



Indonesian Law Journal

TOPIC OF THIS EDITION

THE LEGAL PERSPECTIVE ON NFT AND METAVERSE
AS FUTURE INTELLECTUAL PROPERTY ISSUES

Strengthening The Legal Protection
of Communal Intellectual Property
to Anticipate Misuse by Foreign Parties

**Mas Subagyo Eko Prasetyo, Syafrida,
Pardomuan Gultom**

Digital Asset and Personal Data Protection
in The Metaverse: Analyzing
The Implementation of Indonesian Laws
in Addressing Challenges in The Virtual Era

Koento Pinandito N Irianto

Regulating The Metaverse: Ensuring Legal
Protection and Intellectual Property Rights
in The Digital Landscape

Dicky Surya Dharma

The Future of Intellectual Property
Protection: Issues Against The Metaverse
and Non-Fungible Tokens (NFTs)

Habbi Firlana, Pascalis Dani Kriti Wibowo

Regulating Innovation: Addressing
The Potential Threats of NFT and Metaverse
on Intellectual Property Rights

**Annisa Hafizhah, Aji Baskoro,
Aisha Radha Wahyuda**



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**FROM
EDITOR'S
DESK**

We thank God Almighty for publishing the Indonesian Law Journal (ILJ) Volume 16, No. 2 of 2023. The ILJ is a peer-reviewed journal published in English and intended to disseminate scientific articles and analyse legal issues from academics, researchers, observers, practitioners, and all patrons in Indonesia. As one of the scientific journals in law published by the National Law Development Agency – Ministry of Law and Human Rights of the Republic of Indonesia, the ILJ provides a forum for legal ideas to respond to legal problems in recent times. The ILJ is in line with the function of the National Law Development Agency, which is to develop and foster national law in Indonesia.

The rapid evolution of technology in the 21st century has given rise to novel and transformative concepts, among which Non-Fungible Tokens (NFTs) and the Metaverse stand out prominently. As we venture into this digital frontier, it becomes imperative to examine the legal implications and challenges that accompany these innovative technologies, particularly in the realm of intellectual property (IP).

Therefore, the ILJ Volume 16 No. 2 of 2023 has the theme “The Legal Perspective on NFT and Metaverse as Future Intellectual Property Issues”. This edition aims to explore the legal nuances and challenges faced by stakeholders in the NFT and Metaverse ecosystems. From copyright and trademark considerations to issues of licensing, infringement, and the establishment of digital property rights, the legal framework must adapt to address the dynamic nature of these technologies. Moreover, the decentralized and borderless nature of blockchain networks raises questions about jurisdiction, enforcement, and the applicability of existing legal doctrines. This exploration serves as a foundation for further examination of the legal challenges and opportunities that lie ahead.

In ILJ Volume 16 No. 2 of 2023, 4 (four) writers with various backgrounds discuss this matter and a writer as an additional writer discussing the previous topic in ILJ Volume 16 No. 1 of 2023, Mas Subagyo Eko Prasetyo and team with their article’s title related to “Strengthening the Legal Protection of Communal Intellectual Property to Anticipate Misuse by Foreign Parties”.

Koento Pinandito N Irianto discusses the implementation of Indonesian law concerning the protection of digital assets and personal data in the metaverse with article titled “Digital Asset and Personal Data Protection in the Metaverse: Analyzing The Implementation of Indonesian Laws in Addressing Challenges in the Virtual Era”. The findings aim to provide a profound understanding of Indonesia’s legal effectiveness in safeguarding digital assets

and personal data in the metaverse, offering practical implications for stakeholders to enhance legal protection in response to evolving metaverse technologies.

The following article by Dicky Surya Dharma is “Regulating the Metaverse: Ensuring Legal Protection and Intellectual Property Rights in the Digital Landscape”. As a legal analyst, the purpose of his research is to conduct an analysis, especially regarding metaverse regulations, especially in relation to intellectual property so that it becomes reference material for the public and policy makers.

The next article is “The Future of Intellectual Property Protection: Issues Against The Metaverse and Non-Fungible Tokens (NFTs)” by Habbi Firlana and Pascalis Dani Kriti Wibowo. The results of this research show that the blockchain system must also be utilized by the Indonesian Government to become a central database for virtual intellectual property and public domain collections. Legal protection in Indonesia still needs to be strengthened on the law enforcement side to provide legal certainty for stakeholders so that public confidence arises in registering their intellectual property.

The last article is “Regulating Innovation: Addressing the Potential Threats of NFT and Metaverse on Intellectual Property Rights” by Annisa Hafizhah and team. This article aims to analyse how regulations can respond to these innovations, highlighting potential threats related to intellectual property infringement, identity theft, privacy, and money laundering. It also explores legal protection efforts for intellectual assets found in NFTs and Metaverse in line with existing regulations, community guidelines, and collaboration with various stakeholders.

So, this is the entire article published in the ILJ Volume 16 No. 2 of 2023. We want to express our gratitude and most profound appreciation to all contributors, Editorial team members, Reviewers, and Mitra Bestari for their progressive contribution and excellence to the ILJ this edition. This fine collection of articles will be a valuable resource for legal practitioners, readers, and researchers, stimulating further research into the vibrant area of law and social sciences and contributing to the development of national law in the future.

Editor of Indonesian Law Journal

**Indonesian
Law Journal**

Volume 16 No. 2 | Desember 2023

EDITORIAL BOARD	v
FROM EDITOR'S DESK	vii
CONTENTS	ix
STRENGTHENING THE LEGAL PROTECTION OF COMMUNAL INTELLECTUAL PROPERTY TO ANTICIPATE MISUSE BY FOREIGN PARTIES Mas Subagyo Eko Prasetyo, Syafrida, Pardomuan Gultom	113
DIGITAL ASSET AND PERSONAL DATA PROTECTION IN THE METAVERSE: ANALYZING THE IMPLEMENTATION OF INDONESIAN LAWS IN ADDRESSING CHALLENGES IN THE VIRTUAL ERA Koento Pinandito N Irianto	137
REGULATING THE METAVERSE: ENSURING LEGAL PROTECTION AND INTELLECTUAL PROPERTY RIGHTS IN THE DIGITAL LANDSCAPE Dicky Surya Dharma	161
THE FUTURE OF INTELLECTUAL PROPERTY PROTECTION: ISSUES AGAINST THE METAVERSE AND NON-FUNGIBLE TOKENS (NFTs) Habbi Firlana, Pascalis Dani Kriti Wibowo	185
REGULATING INNOVATION: ADDRESSING THE POTENTIAL THREATS OF NFT AND METAVERSE ON INTELLECTUAL PROPERTY RIGHTS Annisa Hafizhah, Aji Baskoro, Aisha Radha Wahyuda	205
AUTHOR GUIDELINES	229

