet found

⁹¹² Huertas / Hinkl, p.132.

⁹¹³ Wright, Aaron/De Filippi, Primavera, Blockchain and the Law: The Rule of Code, Harvard University Press, 2018, p.35.

⁹¹⁴ Wright / De Filippi, p.35.

⁹¹⁵ Wright / De Filippi, p.35.

their places in the European financial regulations or other framework.⁹¹⁶ When viewed within the scope of the European Union legislation, it is seen that NFTs are regulated neither within the scope of Financial Instruments Regulations and Directive (MiFIR/MiFID), nor money laundering legislation, nor the market abuse regulation, nor the European Union's proposed Regulation on Markets in Cryptoassets (MICA), which is expected to be fully operational by 2024.⁹¹⁷

Especially draft MICA's exclusion of the non-fungible tokens, which was explicitly done in the Article 2a of the proposal which reads "*This Regulation does not apply to crypto-assets that are unique and not fungible with other crypto-assets.*"⁹¹⁸, flamed the discussions, as it was a recent and seemingly suitable candidate for the regulation of the non-fungible tokens. As a commentary to this expression, Peter Kerstens from the European Commission indicated that even if a given token is named as a non-fungible token and is unique, if that token has been issued as a collection or as a series, then there is a possibility that that token will not be covered by the exemption provided in Article 2a of the MICA and therefore will not be regulated by MICA.⁹¹⁹

On the other hand, it must be mentioned that while there is not yet clear delimitation and definition regulations throughout the world for non-fungible

⁹¹⁶ Huertas / Hinkl, p.132.

⁹¹⁷ Huertas / Hinkl, p.132.; Schickler, Jack, "*Lawmakers Overwhelmingly Back EU's MiCA Crypto Law in Committee Vote*", <https://www.coindesk.com/policy/2022/10/10/lawmakers-back-eus-mica-crypto-law-in-committee-vote/>, 10 October 2022.; In the statement of the European Council and the European Parliament of 30 June 2022, it was declared that non-fungible tokens "*will be excluded from the scope [of MICA] except they fall under existing crypto-asset categories. Within 18 months the European Commission will be tasked to prepare a comprehensive assessment and, if deemed necessary, a specific, proportionate and horizontal legislative proposal to create a regime for NFTs and address the emerging risks of such new market.*" See European Council Press Release of 30 June 2022, "*Digital finance: agreement reached on European crypto-assets regulation (MICA)*" <https://www.consilium.europa.eu/en/press/press-releases/2022/06/30/digital-finance-agreement-reached-on-european-crypto-assets-regulation-mica/>.

⁹¹⁸ Draft MICA, Article 2a, at <https://data.consilium.europa.eu/doc/document/ST-13198-2022-INIT/en/pdf>.

⁹¹⁹ Ligon, Cheyenne/ Schickler, Jack, "*NFT Collections Will Be Regulated Like Cryptocurrencies Under EU's MiCA Law, Official Says*", <https://www.coindesk.com/policy/2022/08/10/nft-collections-will-be-regulated-like-cryptocurrencies-under-eus-mica-law-official-says/>, 10 August 2022.

tokens, many governments, regulators and international organizations have issued various working documents such as consultation papers and reports, which analyze non-fungible tokens' effect on various legal areas.⁹²⁰ This demonstrates that there indeed is a desire to understand and regulate this new technology.⁹²¹

One good example, albeit not being non-fungible token specific, is the Draft UNIDROIT Principles on Digital Assets and Private Law.⁹²² Although these technology and business model neutral principles are not strictly legally binding but meant to serve states to enable their private laws to conform with international standards and best practices relating to the holding, transfer and use as collateral of digital assets,⁹²³ they serve as a good starting point for creating parallel regulations, as they set out rules for the core concepts indicated within the principles, such as proprietary aspects, control, custodians, transfer and secured transactions.⁹²⁴ However, it is important to highlight that these Draft Principles refer to the questions surrounding the digital assets from a more general perspective, with reference to some core concepts, and do not address all issues, such as intellectual property, consumer protection, contract and property law questions.⁹²⁵

Absent parallel regulations, the rules to be applied to the non-fungible tokens and the evaluation of risks inherent to the non-fungible tokens are required

⁹²⁰ An example of these publications include Ministère de la Culture de la France, Conseil Supérieur de la Propriété Littéraire et Artistique, Publication du rapport sur les NFT (jetons non-fongibles), 12 July 2022 at https://www.culture.gouv.fr/content/download/313845/pdf_file/Communique%CC%81%20de%20presse%20CSPLA%20-%20Publication%20rapport%20NFT%2012%2007%2022.pdf?inLanguage=fr-FR; PwC Global Crypto Regulation Report 2023, at <https://www.pwc.com/gx/en/new-ventures/cryptocurrency-assets/pwc-global-crypto-regulation-report-2023.pdf>.

⁹²¹ See in general, PwC Global Crypto Regulation Report 2023, at <https://www.pwc.com/gx/en/new-ventures/cryptocurrency-assets/pwc-global-crypto-regulation-report-2023.pdf>.

⁹²² Draft UNIDROIT Principles.

⁹²³ Draft UNIDROIT Principles, Commentary 1(1).

⁹²⁴ Draft UNIDROIT Principles, Introduction, IV. Core Concepts.

⁹²⁵ McCann Fitzgerald, "*International draft principles to facilitate transactions in digital assets*", <https://www.mccannfitzgerald.com/knowledge/disputes/international-draft-principles-to-facilitate-transactions-in-digital-assets>, 24 February 2023.

to be analyzed on a case-by-case basis in each jurisdiction⁹²⁶ where a question relating to the non-fungible tokens arises. As the non-fungible tokens are traded in a cross-border environment⁹²⁷, with many actors dissipating to different jurisdictions, it would be ideal if various jurisdictions undergo similar regulatory development and reach to interoperable regulatory rules. However, the question whether this unification is feasible is to be seen by upcoming working papers, court decisions and eventually legislations adopted by different legislations, as different states already have different approaches for different law domains.

3.2. NON-FUNGIBLE TOKENS AND DISPUTE RESOLUTION

Non-fungible tokens can be very useful *as a tool* for traditional dispute resolution methods. Indeed, non-fungible tokens can record various documents, including the ones which demonstrate ownership, title deeds, intellectual property rights, licenses, trademarks, and patterns permanently on the blockchain.⁹²⁸ As they are tokens which serve as certificates that are indestructible and permanent, they can, for example, be used to record the contract between some parties, and when there is a dispute, the contract can be found via this non-fungible token easily. Or, they can be used to minimize procedures which require registration and serve as the legal basis of some rights and claims. For example, if a non-fungible token is to be used instead of a title deed in the future in the purchase and sale of a house; the waste of time and the necessary formalities in going to the registry will be reduced, and the non-fungible token in question will be able to ensure that the information in question is provided permanently to everyone involved. After all, the current procedures involve documents which are generally notarized or otherwise approved by other authorities to be registered. Registration provides the effect for that information to be known by everyone, and therefore, these documents can serve as

⁹²⁶ Huertas / Hiki, p.132

⁹²⁷ Huertas / Hiki, p.132

⁹²⁸ Çağlayan Aksoy/ Üner Özkan, p.1119.

legal evidence when there are claims. In that sense, non-fungible tokens are capable of fulfilling the function of entries into a digital public register.⁹²⁹

In cases where *the dispute to be resolved is related to non-fungible tokens*, on the other hand, gives rise to serious questions and problems due to existing uncertainties, irregularities and technical inadequacies.

The decentralized and global unique nature of blockchain technology, highlighted in many parts of this study, poses many challenges for the resolution of disputes between the involved parties. Non-fungible token transactions take place on the decentralized blockchain and generally via crypto tokens.⁹³⁰ Even if the wallet address of the transacting parties and the metadata linked to them can be seen, this is not sufficient to connect them to an actual person and derive information necessary, such as the name or address of the parties.⁹³¹ This situation creates problems from the very beginning regarding who the counterparty is, and how and under which rules any dispute will be resolved. Such problems lead to the development of practical applications arising from the compelling circumstances such as service of litigation documents to the counterparties via email, messaging applications of crypto wallets, or other non-fungible tokens as mentioned in Section 1.3.3. above.

3.2.1. Jurisdiction and Applicable Law

As mentioned above, in non-fungible token transactions, anonymity tends to be high for both the purchaser and the seller, with their location or geographical information potentially remaining unknown. This anonymity, combined with the absence of conflict of law provisions, has often raised major jurisdictional questions for blockchain, which included where the filing of a lawsuit should be carried out and which law should be the applicable law.⁹³²

⁹²⁹ Von Appen.

⁹³⁰ Drylewski/ Levi.

⁹³¹ Çağlayan Aksoy/ Üner Özkan, p.1120.

⁹³² Çağlayan Aksoy/ Üner Özkan, pp.1119-1120.

As more disputes will occur in the context of the NFTs, the case law will illuminate the question of jurisdiction with the assessment of the courts.

However, although there will be some difficulties, it is inevitable to develop certain rules and practices for the solution of these questions. As a matter of fact, as indicated in the previous sections, it has been observed that in some disputes brought before the courts so far, judges have made determinations about jurisdiction and applicable law.⁹³³ For instance, Singapore court's decision indicated above in Section 2.1.3.2 adopted a practical and teleological approach, by stating that the claimant should not be prevented from having recourse to injunction, just because the defendant is unknown.⁹³⁴ Another example is the Draft UNIDROIT Principles on Digital Assets and Private Law, which, also giving effect to party autonomy for applicable law, takes the primary position that the applicable law regarding proprietary issues is the domestic law of the State expressly specified in the digital asset, and if this does not apply, the domestic law of the State expressly specified in the system or platform on which the digital asset is recorded.⁹³⁵ Furthermore, these Principles provide that "*in respect of procedural matters, including enforcement, relating to digital assets, other law applies.*"⁹³⁶ The accuracy and acceptability of these determinations and rules are to see, and it seems that it could take some more time to fully resolve the real enforceability and enforcement issues, but these uncertainties will decrease as more disputes come to court and scholarly studies on this subject increase.

3.2.2. Alternative dispute resolution

As mentioned in the 1.3.3. above, it is clear that professionals, who would be involved in the pre-dispute and dispute phases surrounding non-fungible tokens

⁹³³ See Section 2.3 and 2.5 above.

⁹³⁴ Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE), [2022] SGHC 264 ¶¶ 38.

⁹³⁵ Draft UNIDROIT Principles, Principle 5 Conflict of Laws.

⁹³⁶ Draft UNIDROIT Principles, Principle 18 Procedural Law Including Enforcement. "Other Law" is defined in the Principle 2 Definitions in the Draft UNIDROIT Principles as "*a State's law to the extent that it is not Principles law.*"

from the legal sector, must have a basic technical understanding of blockchain technology, and the functioning of non-fungible tokens essentially. Furthermore, considering the disputes surrounding the non-fungible tokens will fusion questions belonging to many areas of law, from intellectual property law to commercial law, these professionals must be adequate in various areas to handle any pre-dispute or dispute phases. In this context, “adequacy” is used to define the quality of a legal professional who is assertive in their fundamental legal knowledge, and also are flexible, open-minded, creative⁹³⁷, and solution-oriented enough to act and solve unconventional questions.