STRENGTHENING THE LEGAL PROTECTION OF COMMUNAL INTELLECTUAL PROPERTY TO ANTICIPATE MISUSE BY FOREIGN PARTIES

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ABSTRACT

The adoption of Communal Intellectual Property (CIP) into laws and regulations (*wettelijk regeling*) in Indonesia began with the inclusion of Traditional Cultural Expressions (TCE) in Law Number 28 of 2014 concerning Copyright. Copyright Law does not define Communal Intellectual Property (CIP) or Traditional Cultural Expressions (TCE). However, the definition of CIP and TCE has received confirmation in Government Regulation Number 56 of 2022 concerning Communal Intellectual Property. The absence of regulation on CIP in a special law makes CIP's position weak conceptually and in terms of its protection, so the indigenous peoples' position still needs to be stronger as a subject of CIP. This research uses a normative juridical approach. This study aims to analyze CIP's position in Copyright Law and provide input so that CIP has legal force in Indonesia. To strengthen the legal position of Communal Intellectual Property, it is necessary to regulate norms in the form of *sui generis* laws which aim to guarantee legal certainty for Communal Intellectual Property in Indonesia.

Keywords: Intellectual Property, Communal Intellectual Property, Traditional Cultural Expressions, Copyright Law

A. Introduction

Cultural change can occur because it is based on the desires and needs of the people, as a form of planned change, for example through cultural development programs. Cultural changes that are planned, whether through the hands of stakeholders, the government, or other parties, such as cultural observers, activists and "creative engineers," can impact that culture's existence. This behavior aims to enrich its values, and develop its people's quality of life. Cultural change is influenced by two factors, namely endogenous and exogenous factors. Endogenous factors include population growth, social conflict, and new discoveries in the fields of science and technology. Meanwhile, exogenous factors include

the environment, war between countries, and other cultural influences.¹

Unplanned cultural change it can occur through claims of ownership of a cultural asset by the community or other parties. Moreover, this is done by governments in other countries which can impact the existence of this culture.

From a cultural perspective, a claim to ownership of Communal Intellectual Property as a cultural asset is an act of uprooting a particular culture from its origin. This behavior can also be interpreted as reducing the values and intrinsic wealth attached to them. Claims of the cultural assets of a country's people by other parties and/or countries also raise problems, regarding issues of cultural authenticity, and political diplomacy, foreign relations and legal issues.

As reported by the mass media and electronic, these claims are made by foreign business actor and several foreign countries. The existence of these claims naturally led to disappointment for community groups and the Indonesian nation. This also raises questions about the government role in protecting the Communal Intellectual Property of its people and the government's response to claims by foreign parties/countries.

Several forms of Communal Intellectual Property of local communities in Indonesia that are claimed by the state (government) and foreign parties turn out to be quite a lot, batik, ancient manuscripts, culinary materials (cooking), songs, dances, musical instruments, designs and plant products, and the claim time has also been going on for a long time.² For example, in 2009 Malaysia felt that the Barongan Dance (in Indonesia it is called the Reog Ponorogo Dance) was already well known by the people in the archipelago before the founding of the Indonesian state, where this dance was brought by the Ponorogo people who migrated to Malaysia in 1722. Therefore, Malaysia feels that it is not in a position to claim the Reog Ponorogo Dance, but to preserve the dance of the Malaysian people, which is indeed similar to the Barongan Dance.³ Likewise, in 2021, Miss World Malaysia, Lavanya Sivaji, claimed that Batik came from Malaysia. In fact, UNESCO has determined that batik is an Intangible Cultural Heritage belonging to Indonesia since October 2 2009.⁴

In addition, there are five forms of Communal Intellectual Property in Indonesia that have been claimed by foreign parties, namely the Sasando musical instrument originating from East Nusa Tenggara (NTT), which was claimed by Sri Lanka; Wayang kulit from

1 Talcott Parsons, "A Functional Theory of Change", in Eva Etzioni-Halevy and Amitai Etzioni, *Social Changes: Sources, Patterns and Consequences*, (New York: Basic Book, 1994), p. 76.

2 Agus Setiawan, *Perlindungan Hukum Dalam Lingkup Pengetahuan Tradisional dan Ekspresi Budaya Tradisional atas Soto Sebagai Indikasi Geografis dan Makanan Khas Nusantara*. Dharmasiswa Jurnal Program Magister Hukum FHUI, 2 (1), 2022, p. 18.

3 Republika, *Sejarah Reog Ponorogo yang Diklaim Malaysia di UNESCO*, accessed from <https://kurusetra.republika.co.id/posts/101324/sejarah-reog-ponorogo-yang-diklaim-malaysia-di-unesco>, at the date of 2 June 2023.

4 Viva, *Malaysia Kepincut 4 Budaya Khas Indonesia, dari Batik hingga Rendang Padang*, accessed from <https://www.viva.co.id/gaya-hidup/inspirasi-unik/1640991-malaysia-kepincut-4-budaya-khas-indonesia-dari-batik-hingga-rendang-padang>, at the date of 17 November 2023.

Central Java, which was once claimed by Malaysia, but was disputed in 2003 and UNESCO acknowledged that wayang kulit is a rich source of indigenous Indonesian cultural heritage; Batik from Central Java which was once claimed by Malaysia, which in 2009 was also declared as one of Indonesia's cultural heritages.⁵ In addition, the musical instrument Angklung comes from West Java,⁶ Rendang which is a typical Padang dish, Pendet Dance from Bali and the Plate Dance from West Sumatra, Kuda Lumping from Java, Pencak Silat, the song Rasa Sayange, Tor-Tor dance from North Sumatra, Lumpia from Semarang, the Gordang Sambilan musical instrument from Mandailing, North Sumatra, and the Adan Rice from Nunukan, East Kalimantan, were also claimed by Malaysia.⁷

Not only has Malaysia claimed Indonesia's cultural assets, but other countries have also done the same thing, such as the Netherlands, England, France, Japan, America, and others. Apart from foreign countries, multinational companies have also made claims on Indonesian cultural assets, such as Gayo coffee, originating from Central Aceh, Aceh Province, claimed by a Dutch multinational company, products made from spices and medicinal plants native to Indonesia by Shiseido Co. Ltd., Japan, Toraja coffee originating from South Sulawesi has also been claimed by a company from Japan, as well as tempeh which has been claimed by several foreign companies.⁸

The efforts of other parties to make claims on cultural and food products originating from Indonesia are due to the need for more legal systems that can guarantee protection for the position of indigenous peoples. Legal recognition of cultural and food products originating from indigenous peoples in Indonesia was introduced through Regulation of the Minister of Law and Human Rights Number 13 of 2017 concerning Communal Intellectual Property Data, although previously Law Number 28 of 2014 concerning Copyright has given recognition to Traditional Cultural Expressions (TCE). However, Regulation of the Minister of Law and Human Rights Number 13 of 2017 has at least provided a formulation included in the legal objects of Communal Intellectual Property, such as Traditional Knowledge, Traditional Cultural Expressions, Genetic Resources, and potential Geographical Indications.

Regarding the government's steps in providing law protection for Communal Intellectual Property, in Regulation of the Minister of Law and Human Rights Number 13 of 2017 concerning Data on Communal Intellectual Property, it is stated that the inventory of CIP

5 Afrillyanna Purba, *Perlindungan Hukum Seni Batik Tradisional berdasarkan UU No. 19 Tahun 2002 tentang Hak Cipta*. (Bandung: Penerbit Alumni, 2023). See also Pudentia MPSS, *Justifikasi Warisan Budaya Tak Benda*, (Jakarta: Kemendikbud Ristek, 2021).

6 M. Maman Sumaludin, *Angklung Tradisional sebagai Sumber Belajar Sejarah Lokal*, *Prabayaksa: Journal of History Education*, Vol. 2, No. 1 (2022). <https://doi.org/10.20527/pby.v2i1.5033>

7 Liputan6, *8 Warisan Budaya Indonesia yang Pernah Diklaim Malaysia*, accessed from <https://www.liputan6.com/citizen6/read/2156339/8-warisan-budaya-indonesia-yang-pernah-diklaim-malaysia>, at the date of 3 June 2023. See also Detikcom, *Reog hingga Rendang, Ini 14 Warisan Budaya RI Mau Diakui Malaysia*, accessed from <https://news.detik.com/berita/d-6019917/reog-hingga-rendang-ini-14-warisan-budaya-ri-mau-diakui-malaysia?single=1>, at the date of 3 June 2023.

8 Abdul Rachman Patji, *Pengembangan dan Perlindungan Kekayaan Budaya Daerah: Respon Pemerintah Indonesia terhadap Adanya Klaim oleh Pihak Lain*, *Jurnal Masyarakat dan Budaya*, LIPI, 2010: 170-171.

data is only a record for defensive protection. However, the definition, formulation, and legal steps as a form of "defensive protection", are not described in the Regulation of the Minister of Law and Human Rights.

Likewise with the phrase "defensive protection" contained in Article 27 paragraph (2) Government Regulation Number 56 of 2022 concerning Communal Intellectual Property and in its explanation, the government does not provide a clear description of this phrase. In the Elucidation section of Article 27 paragraph (2) of the Government Regulation, it only states that "What is meant by "defensive protection" is protection used to defend the existing rights of the Community of Origin from misuse, deception, fraud, or misrepresentation, and theft or piracy (misappropriation)."

In previous research conducted regarding Communal Intellectual Property by Dewi Sulistianingsih, Yuli Prasetyo Adhi, and Pujiono, in an article entitled "Digitalization of Communal Intellectual Property in Indonesia" (2021) emphasized the importance of the role of technology in providing protection for Intellectual Property Rights in the form of a database. is the concept of digitizing Communal Intellectual Property in Indonesia.⁹

Likewise, research conducted by Anak Agung Gede Agung Indra Prathama, Ketut Rai Marthania Onassis, and I Gusti Agung Made Dwi Komara, with an article entitled "Legal Protection of Communal Intellectual Property Rights in Balinese Society" (2023), emphasizes the importance of protection law regarding Communal Intellectual Property in the national legal system, even though the local Bali Provincial Government has taken the initiative to make a Governor's Regulation as a form of legal protection for the potential of Communal Intellectual Property in Bali.¹⁰

Apart from that, Ismail Koto in his article entitled "Development of Communal Intellectual Property Rights in Indonesia (2023), provides a description of the development of the regulation of Communal Intellectual Property and states that the state needs to provide concrete guarantees in the form of government action on Communal Intellectual Property as an effort to realize legal certainty.¹¹

Of the three studies that have been conducted, they have not specifically explained the conceptualization of Communal Intellectual Property and its regulation in several laws and regulations as well as solutions to the legal position of Communal Intellectual Property in the national legal system. Therefore, this article is an attempt to explore the concept of Communal Intellectual Property and provide an explanation of the position of Communal

9 Dewi Sulistianingsih, Yuli Prasetyo Adhi, dan Pujiono, Digitalisasi Kekayaan Intelektual Komunal di Indonesia, Seminar Nasional Hukum Universitas Negeri Semarang 27 Juli 2021, 7 (2), 645-656. <https://proceeding.unnes.ac.id/index.php/snh/article/view/723>

10 Anak Agung Gede Agung Indra Prathama, Ketut Rai Marthania Onassis, dan I Gusti Agung Made Dwi Komara, Perlindungan Hukum atas Hak Kekayaan Intelektual Komunal dalam Masyarakat Bali, Jurnal Raad Kertha, Vol. 6, No. 1, Februari-Juli 2023: 21-33. <https://doi.org/10.47532/jirk.v6i1.823>

11 Ismail Koto, Perkembangan Hak Kekayaan Intelektual Komunal di Indonesia, Seminar Nasional Hukum, Sosial, dan Ekonomi (SANKSI 2023), Vol. 2, No. 1, 2023: 167-173. <https://jurnal.umsu.ac.id/index.php/sanksi/article/view/14324>

Intellectual Property in Indonesian laws and regulations which have not received special regulation in the form of law and provide a basis for consideration for law makers. in formulating and enacting special laws regulating Communal Intellectual Property.

The formulation of the norm for "defensive protection" of Communal Intellectual Property, especially Traditional Cultural Expressions (TCE) is also not contained in Law Number 28 of 2014 concerning Copyright as a legal umbrella for Minister of Law and Human Rights Regulation Number 13 of 2017 concerning Communal Intellectual Property Data and Government Regulation Number 56 of 2022 concerning Communal Intellectual Property. The lack of synchronization between the three legal products that regulate the legal position of Communal Intellectual Property can result in legal uncertainty in providing legal protection for forms of Communal Intellectual Property. Thus, the problem formulation of this research is: how is Communal Intellectual Property regulated in the legal system in Indonesia, especially in law? And what are the state's efforts to provide legal protection and certainty for Communal Intellectual Property? This problem is the basis for analysis as an effort to provide input in developing legal governance of Communal Intellectual Property in Indonesia.