As mentioned in Chapter 1.6. above, the amount of non- fungible tokens investments and increased number of transactions are quite high, despite some fluctuations in popularity. Therefore, it is not realistic to think that high volume of disputes would not arise in such a market.⁹³⁸

Considering the pace of development of blockchain technologies, it is stated that traditional courts have generally been slow in resolving blockchain-related disputes.⁹³⁹

It has been stated that smart contracts and NFTs should have a separate dispute resolution mechanism for the disputes related to them⁹⁴⁰, and various methods have been presented about what these mechanisms might be.⁹⁴¹

⁹³⁷ Bukiel, Pawel, “*NFT-related disputes: How do you resolve them?*”, Schonherr, <https://www.schoenherr.eu/content/nft-related-disputes-how-do-you-resolve-them/>, 3 January 2022.

⁹³⁸ Schmitz, Amy J., “*Resolving NFT and Smart Contract Disputes*” The Cambridge Handbook on the Law and Policy of NFTs, Cambridge, 2023 (Expected), p.7 <https://ssrn.com/abstract=4162969>.

⁹³⁹ Schmitz, Amy J., “*Resolving NFT and Smart Contract Disputes*” The Cambridge Handbook on the Law and Policy of NFTs, Cambridge, 2023 (Expected), p.9 <https://ssrn.com/abstract=4162969>.

⁹⁴⁰ Schmitz, Amy J., “*Resolving NFT and Smart Contract Disputes*” The Cambridge Handbook on the Law and Policy of NFTs, Cambridge, 2023 (Expected), p.9 <https://ssrn.com/abstract=4162969>.

⁹⁴¹ Schmitz, Amy J., “*Resolving NFT and Smart Contract Disputes*” The Cambridge Handbook on the Law and Policy of NFTs, Cambridge, 2023 (Expected), p.11-19.

Taking into consideration the high speed, cross-border nature, complexity, and value of the transactions happening in the non-fungible tokens, along with the lack of clarity for applicable law and the potential inclination of the parties not to resort to national courts⁹⁴², alternative dispute resolution⁹⁴³ stands out as a suitable candidate⁹⁴⁴ for the resolution of disputes as well as managing the needs and claims of the parties in the pre-dispute phase. In this context, alternative dispute resolution will be used no matter what advanced technology⁹⁴⁵ is applied. For instance, if arbitration is sought for the resolution of a dispute surrounding the non-fungible tokens, and this arbitration process is conducted via online arbitration⁹⁴⁶, the umbrella term for the method still will be alternative dispute resolution after all.

Brief analysis of arbitration, negotiation and mediation for NFT disputes will be provided below. As in many other issues surrounding the non-fungible tokens, whether the existing alternative dispute resolution methods will evolve and solve the concerns mentioned above; or these concerns will not be overcome and a completely different system and solution method, as advocated by some authors, will be applied, is to be seen within time.

<https://ssrn.com/abstract=4162969>. This Author explores the options of arbitration, crowdsourced dispute resolution, bot resolutions, and metaverse arbitration for smart contract and NFT disputes.
⁹⁴² Hambraeus.

⁹⁴³ Alternative dispute resolution refers to methods of solving disputes without litigation at court. Encapsulating methods and techniques of conflict resolution, most commonly used alternative dispute resolution methods include arbitration, mediation, conciliation and negotiation. See <https://thelawdictionary.org/alternative-dispute-resolution/>; Alternative Dispute Resolution, LEGAL INFO. INST., https://www.law.cornell.edu/wex/alternative_dispute_resolution (last visited July 5, 2016) (“Alternative Dispute Resolution (“ADR”) refers to any means of settling disputes outside of the courtroom... [including] early neutral evaluation, negotiation, conciliation, mediation, and arbitration.”).

⁹⁴⁴ Lees, Amanda/ Sajnani, Suraj, “*Using arbitration to resolve cryptocurrency disputes, NFT disputes, and other digital asset disputes*”, KWM Pulse, <https://pulse.kwm.com/cryptocurrency/using-arbitration-to-resolve-cryptocurrency-disputes-nft-disputes-and-other-digital-asset-disputes/>, November 2022.

⁹⁴⁵ For new methods, techniques and technological solutions applied to both litigation and alternative dispute resolution, See in general Richard Susskind, *Online Courts and Future of Justice*.

⁹⁴⁶ See Schmitz, Amy J., “*Resolving NFT and Smart Contract Disputes*” *The Cambridge Handbook on the Law and Policy of NFTs*, Cambridge, 2023 (Expected), <https://ssrn.com/abstract=4162969>.

3.2.2.1. Arbitration

This convenience of alternative dispute resolution methods is also reflected in the terms and conditions of various non-fungible token marketplaces. Indeed, many non-fungible token platforms and projects include arbitration clauses as their chosen method of dispute resolution.⁹⁴⁷ This choice and the bindingness of an arbitration clause excluding the jurisdiction of the national courts in the context of non-fungible tokens (along with other important discussions relating to consumer law, online standard contract terms and their visibility to the consumer) was at the center of the UK case *Soleymani v Nifty Gateway LLC*.⁹⁴⁸ In this case, the claimant Mr Soleymani, a collector of non-fungible tokens, participated to an auction held by Nifty Gateway and made a proposal for a non-fungible token connected to Beeple’s artwork titled “Abundance⁹⁴⁹”.⁹⁵⁰ He (initially disregarding Nifty’s Terms of Use) then found out that the auction he participated was a ranked auction, in which only the first one hundred bidders were successful and receiving non-fungible tokens associated with the artwork in question, which he thought that is made very little sense commercially for the bidder, and refused to pay.⁹⁵¹ As Nifty’s

⁹⁴⁷ See, for example, Article 16 titled Dispute Resolution, Arbitration Agreement and Class Action Waiver of the Secret NFT Purchase and License Agreement of Tarantino NFT at <https://tarantinonfts.com/terms> ; Article 16 titled Dispute Resolution; Binding Arbitration of the Terms of Use of NBA TopShot at <https://nbatopshot.com/terms> ; Article 25 titled Disputes of Terms of the Nifty Gateway Terms of Use at <https://www.niftygateway.com/termsfuse> ; Article 16 titled Dispute Resolution; Arbitration of the Terms of Service of OpenSea at <https://opensea.io/tos> ; Article 14 titled Dispute Resolution of Rarible Terms of Service at <https://static.rarible.com/terms.pdf>.

⁹⁴⁸ [2022] EWCA Civ 1297 at <https://www.bailii.org/ew/cases/EWCA/Civ/2022/1297.html>. For an analysis relating to the matters in this case, see A nifty decision: NFTs, consumer rights and arbitration at <https://www.mishcon.com/news/a-nifty-decision-nfts-consumer-rights-and-arbitration>.

⁹⁴⁹ Abundance by Beeple, at Nifty Gateway at <https://www.niftygateway.com/itemdetail/primary/0xdd012153e008346591153fff28b0dd6724f0c256/2>.

⁹⁵⁰ [2022] EWCA Civ 1297 at <https://www.bailii.org/ew/cases/EWCA/Civ/2022/1297.html> ¶ 2; *Soleymani* (appellant) v Nifty Gateway LLC (respondent) at <https://www.judiciary.uk/live-hearings/soleymani-appellant-v-nifty-gateway-llc-respondent/>.

⁹⁵¹ [2022] EWCA Civ 1297 at <https://www.bailii.org/ew/cases/EWCA/Civ/2022/1297.html> ¶ 8; *Soleymani* (appellant) v Nifty Gateway LLC (respondent) at <https://www.judiciary.uk/live-hearings/soleymani-appellant-v-nifty-gateway-llc-respondent/>.

Terms of Use (of 2020) contained an arbitration clause, Nifty Gateway started an arbitration in JAMS in New York.⁹⁵² Mr Soleymani on the other hand, contested

⁹⁵² [2022] EWCA Civ 1297 at <https://www.bailii.org/ew/cases/EWCA/Civ/2022/1297.html> ¶ 2; Soleymani (appellant) v Nifty Gateway LLC (respondent) at <https://www.judiciary.uk/live-hearings/soleymani-appellant-v-nifty-gateway-llc-respondent/>. The High Court summarized the relevant provisions in Nifty Gateway's Terms of Use as (emphasise added): "Nifty is a platform that allows you to buy, sell and display Nifties [...]"

These Terms of Use set out your rights and responsibilities when you use Nifty Gateway to buy, sell, or display non-fungible tokens ("Nifties" or "Nifty") or create a collection of Nifties (collectively, the "Services"), so please read them carefully. Nifty Gateway is an administrative platform that facilitates transactions between a buyer and a seller but is not a party to any agreement between the buyer and seller of Nifties or between any users. By clicking on the "I Accept" button, completing the account registration process, or using the Site, you accept and agree to be bound and abide by these Terms of Use and all of the terms incorporated herein by reference. By agreeing to these terms, you hereby certify that you are at least 18 years of age. If you do not agree to these Terms of Use, you must not access or use the Site.

Please note that Section 18 contains an arbitration clause and class action waiver. By agreeing to these Terms of Use, you agree to resolve all disputes through binding individual arbitration, which means that you waive any right to have the dispute decided by a judge or jury, and you waive any right to participate in collective action, whether that be a class action, class arbitration, or representative action.

[...]

"7) Terms of Sale

By placing an order on Nifty Gateway, you agree that you are submitting a binding offer to purchase the non-fungible token "Nifty" or service from Nifty Gateway, LLC. Your order is accepted and confirmed once purchase is complete, and Nifty Gateway displays the Confirmation Page ("Confirmation Page"). YOU HEREBY EXPRESSLY AGREE THAT THE SUPPLY OF NIFTY BEGINS IMMEDIATELY AFTER THE CONFIRMATION PAGE IS DISPLAYED.

16) Governing Law

These Terms of Use, your use of Gemini, your rights and obligations, and all actions contemplated by, arising out of or related to these Terms of Use shall be **governed by the laws of the State of New York**, as if these Terms of Use are a contract wholly entered into and wholly performed within the State of New York. YOU UNDERSTAND AND AGREE THAT YOUR USE OF NIFTY GATEWAY AS CONTEMPLATED BY THESE TERMS OF USE SHALL BE **DEEMED TO HAVE OCCURRED IN THE STATE OF NEW YORK AND BE SUBJECT TO THE INTERNAL LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO ITS CONFLICTS OF LAWS PROVISIONS**

17) Disputes

Please read the following agreement to arbitrate ("Arbitration Agreement") in its entirety. This clause requires you to arbitrate disputes with Nifty Gateway and limits the manner in which you can seek relief from us.