B. Research Method

The method used in writing this scientific work is normative juridical legal research. The normative research method is a method that emphasizes that law is a building from a system of norms.¹² This method is carried out concerning the norms and principles of Intellectual Property Law, especially Communal Intellectual Property. The type of approach used in writing this scientific paper is the statute approach. This approach is carried out by examining laws and/or regulations related to the legal issues discussed in this paper. The result to be achieved from the use of normative juridical methods in this research is to determine the legal position and legal strength of Communal Intellectual Property which has been regulated in statutory regulations.

C. Discussions

One branch of Intellectual Property Rights (IPR) is Copyright. After the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs Agreement), changes to laws relating to copyright are directed at the need to create a better climate for the growth, development, and protection of intellectual works to smooth the flow of international trade. This latest change includes refinements and additions, one of them is an improvement to the protection of creations where there is no author, including traditional knowledge and traditional cultural expressions (otherwise known as *folklore*).

12 Mukti Fajar and Yulianto Achmad, *Dualisme Penelitian Hukum Normatif & Empiris*, 3rd Edition, (Yogyakarta: Pustaka Pelajar, 2015), p. 34.

From a legal perspective, folklore is classified as Traditional Knowledge which is included in the Intellectual Property Rights regime. The World Intellectual Property Organization (WIPO) defines Traditional Knowledge as:

“Tradition based literary, artistic or scientific works, performances, inventions, scientific discoveries, designs, marks, names, and symbols, undisclosed information, and, all other tradition based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields.”¹³

In the context of Law Number 28 of 2014 concerning Copyright (Copyright Law), folklore is included in the category of Traditional Cultural Expressions. In the Explanation of Article 38 paragraph (1) of the Copyright Law, Traditional Cultural Expressions includes one or a combination of forms of expression, including: verbal textual, both spoken and written, in the form of prose or poetry, in various themes and message content, which can be: literary works or informative narratives; music, including, among other things, vocal, instrumental, or a combination thereof; movement, including, among other things, dance; theater, including, among other things, puppet shows and folk plays; fine art, both in two-dimensional and three-dimensional form from various materials such as leather, wood, bamboo, metal, stone, ceramics, paper, textiles, etc. or a combination thereof; and traditional ceremonies.

According to William R. Bascom in Danandjaja (2007), folklore is divided into three, namely: myth, namely folk prose stories, which are considered to have really happened and are considered sacred by the person who owns the story; legend, namely folk prose which has characteristics similar to myth, namely that it is considered to have actually happened, but is not considered sacred; and fairy tales (folktales), namely collective short stories of oral literature, which are not considered to have actually happened.¹⁴

At the international level and in scientific works, "folklore" is still accepted as the most frequently used term. Markowski in Anna Friederike Busch (2015) states that the term "folklore" has been used for decades, even though it has discriminatory connotations.¹⁵ The country delegates who are members of the WIPO working group, which consists of government authorities, reached a consensus by using the term "Traditional Cultural Expressions", arguing that the term "folklore" is seen as derogatory in terms of cultures, regions, and specific countries.¹⁶ On the other hand, the term "expressions of folklore" has been used in previous international processes as well as in national laws. This term is also

13 Adrian Sutedi, *Hak Atas Kekayaan Intelektual*, (Jakarta: Sinar Grafika, 2009), p. 174.

14 James Danandjaja, *Folklor Indonesia: Ilmu Gosip, Dongeng, dan Lain-lain*. (Jakarta: Pustaka Utama Grafiti, 2007), p. 60.

15 Markowski in Anna Friederike Busch, *Protection of Traditional Cultural Expressions in Latin America: A Legal and Anthropological Study*, (Berlin Heidelberg: Springer-Verlag, 2015), p. 28.

16 See Annex WIPO/GRTKF/IC/7/INF/4, Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, Geneva, 2004. https://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_7/wipo_grtkf_ic_7_inf_4.pdf

synonymous with “Traditional Cultural Expressions” and is used interchangeably.

The term folklore itself has been separated from discussions on the concept of traditional knowledge by WIPO and UNESCO, namely:¹⁷

“Expression of folklore means productions consisting of characteristic elements of the traditional artistic heritage developed and maintained by a community of (a country) or by individuals reflecting the traditional artistic expectations of such a community, in particular: verbal expressions, such as folk tales, folk poetry, and riddles; musical expressions, such as folk songs, and instrumental music; expressions by action, such as folk dances, plays and artistic forms or rituals; whether or not reduced to material form; and tangible expressions, such as: productions of folk art, in particular, drawings, paintings, carvings, sculptures, pottery, terracotta, mosaic, woodwork, metalware, jewelry, basket weaving, needlework, textiles, carpets, costumes; musical instruments; architectural forms.”

The adoption of Communal Intellectual Property (CIP) into laws and regulations (wettelijk regeling) in Indonesia began with the inclusion of Traditional Cultural Expressions (TCE) in Law Number 28 of 2014 concerning Copyright (Copyright Law), to be precise in Article 38. However, the article only states that the Copyright on EBT is held by the state and the state is obliged to inventory, protect, and maintain it. Copyright Law does not define Communal Intellectual Property (CIP) or Traditional Cultural Expressions (TCE), but the definition of CIP and TCE has received confirmation in Government Regulation (PP) Number 56 of 2022 concerning Communal Intellectual Property.¹⁸

Article 1 point 1 Government Regulation (PP) Number 56 of 2022 concerning Communal Intellectual Property, states that:

“Communal Intellectual Property, after this abbreviated as KIK, is an intellectual property whose ownership is communal and has economic value while upholding the nation’s moral, social and cultural values.”

Furthermore, in number 2 of the Government Regulation define of TCE as follows:

“Traditional Cultural Expressions are all forms of expression of copyrighted works, either in the form of objects or intangibles, or a combination of both which shows the existence of a traditional culture which is held communally and across generations.”

Before the issuance of Government Regulation (PP) Number 56 of 2022 concerning Communal Intellectual Property, arrangements for forms of Communal Intellectual Property (CIP) were regulated in Minister of Law and Human Rights Regulation Number 13 of 2017 concerning Data on Communal Intellectual Property, which consists of traditional knowledge, traditional cultural expressions, genetic resources, and potential geographical indications. This Permenkumham is the legal basis for the government to carry out an

¹⁷ Ibid., p. 175.