You agree that any dispute of claim relating in any way to: your access, use, or attempted access or use of the Site; any products sold or distributed through the Site; or any aspect of your relationship with Nifty Gateway will be resolved by binding arbitration, except that (1) you may assert claims in small claims court if your claims qualify; and (2) you or Nifty Gateway may seek equitable relief in court for infringement of other misuse of intellectual property rights (such as trademarks, trade dress, domain names, trade secrets, copyright, or patent). You agree that any such arbitration shall be settled solely and exclusively by binding arbitration held in New York, New York, administered by JAMS and conducted in English, rather than in court [...]

the jurisdiction of the arbitrator and started proceedings in the United Kingdom court.⁹⁵³ The UK High Court granted a stay of proceedings under s.9 of UK Arbitration Act 1996 in favor of the New York arbitrator and, having underlined that he did not intend to reflect on arbitrability arguments of Mr Soleymani, decided that “*the court has no jurisdiction in relation to the claim for a declaration that the arbitration clause in the Defendant’s February 2020 Terms of Use is unfair and not binding upon him.*”⁹⁵⁴ The Court of Appeal, on the other hand, considered many factors, including the fairness criteria required in English consumer law and found that as a matter of public policy, despite Mr Soleymani is an unusual type of consumer being a high-net-worth individual⁹⁵⁵, consumer claims must be considered and ruled upon in a public court, and overturned the decision⁹⁵⁶. There are crucial questions to be answered by upcoming proceedings. The merits of Mr Soleymani’s consumer rights claims, the validity of the arbitration clause included in Nifty Gateway’s Terms of Service and whether platforms such as Nifty Gateway

The arbitrator shall have exclusive authority to (1) determine the scope and enforceability of this Arbitration Agreement; and (2) resolve any dispute related to the interpretation, applicability, enforceability or formation of this Arbitration Agreement, including but not limited to any claim that all or part of this Arbitration Agreement is void or voidable; (3) decide the rights and liabilities, if any, of you and Nifty Gateway; (4) grant motions dispositive of all or part of any claim; (5) award monetary damages and grant any non-monetary remedy or relief available to a party under applicable law, arbitration rules, and these Terms of Use (including the Arbitration Agreement). The arbitrator has the same authority to award relief on an individual basis that a judge in a court of law would have. The arbitrator shall issue a written award and statement of decision describing the essential findings and conclusions on which the award is based, including the calculation of any damages awarded. Such an award is final and binding upon you and us. **You understand that by agreeing to this Arbitration Agreement, you and Nifty Gateway are each waiving their right to trial by jury and to participate in a class action or class arbitration.**

If any part of this Arbitration Agreement is found to be invalid or unenforceable, then such part shall be of no force and effect and shall be severed and the remainder of the Arbitration Agreement shall continue in full force and effect. This Arbitration Agreement shall survive the termination of your relationship with Nifty Gateway.

⁹⁵³ [2022] EWCA Civ 1297 at <https://www.bailii.org/ew/cases/EWCA/Civ/2022/1297.html> ¶ 3; Soleymani (appellant) v Nifty Gateway LLC (respondent) at <https://www.judiciary.uk/live-hearings/soleymani-appellant-v-nifty-gateway-llc-respondent/>.

⁹⁵⁴ Amir Soleymani v Nifty Gateway LLC [2022] EWHC 773 (Comm) ¶ 118.

⁹⁵⁵ [2022] EWCA Civ 1297 at ¶138 <https://www.bailii.org/ew/cases/EWCA/Civ/2022/1297.html>

⁹⁵⁶ [2022] EWCA Civ 1297 at <https://www.bailii.org/ew/cases/EWCA/Civ/2022/1297.html>

can rely on the arbitration clause provided in their terms of service remains to be seen.⁹⁵⁷

These questions and the *Soleymani* case are even more important and relevant considering the dynamics such as the relationship between consumer law and arbitration enter into equation, as the questions of some law areas, such as consumer law, can be non-arbitrable or come across with obstacles in the enforcement phase. Moreover, *Soleymani* demonstrates that the non-fungible token platforms will have to be considerate of their counterparts, which may be considered as a consumer no matter how wealthy they are. In sum, it is therefore important to check contracts relating to non-fungible tokens, whether the applicable law actually allows the arbitrability of disputes where there is a consumer is involved.

There are also concerns about the full compatibility of international arbitration to non-fungible tokens. Although it is beyond the scope of this study to provide detailed information on arbitration rules, arbitrability and enforcement issues with a comparative law analysis, it is important to emphasize that the technical features and conditions surrounding blockchains and non-fungible tokens will also create questions on jurisdiction, applicable law, and enforceability in arbitration. From a factual point of view, the anonymity of participating parties and the quick nature of transactions are among these concerns.⁹⁵⁸ The problems mentioned in the previous Chapter 3.5.1. relating to the difficulty of jurisdiction to be established by any adjudicator are still to be resolved. Examples of assumptions included in the contracts such as Nifty Gateway's Terms of Service which reads that ***“YOU UNDERSTAND AND AGREE THAT YOUR USE OF NIFTY***

⁹⁵⁷ Montague-Doghan, Andrea/Searle, Nathan, “*Consumer rights claim: Online NFT contract governed by New York law and arbitration- is it fair?*”, <https://www.jdsupra.com/legalnews/consumer-rights-claim-online-nft-1789046/>, 7 November 2022.

⁹⁵⁸ El Ahdab, Jalal/ Bentley, Claire, “*Paris Arbitration Week Recap: Blockchain, NFTs and the Metaverse*”, <http://arbitrationblog.kluwerarbitration.com/2022/05/14/paris-arbitration-week-recap-blockchain-nfts-and-the-metaverse/>, 14 May 2022.

*GATEWAY AS CONTEMPLATED BY THESE TERMS OF USE SHALL BE DEEMED TO HAVE OCCURRED IN THE STATE OF NEW YORK AND BE SUBJECT TO THE INTERNAL LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO ITS CONFLICTS OF LAWS PROVISIONS.*⁹⁵⁹ Are present for providing some solutions, however, their legality is yet to be tested by competence tribunals.

Questions surrounding enforcement of an arbitral award due to lack of information on the counterparty will also be debated between international arbitration practitioners. However, as it is the common practice with arbitration, asset tracing⁹⁶⁰ of the counterparty and strategic evaluations before the resolution of the dispute in a given jurisdiction where enforcement is sought will be important.

In any case, it is clear that some questions, such as the difficulty of enforcement or substantial questions such as jurisdiction and applicable law are related to the inherent features of the non-fungible tokens and are not to the deficiencies to arbitration or litigation in general.

3.2.2.2. Negotiation, Mediation, Conciliation

As mentioned in the previous chapter, although arbitration is a highly popular and practical method of dispute resolution, some practical problems may arise both throughout the arbitral proceedings as well as enforcement afterwards.

Therefore, less adversarial methods of alternative dispute resolution, such as negotiation, mediation or conciliation may prove to be better solution-oriented than litigation or arbitration.

The fact that these methods are not legally binding may lead to the argument that these methods are not compelling and useful as a solution method. However,

⁹⁵⁹ Article 24 titled Governing Law of Terms of the Nifty Gateway Terms of Use at <https://www.niftygateway.com/termsfuse>. (Emphasis added.)

⁹⁶⁰ Asset tracing refers to the researching and locating of the assets of a debtor and is of high importance in the enforcement of an arbitral award or a court decision.

except in cases where criminal acts are involved, or where the parties do not want to agree at all, using methods such as mediation, negotiation and conciliation, rather than starting long and serious procedures and encountering problems such as enforcement, may be more beneficial. These methods will also allow conflicts to be resolved without the need to definitively decide on many complex legal issues surrounding non-fungible tokens, and potentially be more efficient especially for conflicts relating to smaller claims. In addition, it should not be overlooked that the aims and objectives of the non-fungible token communities are quite practical. As the parties may be in favor of quickly resolving the disputes and ensuring the continuation of the projects as soon as possible, they can reach more creative and practical solutions by enhanced usages of these methods by going beyond the existing legal rules.

3.3. TAX IMPLICATIONS FOR NON-FUNGIBLE TOKENS

Addressing the relevant tax implications of the non-fungible tokens is also a complex regulatory issue for the non-fungible tokens. While an in-depth analysis on tax law is beyond the scope of this work, a general overview will be provided in this section.

Tax authorities are developing various strategies for the products that have emerged as a result of technological developments that have increased in recent years. Many national tax authorities around the globe engage in building and reviewing their policies for the taxation of crypto assets.⁹⁶¹ Unfortunately, there is not an advanced level of uniform solutions for tax-related questions and crypto assets. Even within the European Union, tax is not one of the areas where the European Union has exclusive competence and jurisdiction for regulation, therefore each Member State will turn to the regulation solutions of their national tax

⁹⁶¹ Huertas / Hikl, p.143.

authorities and legislation.⁹⁶² This picture is not yet very clear for non-fungible tokens. This is because at present as there is a lack of guidance and materials on the matter⁹⁶³ and only few governments have taken formal steps towards taxation of the non-fungible tokens.⁹⁶⁴

Without definite legislation or guidelines, any taxation to be made without a legal provision will be against the principle of legality of taxation.⁹⁶⁵ On the other hand, just like crypto assets, the non-fungible token sector which saw its great rise in 2021 attracted the attention of governments⁹⁶⁶, as there is income (and other tax-important gains) deriving from the assets in question.⁹⁶⁷ Authorities draw attention to the fact that lack of taxing of these instruments which have great popularity and market may contribute to tax evasion and the waste of collectable tax potential.⁹⁶⁸

⁹⁶² Huertas / Hikl, p.143.

⁹⁶³ Huertas / Hikl, p.143.

⁹⁶⁴ Gazioğlu, Abdulcelil/ Özen, Ahmet, “*NFT’nin Gelişimi ve Vergilendirilmesi Üzerine Genel Değerlendirme*”, İzmir Sosyal Bilimler Dergisi, 2022, Volume 4, Issue 1, p.30.; Tuovila, Alicia, “*NFT Tax Guide*”, Investopedia, <https://www.investopedia.com/nft-tax-guide-5222726>, 5 December 2022.

⁹⁶⁵ The principle of legality of taxes requires taxes to be imposed and collected in accordance with the law. The principle designates an important check against arbitrary or abusive state action. It is historically attributed to first have been drafted in the Magna Carta Libertatum (Great Charter of Freedoms) 1215, and later fundamental texts such as the UK Petition of Rights (1627) and UK Bill of Rights (1689), American Declaration of Independence (1776), Declaration of Human Rights (1789), the Universal Declaration of Human Rights (1948) adopted by the United Nations have incorporated this principle in their framework. For a modern translation of the Magna Carta Libertatum, see: <https://www.archives.gov/files/press/press-kits/magna-carta/magna-carta-translation.pdf>. See: Demir, Murat/ Önder, Rıdvan, “*Principle of Legality of the Taxes: an Evaluation on Turkey and the Selected Countries*”, 34. International Public Finance Conference, [https://cdn.istanbul.edu.tr/file/JTA6CLJ8T5/C7127032630241FBA209C65ECAB44695#:~:text=The%20Magna%20Carta%20Libertatum%20\(1215,this%20regard%2C%20throughout%20the%20history](https://cdn.istanbul.edu.tr/file/JTA6CLJ8T5/C7127032630241FBA209C65ECAB44695#:~:text=The%20Magna%20Carta%20Libertatum%20(1215,this%20regard%2C%20throughout%20the%20history).

⁹⁶⁶ Gazioğlu, Abdulcelil/ Özen, Ahmet, “*NFT’nin Gelişimi ve Vergilendirilmesi Üzerine Genel Değerlendirme*”, İzmir Sosyal Bilimler Dergisi, 2022, Volume 4, Issue 1, p.31.

⁹⁶⁷ Can, Nevin, “*NFT: Sanal Mülkiyet NFT’lerin Hukuki Açısından Değerlendirilmesi*”, https://www.linkedin.com/pulse/nft-sanal-m%C3%BClkiyet-nftlerin-hukuki-a%C3%A7idan-nevin-can/?trk=articles_directory&originalSubdomain=tr, 17 March 2022.

⁹⁶⁸ Sundaravelu, Anugraha, “*IRS views NFTs as tax evasion threat, but cryptocurrency experts disagree*”, <https://www.internationaltaxreview.com/article/b1rl7zj1k8j9s4/irs-views-nfts-as-taxevasion-threat-but-cryptocurrency-experts-disagree>, 27 April 2021.

It has been indicated that markets such as the NFT market of substantial size cannot operate sanely for long without established tax rules.⁹⁶⁹

As there is currently not much specific legislation for the taxation of the non-fungible tokens, some countries tackle the issue in a more organized manner while others have tackled the matter with a more volatile mentality. For instance, South Korean finance minister initially declared that non-fungible tokens do not fall under the category of virtual assets and would not be taxed⁹⁷⁰. The South Korean Financial Services Commission (FSC) then declared on 5 November 2021 that regulations for non-fungible tokens will not be issued⁹⁷¹, referring to the updated guidance for a risk-based approach to virtual assets and virtual asset service providers of the Financial Action Task Force (FATF) which states that “*NFT, or crypto-collectibles, depending on their characteristics are not generally considered to be [virtual assets].*”⁹⁷² However, the South Korean Financial Services Commission (FSC) later announced that some non-fungible tokens are to be categorized as virtual assets and be subject to some types of taxes such as income taxes.⁹⁷³ On 11 March 2022 the finance minister announced that existing tax rules for income tax will apply to non-fungible tokens transactions, after an analysis specific to the non-fungible token at hand considering their use case and nature.⁹⁷⁴

⁹⁶⁹ Vasques Sergio, “A closer look at VAT and not-quite-fungible tokens”, <https://www.internationaltaxreview.com/article/b1tp7h5xsc274j/a-closer-look-at-vat-andnot-quite-fungible-tokens>, 21 September. 2021.

⁹⁷⁰ Park, Danny, “*South Korea will tax crypto but not NFTs*”, fastForkast, at <https://forkast.news/headlines/south-korea-tax-crypto-not-nfts/>, 7 October 2021.

⁹⁷¹ Newar, Brian, “*Korea's FSC confirms that NFTs will not be regulated*”, <https://cointelegraph.com/news/korea-s-fsc-confirms-that-nfts-will-not-be-regulated>, 05 November 2021.

⁹⁷² Financial Action Task Force, *Updated Guidance for a Risk-Based Approach for Virtual Assets and Virtual Asset Service Providers*, 2021, <https://www.fatf-gafi.org/publications/fatfrecommendations/documents/guidance-rba-virtual-assets-2021.html>.

⁹⁷³ Hernandez, Ornella, “*South Korea financial authority rules that NFTs are taxable*”, <https://cointelegraph.com/news/south-korea-financial-authority-rules-that-nfts-are-taxable>, 23 November 2021.; Hye-Jin, Byun, “*Financlal regulator hints taxation on NFTs*”, <http://www.koreaherald.com/view.php?ud=20211123000711>, 23 November 2021.

⁹⁷⁴ Pillai, Subramanian, “*Regulatory update on tax treatment of Non-Fungible Tokens (NFTs)*”, <https://www.irglobal.com/article/regulatory-update-on-tax-treatment-of-non-fungible-tokens-nfts/>, 15 August 2022.; Lawrence Wong on tax on transaction sales revenue of non-fungible tokens at

For the United Kingdom, there is no legislation specific for the taxation of the NFTs. The HM Revenue and Customs acknowledged that non-fungible tokens have a different classification than cryptocurrencies.⁹⁷⁵ The existing guides published by the HMRC only extend to crypto assets, and if any upcoming tax legislation confirms that NFTs are assets, then sell and purchase of the non-fungible tokens will have without doubt consequences for income tax and capital gains tax.⁹⁷⁶

PwC in an article qualified New Zealand as “*the country with the most advanced position on NFTs.*”⁹⁷⁷ New Zealand indeed stands out with the guidance provided in the Inland Revenue’s for non-fungible tokens specifically.⁹⁷⁸ This guidance expresses that NFTs are like crypto assets, that they are classified as service for goods and services tax purposes and provides explanations regarding the position of non-fungible tokens from a tax perspective.⁹⁷⁹

A development recently occurred in the United States. On 17 October 2022, The IRS published the 2022 tax year guide.⁹⁸⁰ Differently than the previous year 2021’s guide which used the term “virtual currency”⁹⁸¹ this guide explicitly included non-fungible tokens under the umbrella category of digital assets and referred that that the treatment of digital assets for income purposes will be

<https://www.channelnewsasia.com/watch/lawrence-wong-tax-transaction-sales-revenue-non-fungible-tokens-2557261>, 11 March 2022.

⁹⁷⁵ Lowe, Henry, “*NFTs explained; what are the tax implications of buying and selling crypto assets?*” https://www.mercerhole.co.uk/insights/nfts-explained-what-are-the-tax-implications-of-buying-and-selling-crypto-assets/_9 September 2022.; Rahman, Syedur, “*NFT's (Non-Fungible Tokens) - Risks, Regulation and The Law*”, <https://www.rahmanravelli.co.uk/expertise/nfts-non-fungible-tokens-risks-regulation-and-the-law/>

⁹⁷⁶ Santomasi, Domenico, “*NFT: what you need to know and tax implications in the UK*”, <https://well-tax.com/news-detail/280/nft:-what-you-need-to-know-and-tax-implications-in-the-uk>, 4 April 2022.

⁹⁷⁷ PwC, “*Non Fungible Tokens: Significant and Emerging VAT Issues*”, <https://www.pwc.co.uk/services/tax/indirect-taxes/non-fungible-tokens-significant-and-emerging-vat-issues.html>.

⁹⁷⁸ Inland Revenue, “*Non-Fungible Tokens*”, <https://www.ird.govt.nz/cryptoassets/non-fungible-tokens>.

⁹⁷⁹ Inland Revenue.

⁹⁸⁰ IRS Draft, 23 December 2022, <https://www.irs.gov/pub/irs-dft/i1040gi--dft.pdf>.

⁹⁸¹ IRS Draft, 23 December 2022, <https://www.irs.gov/pub/irs-pdf/i1040gi.pdf> p.6.

different.⁹⁸² Previously there were discussions that the higher 28% capital gains tax rate would apply for non-fungible tokens in the United States.⁹⁸³ However, with the new policy of the IRS dated 2022, it was clarified that the regular rates⁹⁸⁴ (either zero, 15% or 20%) will be applied instead of the higher rate of 28%.⁹⁸⁵

Considering the current situation, taxation of the non-fungible token transactions will differ according to the category of people dealing with them as well as their purpose (individual versus professional.) For instance, proceedings from NFT transactions such as the purchase of an NFT with cryptocurrency (or other types of fungible currency) or trade with the exchange of non-fungible tokens would be taxable as capital gains or losses⁹⁸⁶ for individual, non-professional NFT-dealing investors.⁹⁸⁷ Whereas for minters or dealers, the proceedings from the sale (as well as any other proceedings through royalty payments) will potentially be considered as types of income (such as ordinary income or self-employment income).⁹⁸⁸

⁹⁸² IRS Draft, 23 December 2022, <https://www.irs.gov/pub/irs-dft/i1040gi--dft.pdf> p.17.

⁹⁸³ Coinbase, “How are NFTs taxed? A guide for creators, collectors and investors”, <https://www.coinbase.com/tr/learn/your-crypto/understanding-nft-taxes> (last accessed : 30.12.2022); Tuovila, Alicia, “NFT Tax Guide”, Investopedia, <https://www.investopedia.com/nft-tax-guide-5222726>, 5 December 2022.

⁹⁸⁴ IRS, Topic No.409, Capital Gains and Losses, <https://www.irs.gov/taxtopics/tc409>.

⁹⁸⁵ Teller, Arthur, “The Essential NFT Guide for Creators and Investors”, https://tokentax.co/blog/nft-tax-guide_19 October 2022. (last accessed : 30.12.2022)

⁹⁸⁶ This taxation will occur as with other more conventional capital assets such as bonds, stocks or property.

⁹⁸⁷ Teller.; Coinbase.; Kothari, Sonia/Lehot, Louis, “Tax Considerations for Transactions of Non-Fungible Tokens”, <https://www.jdsupra.com/legalnews/tax-considerations-for-transactions-of-1196361/>, 29 April 2022. (last accessed : 30.12.2022); Mowbray, Nicholas C., “Taxation of Non-Fungible Tokens”, BakerHostetler, p.2, https://www.bakerlaw.com/files/blockchain/4-Taxation%20of%20Non-Fungible%20Tokens_p02.pdf. (last accessed : 30.12.2022)

⁹⁸⁸ Teller.; Coinbase.; Lowe, Henry, “NFTs explained; what are the tax implications of buying and selling crypto assets?” https://www.mercerhole.co.uk/insights/nfts-explained-what-are-the-tax-implications-of-buying-and-selling-crypto-assets/_9 September 2022. (last accessed : 30.12.2022); Walter / Goodman / Pochesci / Soled.. (last accessed : 30.12.2022); Mowbray, Nicholas C., “Taxation of Non-Fungible Tokens”, BakerHostetler, p.2, https://www.bakerlaw.com/files/blockchain/4-Taxation%20of%20Non-Fungible%20Tokens_p02.pdf.; Kothari, Sonia/Lehot, Louis, “Tax Considerations for Transactions of Non-Fungible Tokens”, <https://www.jdsupra.com/legalnews/tax-considerations-for-transactions-of-1196361/>, 29 April 2022.

Not only the person and their capacity for dealing with the NFTs matter, but also different stages in the life cycle⁹⁸⁹ of a non-fungible token as well as the scenario where the NFT becomes worthless have differentiating outcomes. For instance, it is indicated that the minting of the non-fungible tokens itself is not a taxable event.⁹⁹⁰ However, the purchase, sale, donation, royalty reception and other transactions with non-fungible tokens will be subject to different considerations for tax purposes.⁹⁹¹

Purchasing a non-fungible token with cryptocurrency is different than exchanging fiat money in return for an artwork, potentially causing tax consequences both for the buyer and the seller.⁹⁹² This is because payment with cryptocurrency is in fact buying property with another property.⁹⁹³ Furthermore, using cryptocurrency for payment of the NFT purchase requires a two-step process. First, the cryptocurrency is converted into fiat money by selling of the cryptocurrency, and the payment occurs with the proceedings of the sale of the cryptocurrency.⁹⁹⁴ The first phase of this process, namely the selling of the

⁹⁸⁹ Walter / Goodman / Pochesci / Soled.; For PWC's table explaining the NFT ecosystem indicating creator of digital tangible asset, NFT Marketplace, primary buyer and secondary buyer as the actors of the ecosystem, see: <https://www.pwc.co.uk/services/tax/indirect-taxes/non-fungible-tokens-significant-and-emerging-vat-issues.html>; Tuovila, Alicia, "*NFT Tax Guide*", Investopedia, <https://www.investopedia.com/nft-tax-guide-5222726>, 5 December 2022.