¹⁸ Peraturan Pemerintah (PP) Nomor 56 Tahun 2022 tentang Kekayaan Intelektual Komunal, Pasal 1 angka 1.

inventory of the sub-sections classified as Communal Intellectual Property for the purposes of protection, preservation, development and/or utilization.¹⁹

In addition to these two legal products, in terms of protection of cultural expressions, this is also accommodated in Law Number 5 of 2017 concerning the Advancement of Culture. However, grammatically, it does not mention Traditional Cultural Expressions as referred to in the Regulation of the Minister of Law and Human Rights Number 13 of 2017 concerning Data on Communal Intellectual Property and Government Regulation (PP) Number 56 of 2022 concerning Communal Intellectual Property. However, the limits on cultural expressions contained in Law Number 5 of 2017 concerning the Advancement of Culture with Traditional Cultural Expressions (TCE) are regulated in the Regulation of the Minister of Law and Human Rights Number 13 of 2017 concerning Data on Communal Intellectual Property and Government Regulations (PP) Number 56 of 2022 concerning Communal Intellectual Property, can be interpreted as having a substance that is not much different.

In the Explanation section of Article 5 letter g of Law Number 5 of 2017 concerning the Advancement of Culture it states that:

“What is meant by “art” is individual, collective, or communal artistic expression, which is based on cultural heritage or the creation of new creativity, manifested in various forms of activity and/or medium. Arts include performing arts, visual arts, literary arts, film, music arts, and media arts.”

This correlates with the components included in Traditional Cultural Expressions (TCE), namely visual arts, theater, and music, as stated in Article 7 paragraph (1) of Government Regulation (PP) Number 56 of 2022 concerning Communal Intellectual Property. Thus, it can be said that in terms of advancing culture, Traditional Cultural Expressions (TCE) have received guaranteed protection through Law Number 5 of 2017 concerning the Advancement of Culture. In terms of protection of creation, Traditional Cultural Expressions (TCE) also receive protection through Law Number 28 of 2014 concerning Copyright.

1. Definition and Legal Basis

Communal Intellectual Property is traditional cultural heritage that needs to be preserved, this is because culture is the identity of a group or society.²⁰ Several categories included in Communal Intellectual Property (CIP) in Article 4 of Government Regulation Number 56 of 2022 concerning Communal Intellectual Property consist of: Traditional Cultural Expressions, Traditional Knowledge, Genetic Resources, and Indications of Origin

19 Peraturan Menteri Hukum dan HAM (Permenkumham) Nomor 13 Tahun 2017 tentang Data Kekayaan Intelektual Komunal, bagian Menimbang dan Pasal 1 angka 1.

20 Kemenkumham NTT, Buku Panduan Inventarisasi Kekayaan Intelektual Komunal, accessed from [https://ntt.kemenkumham.go.id/attachments/article/10546/Inovasi%20Unggulan Manual%20Book%20KIK.pdf](https://ntt.kemenkumham.go.id/attachments/article/10546/Inovasi%20Unggulan%20Manual%20Book%20KIK.pdf), at the date of 10 Juni 2023.

and Potential Geographical Indications (IG),²¹ in which the diversity and potential of the Communal Intellectual Property (CIP) must receive protection from the state for recognition, theft or piracy of other countries.²²

Traditional Cultural Expressions and Traditional Knowledge (TCETK) are state assets that have great potential for the nation's prosperity because they have high economic value. However, their ownership is widely recognized (claimed) by foreign parties without any sharing of benefit sharing, causing conflicts of interest between developed country and developing country. Weaknesses in developing a protection system for Communal Intellectual Property (CIP) are that there is no proper and adequate protection system and the limited data, documentation, and information related to this.²³

The utilization of Communal Intellectual Property (CIP) without considering the economic aspects and moral aspects arising from such utilization of custodians, especially the TCETK category by foreign parties, is the impact of the inadequacy of the conventional Intellectual Property Rights (IPR) system in providing adequate protection. In addition, efforts to support international conventions in the field of TCETK are a factor why Indonesian culture must be protected.²⁴

As a step to inventorying Communal Intellectual Property (CIP) data owned by Indonesia, the government built a data center named the National Data Center for Communal Intellectual Property, which is managed by the Directorate General of Intellectual Property (DJKI) Ministry of Law and Human Rights, which can be accessed through <http://kikomunal-Indonesia.dgip.go.id/>. This is a measure to protect Communal Intellectual Property (CIP) if there is a dispute over Indonesian culture with other countries. Apart from that, this step is also considered as a defensive protection of the Communal Intellectual Property (CIP), which is Indonesia's cultural heritage wealth and is aimed at mobilizing the active participation of local governments in updating data on cultural assets in their regions.

Indonesia has a wealth of traditional cultural expressions still lagging at the legislative level. In the past, Indonesia only had laws protecting Traditional Cultural Expressions (TCE) through Law Number 28 of 2014 concerning Copyright. Following the provisions of Article 38 paragraph (4) Copyright Law, that Traditional Cultural Expressions (TCE) as objects of copyright law held by the state are regulated by Government Regulations, then through Government Regulation Number 56 of 2022 concerning Communal Intellectual Property, Traditional Cultural Expressions (TCE) entered as one of the categories in the Communal Intellectual Property (CIP).

21 Peraturan Pemerintah No. 56 Tahun 2022 tentang Kekayaan Intelektual Komunal, Pasal 4.

22 Laporan Tahunan Direktorat Jenderal Kekayaan Intelektual, Kementerian Hukum dan HAM 2018. p. 39.

23 Ahmad Ubbe, Laporan Tim Pengkajian Hukum Tentang Perlindungan Hukum Kebudayaan Daerah, (Jakarta: BPHN Depkumham, 2009), p. 1.

24 Direktorat Jenderal Kekayaan Intelektual (DJKI), Kementerian Hukum dan HAM, Perkembangan Upaya Perlindungan Pengetahuan Tradisional dan Ekspresi Budaya Tradisional di Indonesia (Materi Forum Group Discussion), (Jakarta: DJKI Kemenkumham, 2011).

In 2017, the government, through the Ministry of Law and Human Rights issued Regulation of the Minister of Law and Human Rights (Permenkumham) Number 13 of 2017 concerning Communal Intellectual Property Data, as an effort to inventory data on sub-categories of Communal Intellectual Property, such as traditional knowledge, Traditional Cultural Expressions (TCE), Genetic Resources (GR), and potential Geographical Indications (GI), but the implementing provisions for Article 38 paragraph (4) UUHC, namely Government Regulation (PP) Number 56 of 2022 concerning Communal Intellectual Property, were issued after the Minister of Law and Human Rights concerning collection of Communal Intellectual Property (CIP).