⁹⁹⁰ Teller.; Kothari, Sonia/Lehot, Louis, "*Tax Considerations for Transactions of Non-Fungible Tokens*", <https://www.jdsupra.com/legalnews/tax-considerations-for-transactions-of-1196361/>, 29 April 2022.

⁹⁹¹ Teller.; Kothari, Sonia/Lehot, Louis, "*Tax Considerations for Transactions of Non-Fungible Tokens*", <https://www.jdsupra.com/legalnews/tax-considerations-for-transactions-of-1196361/>, 29 April 2022.; Lowe, Henry, "*NFTs explained; what are the tax implications of buying and selling crypto assets?*" <https://www.mercerhole.co.uk/insights/nfts-explained-what-are-the-tax-implications-of-buying-and-selling-crypto-assets/>, 9 September 2022.

⁹⁹² Mowbray, Nicholas C., "*Taxation of Non-Fungible Tokens*", BakerHostetler, p.2, https://www.bakerlaw.com/files/blockchain/4-Taxation%20of%20Non-Fungible%20Tokens_p02.pdf; Coinbase.

⁹⁹³ Mowbray, Nicholas C., "*Taxation of Non-Fungible Tokens*", BakerHostetler, p.2, https://www.bakerlaw.com/files/blockchain/4-Taxation%20of%20Non-Fungible%20Tokens_p02.pdf.

⁹⁹⁴ Coinbase.

cryptocurrency results in bearing consequences for capital gains tax for the cryptocurrency sold.⁹⁹⁵

For selling and buying the non-fungible tokens, depending on the jurisdiction and its relevant rules, the amount of tax will be calculated by the analysis of several factors, such as of the duration of possession of that cryptocurrency, the transactor's annual income and the amount gained or loss from the sale of the cryptocurrency.⁹⁹⁶

There are also various other determinations to be made regarding other types of tax. For instance, if the use case relates of a given non-fungible token to real property, stamp duty and land tax may apply.⁹⁹⁷ In addition, the question as to how quickly solve the matter of value added tax (VAT) treatment for non-fungible tokens is also pressing⁹⁹⁸ and depends a lot on the treatment of the non-fungible tokens from legal and taxation points of view. Whether the non-fungible tokens are treated as goods or services; if they will be treated as services, whether the rules of electronic commerce and electronically supplied services apply are some of the questions surrounding the VAT taxation of the non-fungible tokens.⁹⁹⁹

Of course, there are other much more complicated questions to be solved in the issue of taxation of the non-fungible tokens for many types of tax. Some of the

⁹⁹⁵ Coinbase.

⁹⁹⁶ Tuovila, Alicia, "*NFT Tax Guide*", Investopedia, <https://www.investopedia.com/nft-tax-guide-5222726>, 5 December 2022.; For a broad overview under the US law, see: Walter / Goodman / Pochesci / Soled.; Coinbase.; Teller.; Tuovila, Alicia, "*NFT Tax Guide*", Investopedia, <https://www.investopedia.com/nft-tax-guide-5222726>, 5 December 2022.; Australian Taxation Office, <https://www.ato.gov.au/individuals/investments-and-assets/crypto-asset-investments/transactions---acquiring-and-disposing-of-crypto-assets/non-fungible-tokens/> for exemplary calculations

⁹⁹⁷ Zinzopoulos, Alex/Qi, Jack, "*Tax treatment of Non-Fungible Tokens (NFTs)*" <https://williambuck.com/nz/news/in/technology/tax-treatment-of-non-fungible-tokens-nfts/>, 4 March 2022.

⁹⁹⁸ Vasques Sergio, "*A closer look at VAT and not-quite-fungible tokens*", <https://www.internationaltaxreview.com/article/b1tp7h5xsc274j/a-closer-look-at-vat-andnot-quite-fungible-tokens>, 21 September. 2021.

⁹⁹⁹ PWC, "*Non Fungible Tokens: Significant and Emerging VAT Issues*", <https://www.pwc.co.uk/services/tax/indirect-taxes/non-fungible-tokens-significant-and-emerging-vat-issues.html>.

most ones have been summarized as the question of correct jurisdiction, determination of the location¹⁰⁰⁰ of the non-fungible token and its transfer, whether rights relating to the underlying artwork of the non-fungible token is involved and have to be considered for tax purposes, and valuation of the non-fungible tokens which will be the basis for the taxation.¹⁰⁰¹

As mentioned above in section 3.2.1, the issue of jurisdiction is a problematic issue with crypto assets in general (and more specifically for the NFTs), and it is also complicated in terms of tax law. This is because, while determining the jurisdiction in terms of taxation, it is necessary to answer the questions of whether the jurisdiction is in the place where the beneficial owner of the non-fungible token is located, where the underlying artwork is located or the location of the NFT itself, which is already quite a complicated question.¹⁰⁰²

Underlying artwork and transfer of related rights is important in the sense that if the non-fungible token contains more substantial rights relating to the underlying artwork (as opposed to the non-fungible token being only an identifier of ownership), these complexity of rights and their transfer could have impact on a number of type of tax, such as income tax, value added tax, any sort of tax arising from the sale or transfer of the non-fungible token. Evaluations regarding the valuation of a non-fungible token are also related to the analysis of these issues.

For a regulation relating to taxation of the crypto assets, Dr Michael Huertas and Aylin Hıkl suggested that tax treatments must be categorically determined on the grounds of existing tax regulations, and the NFTs (or any other crypto assets) must be placed in the appropriate category.¹⁰⁰³ The writers explain the method for doing this categorization is by considering “*the type of crypto asset, the purpose for*

¹⁰⁰⁰ Gediz Oral, Burcu, “*Değiştirilemez Jetonların (NFT) Vergilendirilmesi*”, Manisa Celal Bayar Üniversitesi Sosyal Bilimler Dergisi, 2022, Volume 20, Issue 3, p.11.

¹⁰⁰¹ Huertas / Hıkl, pp.143-144.

¹⁰⁰² Huertas / Hıkl, pp.143-144.

¹⁰⁰³ Huertas / Hıkl, pp.143.

which it will be used and [its] representation.”¹⁰⁰⁴ This method will then be applied to non-fungible tokens by categorizing it, whether as a tangible or intangible asset or a financial instrument and allowing the relevant tax authority to apply the rules for taxation.¹⁰⁰⁵ As the rules relating to taxation of the non-fungible tokens are still not clear, it will be revealed in time how the tax issues will be shaped.

3.4. SKEPTICISM AND CONCERNS

Although the innovative revolutionary features, benefits and importance of the non-fungible tokens have been heavily mentioned, especially since 2021, there are also various skepticism and concerns for this technology. While some of these skepticism and concerns are due to the lack of a complete understanding of the mechanisms underlying the non-fungible tokens and the existence of legal uncertainties surrounding them; others are related to the current state and risks of the non-fungible token market. Potential criminal activities, ghostly Ponzi scheme stories, environmental concerns, cybersecurity risks, insider trading risks, ghostly Ponzi scheme stories, use of non-fungible tokens for money laundering purposes, high transaction fees are among these.¹⁰⁰⁶ Some of these concerns will be discussed briefly in the following sub-headings.

3.4.1 Main Concerns Relating to the Non-Fungible Tokens Market

While the non-fungible tokens saw a glorious popularity into the crypto world in 2021, the crashes¹⁰⁰⁷ seen in many platforms for many digital assets in

¹⁰⁰⁴ Huertas / Hiki, pp.143.

¹⁰⁰⁵ Huertas / Hiki, pp.143-144.

¹⁰⁰⁶ Guadamuz, *The Treachery*, p.1369.; Vander Woude / Tan, p.34.

¹⁰⁰⁷ Some unfortunate examples include collapse of crypto currencies TerraUSD (USD) and Terra (LUNA), cryptocurrency exchanges FTX and FTX.US’ filing for bankruptcy in November 2022 and the drastic fall of Bitcoin’s value. See La Monica, Paul L., “*Crypto crash and gold sell-off show there’s no place for investors to hide*”, <https://edition.cnn.com/2022/11/10/investing/bitcoin-crypto-ftx-gold/index.html>, 10 November 2022.; Cravero, Alex, “*Can crypto recover from the*

2022, decrease in the value of many cryptocurrencies, as well as the numerically unproductive year for the NFTs summarized in Section 1.6. above, have triggered some already existing concerns and led to some additional criticism for the NFT market, which will be briefly analyzed below.

3.4.1.1. Distrust For the Long-Term Value of Non-Fungible Tokens

The most substantial skepticism for the non-fungible tokens has been relating to their long-term value, with some assuming that NFTs are nothing but a “passive fad”.¹⁰⁰⁸ Even Beeple, the artist whose non-fungible token was perhaps among the main reasons for all the hype directed to non-fungible tokens, qualified non-fungible tokens as a “bubble”.¹⁰⁰⁹

One author compared back in 2021 the hype for non-fungible tokens to the comic book boom of the 1990s.¹⁰¹⁰ The article explains that comic books, initially objects of interest for children, saw an exponential increase in price and shifted interest from children to money earning baby boomer adults.¹⁰¹¹ This spiked the interest for comic book collections for a while and resulted in some unique comic books to be sold at rocketing prices, only to be discovered by the buyers later that all comic books are not unique or special and many are in fact owned by everyone

crash of 2022?”, https://www.computerweekly.com/opinion/Can-crypto-recover-from-the-crash-of-2022_2 November 2022.; Strachan, Ruth, “*Can Bitcoin miners recover from the 2022 crypto crash?*” https://www.investmentmonitor.ai/crypto/bitcoin-miners-recover-crypto-crash-2022/_3 August 2022.; Rosen, Andy/ Woock, Kurt, “*How to Navigate a Crypto Crash in 2022*”, [https://www.nerdwallet.com/article/investing/crypto-crash#:~:text=The%20crypto%20crash%20of%202022,filing%20for%20bankruptcy%20on%20Nov., 14 November 2022.](https://www.nerdwallet.com/article/investing/crypto-crash#:~:text=The%20crypto%20crash%20of%202022,filing%20for%20bankruptcy%20on%20Nov.,)

¹⁰⁰⁸ Kasdan, *Don't Write Off NFTs.*; Vander Woude / Tan, p.34.

¹⁰⁰⁹ NPR, *The \$69 Million JPEG*, https://www.npr.org/transcripts/976513031_12 March 2021.; Davis, Ben, “*What the NFT World Can Learn From the Great '90s Comic Book Bubble. (It's a Cautionary Tale)*”, https://news.artnet.com/opinion/nfts-90s-comic-book-bubble-1955239_30 March 2021. (last accessed : 30.12.2022); Cyca, Michelle, “*When will the NFT bubble burst?*”, <https://www.macleans.ca/society/technology/when-will-the-nft-bubble-burst/>, 13 July 2022.

¹⁰¹⁰ Davis.

¹⁰¹¹ Davis.

else, which eventually led to a drastic decrease in prices and hopes.¹⁰¹² As with the comic book industry in the 1990s, the author contended that the NFT market is undergoing a similar hype and speculation, with certain works fetching high prices while having little inherent worth.¹⁰¹³

Another historical analogy popularly used for criticizing non-fungible tokens was the market bubble created over tulip bulbs¹⁰¹⁴, usually referred as “Tulip Mania”, “Tulip Craze” or “*Tulpenwindhandel*”.¹⁰¹⁵ Tulip mania also was a phenomenon related to the valuation of certain assets. Early in the 17th century, the price of tulip bulbs which were imported from Ottoman Empire to the Netherlands rose to incredible heights and then saw a phenomenal drop, causing widespread economic upheaval and financial losses for many.¹⁰¹⁶ The Tulip Mania hence became a historical analogy for a financial bubble, where a price of an asset greatly increases for reasons other than its intrinsic value (such as speculation and hype).¹⁰¹⁷ However, it is debatable how much the Tulip Mania is a good analogy for the status and the future of the non-fungible tokens, as the type of assets and the underlying economic conditions surrounding the two phenomena are very unlike. The value of non-fungible tokens, which is defined by the apparent rarity and

¹⁰¹² Davis.

¹⁰¹³ Davis.

¹⁰¹⁴ Bentley, Alex, “*Is NFT Art the Next Tulip Mania?*” At <https://medium.com/moneyvsmachine/is-nft-art-the-next-tulip-mania-ed7e6b33e5f4>, 17 February 2022.

¹⁰¹⁵ Hayes, Adam, “*Tulipmania: About the Dutch Tulip Bulb Market Bubble*”, https://www.investopedia.com/terms/d/dutch_tulip_bulb_market_bubble.asp, 22 November 2022.; Britannica, “*Tulipmania*”, <https://www.britannica.com/event/Tulip-Mania>. In his book titled *Memoirs of Extraordinary Popular Delusions and the Madness of Crowds* dated 1841, Scottish journalist Charles Mackay calls this market bubble “the Tulipomania”. He explains that “*Nobles, citizens, farmers, mechanics, seamen, footmen, maid-servants, even chimney-sweeps and old clotheswomen, dabbled in tulips. People of all grades converted their property into cash, and invested it in flowers. Houses and lands were offered for sale at ruinously low prices, or assigned in payment of bargains made at the tulip-mart.*” At Mackay, Charles, *Extraordinary Popular Delusions and the Madness of Crowds*, Harriman House, 2018, p.94.

¹⁰¹⁶ Mackay, Charles, *Extraordinary Popular Delusions and the Madness of Crowds*, Harriman House, 2018, p.94.

¹⁰¹⁷ Hayes, Adam, “*Tulipmania: About the Dutch Tulip Bulb Market Bubble*”, https://www.investopedia.com/terms/d/dutch_tulip_bulb_market_bubble.asp, 22 November 2022.; Britannica, “*Tulipmania*”, <https://www.britannica.com/event/Tulip-Mania>.

uniqueness of the item they symbolize along with investor and collector demand, is more directly linked to the value put on the underlying digital asset, which is more concrete than the tulips. Not to mention tulips are perishable assets which, in case of a loss, would require quicker actions to recover the lost investment whereas the non-fungible tokens are permanent and allow for more long-term recovery options.¹⁰¹⁸ Considering that tulips has gained a much more important and stable importance for the Netherland's economy in the long run, despite the surreal price increases followed by great decreases during the Tulip Mania, this analogy may help to draw hopeful inferences for the future of the non-fungible tokens.

3.4.1.2. Concerns and Risks Relating to the Non-Fungible Token Market

The concerns relating to the NFT market generally suggest that the current non-fungible token market is not quite transparent and reliable. These assessments are due to the various fraud, manipulation, and plagiarism schemes, money laundering suspicions, phishing scams and insider trading schemes that have emerged so far.¹⁰¹⁹ These negative incidents are usually due to manipulation of blockchain technology, which allows for the extensive usage of cryptocurrencies and the pseudonymous nature of the buyers and sellers in the non-fungible token transactions.¹⁰²⁰

¹⁰¹⁸ Theo, "Can we Compare Dutch Tulip Mania and the NFT Trends?"

<https://nftvevening.com/can-we-compare-dutch-tulip-mania-and-the-nft-trends/>, 6 September 2021.

¹⁰¹⁹ Hoppe, David, "Defining NFTs: Property, Securities, or Commodities?",

[https://gammalaw.com/defining-nfts-property-securities-or-](https://gammalaw.com/defining-nfts-property-securities-or-commodities/?utm_source=mondaq&utm_medium=syndication&utm_term=Technology&utm_content=articleoriginal&utm_campaign=article_3)

[commodities/?utm_source=mondaq&utm_medium=syndication&utm_term=Technology&utm_co-](https://gammalaw.com/defining-nfts-property-securities-or-commodities/?utm_source=mondaq&utm_medium=syndication&utm_term=Technology&utm_content=articleoriginal&utm_campaign=article_3)

[ntent=articleoriginal&utm_campaign=article_3](https://gammalaw.com/defining-nfts-property-securities-or-commodities/?utm_source=mondaq&utm_medium=syndication&utm_term=Technology&utm_content=articleoriginal&utm_campaign=article_3) 3 October 2022.; Schneider, Tim, "'This Was a \$69

Million Marketing Stunt': Why Crypto Purists Say Beeple's Mega-Millions NFT Isn't Actually an

NFT at All", <https://news.artnet.com/market/beeple-everydays-controversy-nft-or-not-1952124>,

18 March 2021.; Tidy. Joe. "Fake Banksy NFT sold through artist's website for £244k",

<https://www.bbc.com/news/technology-58399338>, 31 August 2021.; Biggs, John, "Web3's early

promise for artists tainted by rampant stolen works and likenesses",

[https://techcrunch.com/2022/01/27/web3s-early-promise-for-artists-tainted-by-rampant-stolen-](https://techcrunch.com/2022/01/27/web3s-early-promise-for-artists-tainted-by-rampant-stolen-works-and-likenesses/)

[works-and-likenesses/](https://techcrunch.com/2022/01/27/web3s-early-promise-for-artists-tainted-by-rampant-stolen-works-and-likenesses/), 27 January 2022.; Cyca, Michelle, "When will the NFT bubble burst?",

<https://www.macleans.ca/society/technology/when-will-the-nft-bubble-burst/>, 13 July 2022.

¹⁰²⁰ Wilson, 2022, p.48; McAndrew, *The Art Market 2022*, p.33.

According to reports, money laundering and "wash trading", which refers to being on both sides of a transaction to artificially increase the value of an NFT, are widespread.¹⁰²¹ Rug-pulls, where initial NFT collections sell out for enormous profits on the promise that buyers will receive free NFTs or other benefits in subsequent drops, are also becoming more frequent.¹⁰²² In many cases, the people behind big promises of financial gain for non-fungible token projects often "cut and run," leaving the original NFT buyers with worthless NFTs.¹⁰²³

These issues are alarming, especially for consumers. A comparative analysis of various jurisdictions' consumer protection legislation of many different legal systems and the extent to which non-fungible tokens will be included in these legislations are beyond the scope of this section.¹⁰²⁴ However, it should be mentioned there are various consumer protection considerations, as the market for non-fungible tokens unfortunately has great potential to smooth the path for misinformation and false advertising, owed partially to the vast confusion relating to the market and the NFTs themselves. As explained in Section 2.2. above, non-fungible token buyers, especially the ones with relatively less experience should be quite careful as they do not generally have in-depth understanding of the sale.¹⁰²⁵ This can cause an increase on the attempts by dishonest market actors to offer fraudulent or illegal non-fungible tokens to unwary customers. Therefore, anyone in the non-fungible token market, especially in consumer capacity, must be careful

¹⁰²¹ McAndrew, *The Art Market 2022*, p.33.

¹⁰²² McAndrew, *The Art Market 2022*, p.33.

¹⁰²³ McAndrew, *The Art Market 2022*, p.33.

¹⁰²⁴ For an article analyzing the issues of consumer protection by non fungible tokens, Chugani, Sumeet/ Bank, Apple/ Levine, Trevor/ Smith, Reed, Practikal Law Finance, "The Notorious NFT: Consumer Protection Issues Raised by Non-Fungible Tokens (NFTs)", [https://uk.practicallaw.thomsonreuters.com/w-030-4989?originationContext=knowHow&transitionType=KnowHowItem&contextData=\(sc.DocLink\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/w-030-4989?originationContext=knowHow&transitionType=KnowHowItem&contextData=(sc.DocLink)&firstPage=true), 15 April 2021.

¹⁰²⁵ Chugani, Sumeet/ Bank, Apple/ Levine, Trevor/ Smith, Reed, Practikal Law Finance, "The Notorious NFT: Consumer Protection Issues Raised by Non-Fungible Tokens (NFTs)", [https://uk.practicallaw.thomsonreuters.com/w-030-4989?originationContext=knowHow&transitionType=KnowHowItem&contextData=\(sc.DocLink\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/w-030-4989?originationContext=knowHow&transitionType=KnowHowItem&contextData=(sc.DocLink)&firstPage=true), 15 April 2021.

to beware of the conditions of the sale and be well informed.¹⁰²⁶ This is especially important considering that the buyers are usually subject to buyer beware and liability restrictions indicated in the terms and conditions of the marketplaces or other intermediaries, as indicated above in Section 2.5, which can be attempted to use for waiving the responsibility of the marketplaces and intermediaries for potential forgeries, user misconduct or fraud.¹⁰²⁷ Therefore, the buyers may find themselves unbacked by other parties face-to-face with such unfortunate schemes.

People who are in important positions for NFT projects and marketplaces disclosing insider information have also caused harm. In general, insider trading¹⁰²⁸ refers to the criminal act of purchasing or selling securities based on significant, non-publicly disclosed information.¹⁰²⁹ It is regarded as a breach to fairness and trust, since the person providing the information is abusing their advantaged position as the person who has insider information which is not known by other market subjects.

As a result of the discussion of whether non-fungible tokens can be considered security or not in Section 2.1.4 above, it was considered by NFT circles

¹⁰²⁶ Abbot, John/ Kelly, Paddy, “*Consumer protection from Nifty sales of NFT’s? Think before you click!*”, <https://libralex.com/consumer-protection-from-nifty-sales-of-nfts-think-before-you-click/>, 11 November 2022.

¹⁰²⁷ Chugani, Sumeet/ Bank, Apple/ Levine, Trevor/ Smith, Reed, Practikal Law Finance, “The Notorious NFT: Consumer Protection Issues Raised by Non-Fungible Tokens (NFTs)”, [https://uk.practicallaw.thomsonreuters.com/w-030-4989?originationContext=knowHow&transitionType=KnowHowItem&contextData=\(sc.DocLink\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/w-030-4989?originationContext=knowHow&transitionType=KnowHowItem&contextData=(sc.DocLink)&firstPage=true), 15 April 2021.