There are at least 11 (eleven) legal provisions related to Communal Intellectual Property (CIP), namely:

1. Law of the Republic of Indonesia Number 11 of 2013 concerning Ratification of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization of the Convention on Biological Diversity;
2. Law of the Republic of Indonesia Number 28 of 2014 concerning Copyright;
3. Law of the Republic of Indonesia Number 20 of 2016 concerning Marks and Geographical Indications;
4. Law of the Republic of Indonesia Number 13 of 2016 concerning Patents;
5. Law Number 5 of 2017 concerning the Advancement of Culture;
6. Law of the Republic of Indonesia Number 11 of 2019 concerning the National System of Science and Technology;
7. Government Regulation of the Republic of Indonesia Number 48 of 2011 concerning Animal Genetic Resources and Livestock Breeding;
8. Government Regulation of the Republic of Indonesia Number 56 of 2022 concerning Communal Intellectual Property;
9. Regulation of the Minister of Agriculture Number: 67/Permentan/OT.140/12/2006 concerning Preservation and Utilization of Plant Genetic Resources;
10. Regulation of the Minister of Law and Human Rights Number 13 of 2017 concerning Communal Intellectual Property Data; and
11. Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number P.2/Menlhk/Setjen/Kum.1/1/2018 concerning Access to Genetic Resources of Wild Species and Sharing of Benefits from Their Utilization.

2. Communal Intellectual Property Protection Issues

WIPO recognizes the existence of protection of communal intellectual property of an indigenous community in the form of Traditional Knowledge (TK) and Traditional Cultural Expressions (TCE). According to WIPO, TK and TCE documentation is a process where TK

and EBT are identified, collected, organized, registered or recorded.²⁵ At the international level, the 2019 WIPO General Assembly through WO/GA/51/12 continuously noted and accelerated its work to ensure balanced and effective arrangements for the protection of Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions in order to complete work related to legal instruments internationally using all previously existing WIPO working documents, namely: WIPO/GRTKF/IC/40/6, WIPO/GRTKF/IC/40/18 and WIPO/GRTKF/IC/40/19.²⁶

Furthermore, in IGC-mandate point (d) it is confirmed that the WIPO General Assembly approved the renewal of the Committee's mandate, without reducing the work carried out in other forums through the 2022-2023 agenda of continuously updating the protection of Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions by uses all previous WIPO working documents and the Chair's Text on Draft International Legal Instruments and adds contributions from Member States, through collecting and identifying domestic laws, impact assessments, databases, then compiling and making available online information about national and regional sui generis regimes in for the protection of Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions.²⁷

At the WIPO international level, strengthening the protection of Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions is continually being updated by improving previous documents and complementing them with contributions from member countries, as can be seen from IGC-mandate point (d) and the WIPO agenda for 2022 -2023.

At the national level, regulations regarding the definition of Communal Intellectual Property (KIK) can be found in Government Regulation Number 56 of 2022 concerning Communal Intellectual Property and Regulation of the Minister of Law and Human Rights of the Republic of Indonesia Number 13 of 2017 concerning Communal Intellectual Property Data, both of which are the same -sama specifically contains material regarding Communal Intellectual Property. However, there are differences in the definitions and types of KIK in the two regulations. In Article 1 number (1) KIK is not explicitly defined, but the regulations directly determine the types and scope of Communal Intellectual Property. According to this article, KIK is intellectual property in the form of Traditional Knowledge, Certain Cultural Expressions, Genetic Resources, and Potential Geographical Indications. Meanwhile, in

25 WIPO, Documentation of Traditional Knowledge and Traditional Cultural Expressions, accessed from https://www.wipo.int/tk/en/tk_and_tces.html, at the date of 7 November 2023.

26 WIPO, Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, The Protection of Traditional Knowledge: Draft Articles, WIPO/GRTKF/IC/44/4, accessed from http://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_44/wipo_grtkf_ic_44_4.pdf, at the date of 8 November 2023.

27 WIPO, Assemblies of the Member States of WIPO Sixty-Second Series of Meetings, Report on the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC), accessed from <https://www.wipo.int/export/sites/www/tk/en/docs/igc-mandate-2022-2023.pdf>, at the date of 8 November 2023.

Government Regulation Number 56 of 2022 concerning Communal Intellectual Property, the definition of KIK emphasizes that IP is communal and has economic value, as regulated in Article 1 number 1 of Government Regulation Number 56 of 2022 concerning Communal Intellectual Property. Then in Article 4 PP 56/2022 KIK is described in Specific Cultural Expressions, Traditional Knowledge, Genetic Resources, Indications of Origin, and Potential Geographical Indications.

This is because TCE is passed down from one generation to another in ethnic communities. It is sometimes seen as the result of a slow but constant impersonal process of creative activity carried out through imitation and constant adaptation within the ethnic community. Ethnic communities consider TCE as an instrument to record their culture, history, and religion.

In addition, TCE has been transmitted and spread from generation to generation for centuries. It is not possible to know the name of the TCE creator. Thus, this characteristic of the identity of the unknown creator is inconsistent with the identity of the creator which must be known in copyright, because of the creator's moral rights, especially maternity rights.

In addition to the issue of creator identity, from a Western model copyright perspective, TCE passed down from one generation to the next for centuries, will be positioned in the public domain. If these issues are ignored, the question will arise: Can ethnic communities claim their rights when faced with violations? This issue also concerns recognizing Customary Law used in ethnic communities and the relationship between Customary Law and national law.

The main obstacle in applying the provisions of Communal Intellectual Property in Indonesia is the issue of conceptual differences between IPR, which is individualistic, and the concept of Communal Intellectual Property, which is communalistic and puts forward the concept of community. For the Indonesian people, property rights have a social function that other communities may enjoy. The majority of Indonesian people, especially the holders of Communal Intellectual Property, do not see this as a serious violation if the Communal Intellectual Property is exploited or used by another person or group, even without the permission of the right holder.²⁸ Meanwhile, this concept is different from HKI which comes from the West where in the Western concept, every utilization of one's property can be considered as a violation of IPR if it does not get permission from legal owner.