¹⁰²⁸ Prohibitions against insider trading has existed in the United States of America for the longest time, since 1930s, and in the United Kingdom since 1970s. Many jurisdictions have their varied regulations. Within the European Union law context, this act is considered as insider dealing and regulated within the rules against insider dealing and market abuse. See Ausseneg, Wolfgang/ Jelic, Ranko/ Ranzi, Robert, “*Corporate insider trading in Europe*” *Journal of International Financial Markets, Institutions and Money*, 2018, Volume 54. pp. 27-42.; Gevurtz, Franklin A., “*The Road Not Taken: A comparison of the E.U and U.S. Trading Prohibitions*”, Washington University Journal of Law and Policy Forthcoming, 2017, <https://scholarlycommons.pacific.edu/cgi/viewcontent.cgi?article=1337&context=facultyarticles>

¹⁰²⁹ Ganti, Akhilesh, “*What is Insider Trading and When Is It Legal*”, Investopedia, <https://www.investopedia.com/terms/i/insidertrading.asp>, 7 March 2022.; Investor, “*SEC, Insider Trading*”, <https://www.investor.gov/introduction-investing/investing-basics/glossary/insider-trading>.

that if non-fungible tokens are not qualified as securities, criminal activities such as insider trading may not occur.¹⁰³⁰ Although the classification problem of non-fungible tokens is an important question as mentioned in Section 2.1.4 above, the Chastain incident, which will be examined below, indicates that even though non-fungible tokens are not security, illegal information disclosure about them may constitute insider trading. As a matter of fact, in the case of *Carpenter v. United States*¹⁰³¹ dated 1987 of the United States Supreme Court found that charges for mail and wire fraud did not have to be based on the fact that underlying subject matter is qualified as security.¹⁰³² This reasoning has also been considered appropriate by some for non-fungible tokens.¹⁰³³

“The first-ever digital asset insider trading scheme”¹⁰³⁴ case involving NFTs happened with a former head of product of OpenSea, Nathaniel Chastain. In June 2022, he was charged with fraud, insider trading and money laundering by the U.S. Department of Justice.¹⁰³⁵ Within the scope of his employment, Chastain allegedly

¹⁰³⁰ Gatto, James G., “*NFT Insider Trading- Can There Be A Crime If It’s Not a Security?*”, National Law Review, Volume 12, Issue 169. <https://www.natlawreview.com/article/nft-insider-trading-can-there-be-crime-if-it-s-not-security>; Gatto, James /Walter, Brittany, “*NFT Insider Trading Compliance Policies- What They cover and Why You Need One*”, <https://www.jdsupra.com/legalnews/nft-insider-trading-compliance-policies-4928022/>

¹⁰³¹ Timothy Ivory Carpenter v. United States of America, 138 S. Ct. 2206 (2018), at <https://caselaw.findlaw.com/us-supreme-court/484/19.html#:~:text=CARPENTER%20v.%20UNITED%20STATES%20%281987%29%20No.%2086-422,Argued%3A%20October%207%2C%201987%20Decided%3A%20November%2016%2C%201987.>

¹⁰³² Gatto, James, “*NFT Insider Trading Charge Doesn’t Require the NFT to Be a Security*”, National Law Review, Volume 12, Issue 306, <https://www.natlawreview.com/article/nft-insider-trading-charge-doesn-t-require-nft-to-be-security>.

¹⁰³³ Gatto, James, “*NFT Insider Trading Charge Doesn’t Require the NFT to Be a Security*”, National Law Review, Volume 12, Issue 306, <https://www.natlawreview.com/article/nft-insider-trading-charge-doesn-t-require-nft-to-be-security>.; Levi, Stuart D./ Michael, Dani/ Ghaemmaghami, Mana, “*‘Insider Trading’ and NFTs: What Should Companies Be Doing?*” Skadden, <https://www.skadden.com/insights/publications/2022/06/insider-trading-and-nfts>, 16 June 2022.; Gatto, James, “*NFT Insider Trading Charge Doesn’t Require the NFT to Be a Security*”, <https://www.jdsupra.com/legalnews/nft-insider-trading-charge-doesn-t-7029175/>, 1 November 2022.

¹⁰³⁴ US Department of Justice, Former Employee Of NFT Marketplace Charged In First Ever Digital Asset Insider Trading Scheme, <https://www.justice.gov/usao-sdny/pr/former-employee-nft-marketplace-charged-first-ever-digital-asset-insider-trading-scheme>.

¹⁰³⁵ First Ever Digital Asset Insider Trading Scheme.

was choosing the non-fungible tokens which would be highlighted on OpenSea's front page, which was kept secret by OpenSea until the appearance of those non-fungible tokens.¹⁰³⁶ Once the non-fungible token was featured on the front page, both the price for that non-fungible token and for the non-fungible tokens minted by the same creator increased significantly.¹⁰³⁷ Chastain would use this information to purchase non-fungible tokens which would increase in value after the featuring of the non-fungible token on the front page, and then resold these non-fungible tokens at huge profits, through anonymous digital currency wallets and anonymous accounts on OpenSea.¹⁰³⁸ Chastain on the other hand, alleged that insider trading charges apply only to securities and commodities, and that they do not fall under neither category.¹⁰³⁹ The court on the other hand, stating that he is not charged with insider trading in the classical meaning, stated that he was charged with wire fraud violation, which is not limited to securities or commodities.¹⁰⁴⁰

Similarly, "first ever cryptocurrency insider trading tipping scheme"¹⁰⁴¹ happened with Coinbase platform. Allegedly, a former product manager of Coinbase, Ishan Wahi, along with his brother Nikhil Wahi and Sameer Ramani, was involved in wire fraud conspiracy and wire fraud relating to a scheme to commit insider trading in cryptocurrencies by resorting to confidential company information relating to which assets are to be listed on the exchanges of Coinbase.¹⁰⁴² While Sameer Ramani remains at large, the brother Nikhil Wahi

¹⁰³⁶ First Ever Digital Asset Insider Trading Scheme.

¹⁰³⁷ First Ever Digital Asset Insider Trading Scheme.

¹⁰³⁸ First Ever Digital Asset Insider Trading Scheme.

¹⁰³⁹ Keely, Aislinn, "*OpenSea employee accused of fraud wants to subpoena the NFT Marketplace*", <https://www.theblock.co/post/174566/opensea-employee-accused-of-fraud-wants-to-subpoena-the-nft-marketplace>, 3 October 2022.

¹⁰⁴⁰ De, Nikhilesh, "*Court Refuses to Dismiss 'Insider-Trading' Case Against Former OpenSea Exec*", <https://www.coindesk.com/policy/2022/10/24/court-dismisses-ex-opensea-execs-effort-to-dismiss-insider-trading-case/>, 24 October 2022.

¹⁰⁴¹ US Department of Justice, "Three Charged in First Ever CryptoCurrency Insider Trading Tipping scheme", at <https://www.justice.gov/usao-sdny/pr/three-charged-first-ever-cryptocurrency-insider-trading-tipping-scheme>.

¹⁰⁴² First Ever CryptoCurrency Insider Trading Tipping Scheme.

pleaded guilty, currently waiting for his sentencing, and Ishan Wahi did not plead guilty, who will appear in court in March 2023.¹⁰⁴³

Even though the clarification regarding the definition and categorization of non-fungible tokens still are present, prosecution of these kind of illegal activities which would harm market dynamics are important. After all, confidential information could be an extremely important factor affecting the value of a non-fungible token.¹⁰⁴⁴ An employee engaging in illegal activities using the company's confidential information poses an immense reputational risk as well.¹⁰⁴⁵ However, it is also worth noting that crypto investors expressed their surprise on social media, stating in fact that these kinds of schemes are quite common.¹⁰⁴⁶ In addition, where the traders are extremely careful as to now leave traces of their actions, it is not always possible or easy to undercover such schemes.¹⁰⁴⁷

In order to avoid such occasions, companies dealing in non-fungible tokens must take some precautions. It is advisable to companies to have non-fungible trading policies and trainings where employees are clarified about what information is public and what are non-public.¹⁰⁴⁸ Another measure could be the limitation of the company's employees' (or a wider group of persons affiliated) purchase of non-

¹⁰⁴³ Reuters, "Coinbase employee mired in first insider trading case involving cryptocurrency", <https://www.theguardian.com/us-news/2022/sep/12/coinbase-crypto-currency-insider-trading>, 12 September 2022.

¹⁰⁴⁴ First Ever CryptoCurrency Insider Trading Tipping Scheme.

¹⁰⁴⁵ First Ever CryptoCurrency Insider Trading Tipping Scheme.

¹⁰⁴⁶ Genç, Ekin, "*Insider Trading 'Common' in NFTs, Investors Say After First Arrest*", Vice, <https://www.vice.com/en/article/akewdz/insider-trading-common-in-nfts-investors-say-after-first-arrest>, 3 June 2022.; A Twitter user titled QuantumMechanic in their tweet dated 1 June 2022 stated for the arrest of Chastain "*this is pretty shocking. I can't imagine any NFT or DeFi developer doesn't somehow profit from insider trading*" at <https://twitter.com/xCryptoAnarchy/status/1532053916606660610?s=20&t=AETLHqfZ9GGjzfwNB-ftxw>.

¹⁰⁴⁷ Genç, Ekin, "*Insider Trading 'Common' in NFTs, Investors Say After First Arrest*", Vice, <https://www.vice.com/en/article/akewdz/insider-trading-common-in-nfts-investors-say-after-first-arrest>, 3 June 2022.;

¹⁰⁴⁸ Gatto, James /Walter, Brittany, "*NFT Insider Trading Compliance Policies- What They cover and Why You Need One*", <https://www.jdsupra.com/legalnews/nft-insider-trading-compliance-policies-4928022/>.; Levi, Stuart D./ Michael, Dani/ Ghaemmaghami, Mana, "'Insider Trading' and NFTs: What Should Companies Be Doing?" Skadden, <https://www.skadden.com/insights/publications/2022/06/insider-trading-and-nfts>, 16 June 2022.

fungible tokens of the company.¹⁰⁴⁹ For instance, after the Chastain incident, OpenSea later issued a statement that this act is “incredibly disappointing”, and they have implemented necessary policies as to prohibit OpenSea team members transacting actively featured or promoted collections or creators and using confidential information for non-fungible token transactions.¹⁰⁵⁰

Lastly, various fees, especially the gas fees that sometimes even exceed the income generated from the sale of a non-fungible token along with fees to be paid to the sales platforms¹⁰⁵¹ are considered as one of the negative aspects for the NFT market.¹⁰⁵²

3.4.2 Concerns Relating to the Technological Infrastructure of the Non-Fungible Tokens

Apart from the distrust that the non-fungible token markets will not continue successfully and crash, and criticisms and concerns about the market; there are also concerns which arise from the technological background of the non-fungible tokens. They will be briefly analyzed below.

¹⁰⁴⁹ Gatto, James /Walter, Brittany, “*NFT Insider Trading Compliance Policies- What They cover and Why You Need One*”, <https://www.jdsupra.com/legalnews/nft-insider-trading-compliance-policies-4928022/> .; Levi, Stuart D./ Michael, Dani/ Ghaemmaghami, Mana, ““Insider Trading’ and NFTs: What Should Companies Be Doing?” Skadden, https://www.skadden.com/insights/publications/2022/06/insider-trading-and-nfts_ 16 June 2022.

¹⁰⁵⁰ Finzer, Devin, “*Our Commitment to the OpenSea Community*”, <https://opensea.io/blog/announcements/employee-information-use-at-opensea/>, 16 September 2021.

¹⁰⁵¹ Kinsella, Eileen, “*Think Everyone Is Getting Rich Off NFTs? Most Sales Are Actually \$200 or Less, According to One Report*”, Artnet News. 29, April, 2021.

¹⁰⁵² Kay, Grace, “*Selling crypto art can come with huge hidden fees, leading some people to lose hundreds of dollars*”, Business Insider, <https://www.businessinsider.in/tech/news/selling-crypto-art-can-come-with-huge-hidden-fees-leading-some-people-to-lose-hundreds/articleshow/81496844.cms>., 14 March 2021.; Guadamuz, *The Treachery*, p.1369.

3.4.2.1 Hosting and Data Storage Concerns

As stated above, in many cases, the non-fungible token functions as a link to a digital artwork which is separately stored.¹⁰⁵³ In case the digital asset in question is deleted, or the server which hosts it somehow fails or goes offline, or the link is obsolete, the non-fungible token will no longer be linked to the digital asset.¹⁰⁵⁴ As unique identifiers, non-fungible tokens cannot be replaced, leaving no possibility for backup.¹⁰⁵⁵ This may lead to grave data loss, breaches of regulatory records keeping and business disruptions.¹⁰⁵⁶ Some distinct global networks such as Interplanetary File System (IPFS) have been created in order to store digital assets in a permanent and decentralized fashion, as mentioned in Section 1.2.2.¹⁰⁵⁷ However, unfortunately these are not considered as 100% foolproof methods.¹⁰⁵⁸

In addition, both for on chain and off-chain NFTs, if the underlying work is a digital asset and does not have a physical copy, there is the risk of bit rot¹⁰⁵⁹, which may potentially cause the artwork not to be kept forever. Of course, this concern is also valid for tangible artworks as well: many tangible artworks require thorough preservation techniques for sustaining the condition of the artwork¹⁰⁶⁰, as well as

¹⁰⁵³ Wilson, 2022, p.46; Vallabhaneni.

¹⁰⁵⁴ Wilson, 2022, p.46; Vallabhaneni.

¹⁰⁵⁵ Wilson, 2022, p.46; Vallabhaneni.

¹⁰⁵⁶ Wilson, 2022, p.46; Vallabhaneni.

¹⁰⁵⁷ Wilson, 2022, p.43. Çağlayan Aksoy/ Üner Özkan, p.1121; Filorinalı, pp.29.; Güçlütürk, Osman Gazi, “*NFT’lerin Oluşturulması ve Transferinin Eser Sahibinin Mali Haklarıyla İlişkisi*”, Nasamer Blog, <https://nasamer.ku.edu.tr/nftlerin-olusturulmasi-ve-transferinin-eser-sahibinin-mali-haklariyla-iliskisi/>, 25 March 2022.

¹⁰⁵⁸ Wilson, 2022, p.46.

¹⁰⁵⁹ Majocha /HLS Staff.; Merriam Webster defines bit rot as the tendency for digital information to degrade or become unusable over time: <https://www.merriam-webster.com/dictionary/bit%20rot>. See also: Techtarget, “*bit rot*”, <https://www.techtarget.com/searchstorage/definition/bit-rot/>; Technopedia, “*bit rot*”, <https://www.techopedia.com/definition/33108/bit-rot>.

¹⁰⁶⁰ Chubb, “*How to Preserve Different Types of Art*”, <https://www.chubb.com/us-en/individuals-families/resources/how-to-preserve-different-types-of-art.html>; Visual Artists Association, “*Artist’s Tips for Artwork Preservation*”, <https://visual-artists.org/resources/artwork-preservation/>.

facing significant risks of damage or loss due to widespread exhibition, trade and transport processes.¹⁰⁶¹

3.4.2.2 Cybersecurity Concerns

Apart from the concerns focusing on the fair and regular state of the NFT markets, there are many concerns relating to cyber security issues.¹⁰⁶² Just as many other digital assets, non-fungible tokens are certainly not immune from cybersecurity risks. As the security of non-fungible tokens relies on the location in which they are stored, they can be the target of cyberattacks, especially if their storage is on centralized platforms.¹⁰⁶³ This is also because, as mentioned previously, smart contracts are the foundation behind the non-fungible tokens as explained in Section 1.4.2 above, any cyber threats against the smart contracts or any vulnerabilities therein will also affect the non-fungible tokens.

Potential hackings of the private key of a non-fungible token are also an important risk.¹⁰⁶⁴ A cybercriminal may get access to the private key of a non-fungible token, and even shift it to another NFT market, which will certainly challenge the original owner of the non-fungible token to rescue. For instance, a hacking incident happening on the Nifty Gateway platform demonstrated the harm which could result from a compromised private key.¹⁰⁶⁵

¹⁰⁶¹ Wilson, 2019, p.259.

¹⁰⁶² Okonkwo, p.299.

¹⁰⁶³ Lukic, David, “*What You Need to Know About NFTs and Cyber Security*”, <https://nftnewstoday.com/2022/06/14/what-you-need-to-know-about-nfts-and-cyber-security/>, 14 June 2022.

¹⁰⁶⁴ Griffin, Sean C., “*Legal cybersecurity challenges of NFTs and 'smart contracts'*”, [https://today.westlaw.com/Document/1985e2aacdfdd11ebbea4f0dc9fb69570/View/FullText.html?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://today.westlaw.com/Document/1985e2aacdfdd11ebbea4f0dc9fb69570/View/FullText.html?transitionType=Default&contextData=(sc.Default)&firstPage=true). 8 July 2021.

¹⁰⁶⁵ Powers, Benjamin, “*Lessons From the Nifty Gateway NFT Heist: Not Your Keys, Not Your Art*”, <https://www.coindesk.com/tech/2021/03/17/lessons-from-the-nifty-gateway-nft-heist-not-your-keys-not-your-art/>. 17 March 2021.

3.4.3. Environmental Concerns for Non-Fungible Tokens

High amount of energy consumption and increased carbon footprint have long caused crypto technologies to be criticized for.¹⁰⁶⁶ The mining activities for Bitcoin for example, require a substantial amount of electricity.¹⁰⁶⁷ One study published in 2021 revealed that global mining activities for Bitcoin expects at least as much as electricity as Argentina, although still very minimal in comparison to energy consumption of countries such as China or the USA.¹⁰⁶⁸ In order to disseminate these criticisms, it often stated that renewable energy sources will have to be used for powering Bitcoin mining.¹⁰⁶⁹

Although the high amount of energy required for minting the NFTs is highlighted by many,¹⁰⁷⁰ there are also some authors who mentioned that NFTs do not always have to require as much energy as does other cryptocurrencies like Bitcoin.¹⁰⁷¹ However, the minting of non-fungible tokens and their transactions still involve computational activities which requires energy consumption, as mentioned in Section 1.2.2 above.¹⁰⁷² Therefore, concerns about the carbon footprint of the non-fungible token technology and its adverse impact on the environment are still widespread and valid, even though they might not have as adverse effect as cryptocurrency mining.¹⁰⁷³

¹⁰⁶⁶ Beckman,p.29.

¹⁰⁶⁷ Beckman,p.30.

¹⁰⁶⁸ Criddle, Cristina, “*Bitcoin consumes more electricity than Argentina*”, https://www.bbc.com/news/technology-56012952_10 February 2021.; Beckman,p.30.

¹⁰⁶⁹ Beckman,p.30.

¹⁰⁷⁰ Majocho /HLS Staff.

¹⁰⁷¹ Beckman, p.30.

¹⁰⁷² Wilson, 2022, p.48.

¹⁰⁷³ Guadamuz, Andres, “*The Treachery of Images: Non-Fungible Tokens and Copyright*”, *Journal of Intellectual Law & Practice*, 2021, Volume 16, Issue 12, p.1369.; Donoughue, Paul, “*NFTs are setting the creative world alright. Are they also bad for the planet?*”, <https://www.abc.net.au/news/2021-03-13/nfts-trading-digital-art-environment-carbon-emissions/13241654>. 12 March 2021.

CONCLUSION

The implications of non-fungible tokens on art law involve multiple and complex analyses. While many issues are controversial as mentioned in this study, the currently evolving legal framework will become clearer and more specific in time.

There are also doubts about the existence and future of non-fungible tokens. Beeple has told in an interview to NPR for the non-fungible tokens: *“I actually believe it is a bubble, to be quite honest. I think you're going to see a mad rush of people come to this space. And a lot of the stuff that people are making into NFTs is junk. And that stuff will not hold its value. **When the bubble bursts, it's not going to wipe out this technology. It's just going to wipe out the junk.**”*¹⁰⁷⁴ This finding seems accurate, because, although currently non-fungible tokens are mostly used in digital collections due to the current state of technology and products in the market, it is very important to notice that non-fungible tokens have a lot of various use-cases yet to be discovered and become widespread.

Blockchain technology has been expected to provide a deep structural shift in art ecosystem.¹⁰⁷⁵ As explained separately above, non-fungible tokens have many advantages for artists and other actors. Non-fungible tokens, thanks to their ability to verify the authenticity of an underlying asset, have great potential to be used in many areas along with the art market. Therefore, it seems correct to assume that even if the exorbitantly priced, celebrity-boosted digital art collection non-fungible tokens will recede, this technology, which promises huge possibilities both for digital collectibles as well as other physical assets, will remain.¹⁰⁷⁶

¹⁰⁷⁴ NPR, The \$69 Million JPEG, <https://www.npr.org/transcripts/976513031>, 12 March 2021.

¹⁰⁷⁵ Resch.

¹⁰⁷⁶ Resch; Petterson, Anders, ArtTactic's Anders Petterson on the State of the NFT Market, <https://soundcloud.com/arttactic/arttactics-anders-petterson-on-the-state-of-the-nft-market>.

Techniques, trends, usage patterns, even the name of the products may vary. When looking to the future of the non-fungible tokens, it is important not to have technological myopia¹⁰⁷⁷ and keep an open mind for the future of the non-fungible tokens, even though it might end up in a state quite different than what it seems today.

¹⁰⁷⁷ This term is used by Richard Susskind. He explains the term as “*the inability to anticipate that tomorrow’s systems will be vastly more capable than those of today and to recognize the likely implications of the well-nigh inevitable advances*” and “*to frame the future in terms of the shortcomings of current systems.*” Susskind, Richard, *Online Courts and the Future of Justice*, Oxford University Press, Oxford, 2021, pp. 44-45, 273.

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