There are two forms of violations related to Communal Intellectual Property: misuse and misappropriation. According to Black's Law Dictionary, the concept of misuse is "the inappropriate use of patents by expanding the patent monopoly granted to non-patented objects or violating anti-trust laws". In general, Black's Law Dictionary states: "inappropriate use, accidentally or inconceivably." Some legal dictionaries usually define "misuse" as a

28 Adi Sulistiyono, *Mekanisme Penyelesaian Sengketa HaKI (Hak atas Kekayaan Intelektual)*, (Solo: Sebelas Maret University Press, 2004), p. 34.

misuse, imprecision, or wrong application. Misuse can also refer to overuse or acting to change the original purpose or function of something.

In 2012, the term misuse was proposed to be added to the text "The Protection of Traditional Knowledge: Revised Objectives and Principles" (WIPO/GRTKF/IC/18/5) by several Delegations, such as Indonesia and Mexico. Meanwhile, misappropriation refers specifically to obtaining something without prior approval.²⁹

Black's Law Dictionary defines "misappropriation" as "an unlawful act of using information that cannot be copyrighted, or using ideas collected and disseminated by an organization for profit to unfairly compete with that organization, or by duplicating a work for which the author does not exist or granted exclusive rights to the work. The elements included in the misappropriation are:

- (1) the plaintiff must have invested time, money, and energy to obtain the information;
- (2) the defendant must have obtained the information without the same investment; and
- (3) the plaintiff must have suffer losses due to acts of misappropriation.

3. Differences in the Concept of Communal Intellectual Property with Copyright

Intellectual property rights with communal rights cannot be owned individually but by social groups or communities in certain areas which then in their implementation are empowered by a group of people to manage and safeguard or defend them. The concept of communal rights is known in Customary Law as ulayat rights. In communal rights, it is more appropriate to use the term control rather than ownership. The term ownership is used for individual rights. Meanwhile, the term tenure is used for communal rights.³⁰

The division of intellectual property rights is now more realistic by referring to the nature of the rights granted, which can be divided into two types, namely:

- i. Individual Intellectual Property Rights, consisting of: Copyright & Related Rights, Patent, Trademark, Industrial Design, Layout Design of Integrated Circuit, Trade Secret, and Plant Variety.
- ii. Communal Intellectual Property Rights, which consist of: Indications of Source, Geographical Indications, Appellation of Origin, Traditional Knowledge, Folklore/ Traditional Cultural Expressions, and Genetic Resources.

29 WIPO/GRTKF/IC/20/INF/13, Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, Twentieth Session, Geneva, February 14 To 22, 2012 Glossary of Key Terms Related To Intellectual Property And Genetic Resources, Traditional Knowledge And Traditional Cultural Expressions.

30 Wahyu Sasongko, *Indikasi Geografis: Studi tentang Kesiapan Indonesia Memberikan Pelindungan Hukum terhadap Produk Nasional*, (Bandar Lampung: Penerbit Universitas Lampung, 2012), p. 41.

Table 1.: Difference between individual and communal Intellectual Property Rights

Types of Intellectual Property Rights	Protection Focus
Copyright	Original creations or expressions of ideas in the fields of literature, art and science are automatically protected.
Related Rights	Performance Recordings, Sound Recordings, Television and radio broadcasts.
Industrial Design	Creation of the shape and composition of lines and colors in three-dimensional or two-dimensional form that gives an aesthetic impression and is used to produce products.
Trademark	Signs in the form of images, logos, names, words, letters, words, numbers, color arrangements in two-dimensional, three-dimensional form, sound, holograms or a combination of these elements which have distinguishing power and are used in trading activities.
Patent	Inventions in the field of technology that are novel, inventive, and industrially applicable.
Trade Secret	Information that is not known to the public in the fields of technology and business, has economic value and is kept confidential, including: production methods, sales methods, other information that has economic value and is not known to the public.
Layout Design of Integrated Circuit	Creation in the form of a three-dimensional layout design intended to prepare for the manufacture of integrated circuits.
Plant Variety	Plant varieties that are new, unique, uniform, stable and named.
Indication of Source	An indication that refers to a country (or to a place within that country) as the country or place of origin of a product.
Geographical Indications	Indication to identify an item originating from a particular region or region or place within that region that has the quality, reputation, or other characteristics of the item that are essentially related to geographic origin.
Appellation of Origin	A special form of geographical indication whose protection requirements are cumulative and more stringent, namely product quality or characteristics that must be exclusively or essentially connected to the geographical environment which includes natural and human factors.
Traditional Knowledge	Intellectual work in the field of knowledge and technology that contains elements of traditional heritage characteristics produced, developed and maintained by a particular community or society.
Traditional Cultural Expressions	All forms of expression of creative works, whether in the form of objects or intangibles, or a combination of both that demonstrate the existence of a traditional culture that is held communally and across generations.
Genetic Resources	Plants, animals, microorganisms or their parts that have real or potential value.

Source: Rohaini, et. al., *Pengantar Hukum Kekayaan Intelektual*, (Bandar Lampung: Pustaka Media, 2021), p. 7-8.

Copyright Law has several essential weaknesses that hinder the regulation of the protection of works of traditional knowledge, including TCE. In order to be copyright protected, a work must be original and in a tangible form (fixation requirement). The limited term of protection in Copyright Law is also inappropriate for traditional works because most of these were created centuries ago.

One of the requirements of Copyright Law is that the work or work to be protected must be in a tangible form, a formal form or "fixation", meanwhile TCE is usually not in a certain form but is usually expressed orally and passed down from generation to generation in society. Concerned.³¹ This means the idea is not protected; an idea must be an independently reproducible form or form. For example, a song only gets protection when it has been recorded or recorded; it's not enough to play the song on the guitar over and over again.

This requirement means that traditional works do not receive copyright protection. Many of these works are oral or can be seen and performed and passed on to the next generation from generation to generation (for example, wayang performances). Indeed, perhaps there are still many members of traditional society who are illiterate, who are unable to put their works into written form. This means that ideas, themes, styles, and techniques of traditional societies are not protected by Copyright Law, which means that this work is free to be used by other parties, including foreigners, without permission from the community that created the work.³²

In addition to the problem of tangible form, there is a problem of authenticity related to Communal Intellectual Property. The Copyright Law requires that the works that are protected must be original. As we have seen, this means that a Creator must have created a work and must not be a work that imitates another work. The problem is that some traditional works have been inspired by existing customs and involve patterns that repeat other patterns over a long period of time. In indigenous peoples, the provision applies that a custom that is not the same as the previous custom is considered to violate customary regulations. Thus, even though it still involves expert skills and great effort in creating, these works can be called 'copy' by judges and thus may not meet the authenticity requirements..

4. The Regulation of TCE as CIP in the Copyright Law is Less Effective

As is well known, the regulation of TCE as a form of CIP in Indonesia is still under the auspices of the Copyright Law, particularly Article 38 concerning the possession of Copyright from TCE by the State for Works whose creators are unknown. Then also Article

31 Graham Dutfield, TRIPs-Related Aspects of Traditional Knowledge, Case W. Res. Journal of International Law, (Vol. 33, 2001), p. 250.

32 Society experiences two detrimental consequences with the enactment of Copyright. First, there is usually no protection provided by Copyright for works that are oral in nature belonging to the public. On the other hand, a foreigner who translates the work into a tangible form, for example a book, besides getting a profit from selling it, is also protected by copyright law. Second, if the work has cultural or spiritual value for an entire community, its commercial use could offend that community.

60 paragraph (1) implicitly mentions the period of TCE protection. The formulation is still very minimal to become a CIP protection concept.

Copyrights to TCE and cultural products of communal communities are joint property and their protection is valid indefinitely according to Article 60 paragraph (1) of the Copyright Law, which aims to protect traditional works. The question is, can rural communities file lawsuits against other parties for violating these articles?

Although Article 38 of the Copyright Law aims to protect indigenous culture, it will be difficult for traditional communities to use it to protect their works for several reasons. First, the application of Article 38 of the Copyright Law is not clear when it is related to the application of other articles in the Copyright Law. For example, what if a TCE that is protected under Article 40 paragraph (2) of the Copyright Law is not original? The law does not explain whether this kind of TCE gets copyright protection, even though it is a work classified as TCE whose authenticity is difficult to find or prove.

Second, this provision only regulates who is the right holder and what if a foreigner is to reproduce or use works whose rights are held by the state. The law containing this provision does not yet regulate: norms in the event of a violation committed by a foreigner, as well as procedural law or a dispute resolution mechanism for foreign parties outside the territory of the Republic of Indonesia deemed to have violated these provisions.

Third, ethnic groups or a traditional society only have the right to file a lawsuit against foreign parties who exploit traditional works without the permission of the creators of traditional works through the state or related agencies. Protection of TCE should not only protect TCE objects but also cover the protection of indigenous peoples. So far, the protection of TCE has only prioritized the protection of TCE objects, so it is not uncommon for indigenous peoples' position as a party to continuously preserve TCE to be neglected.

As an illustration, when foreign parties unlawfully exploit traditional creations, the people who suffer are the losers, not TCE. That is why public protection also needs a portion of legal protection.

Regulation of CIP will be more effective if the content of the protection of CIP is contained in a legal form with a hierarchy of laws. The content includes regulations regarding actions related to misuse of traditional works (Protection Against Misappropriation), the broad scope of protection of CIP (General Scope of Subject Matter), relevant and comprehensive legal forms in regulating CIP (Legal Form of Protection), relevant regulatory models in the form of laws, eligibility for protection, as well as in relation to benefit sharing arrangements, it is important to strictly regulate the benefits of protection, fair and equitable benefit sharing and recognition of knowledge holders.

In an effort to strengthen the position of Communal Intellectual Property in statutory regulations, there are 3 levels of legal instruments that can be used as a basis for establishing laws for the protection of Communal Intellectual Property, namely the international, national

and local levels. At the international level, the instruments used are sourced from the Convention on Biological Diversity (CBD) which is referred to by the WTO Council for Trade-Related Aspects of Intellectual Property Rights, IP/C/370/Rev.1, IGC Mandate 2022/2023 (a follow-up to WIPO /GRTKF/IC/40/6), WIPO/GRTKF/IC/40/18 and WIPO/GRTKF/IC/40/19, and Chair's Text, WIPO/GRTKF/IC/42/11 in Geneva in 2022 (follow-up from WIPO/GRTKF/IC/40/17 of 2010 regarding The Protection of Traditional Knowledge: Revised Objectives and Principles, emphasizing the protection put forward in the Substantive Principles and Policy Objective). At the national level, as contained in Minister of Law and Human Rights Regulation Number 13 of 2017 concerning Communal Intellectual Property Data, Government Regulation Number 56 of 2022 concerning Communal Intellectual Property, Law Number 28 of 2014 concerning Copyright, Law Number 13 of 2016 concerning Patents, Law Number 20 of 2016 concerning Marks and Geographical Indications, and Law Number 5 of 2017 concerning the Advancement of Culture. Apart from that, at the local level, such as Bali Governor's Regulation Number 1 of 2020 concerning Management of Balinese Fermented and/or Distilled Drinks.³³

5. Laws Specially Governing CIP

In connection with legal problems related to implementing the IPR regime in terms of CIP protection, the government should consider making a law *sui generis*. Several countries have proposed a *sui generis* protection system as an alternative to protecting traditional knowledge.

According to Rebecca Clements, cultural property should be protected by the country of origin of the cultural wealth. In International Law it has been recognized.³⁴ Indonesia can consider a *sui generis* system considering the characteristics of Indonesian society, which are very different from Western society. The characteristics of Indonesian society are still strongly characterized by collective or communal and religious systems, so that people's behavior is still permeated and guided by these value systems.³⁵ Thus, creating laws based on different value systems will only cause problems in implementation.

The most important substance of the law *sui generis* in question is an explicit acknowledgment that the local community owns the TCE. It is hoped that Customary Law or customary law can become an alternative source or material for formulating the rights of local communities in the law *sui generis*.³⁶

33 Ni Ketut Supasti Dharmawan, et. al., Model Penguatan Perlindungan Kekayaan Intelektual Komunal: Transplantasi Muatan Kebijakan Termasuk Benefit-Sharing Berbasis Undang-Undang, Jurnal Ilmiah Kebijakan Hukum, Vol. 17, No. 2, Juli 2023: 235-252, p. 240.

34 Rebecca Clements, "Misconceptions of Culture: Native Peoples and Cultural Property Under Canadian Law", Toronto Faculty of Law Review, (Vol. 49 No. 1, 1991), p. 2.

35 Satjipto Rahardjo, Sisi-sisi Lain dari Hukum di Indonesia, (Jakarta: Penerbit Buku Kompas, 2003), p. 96.

36 Milpurrurru vs. Indofurn (Pty) Ltd., in Christine Haight Farley, "Protecting Folklore of Indigenous Peoples: Is Intellectual Property the Answer?", Connecticut Law Review, (Fall, 1997), p. 4-7. In this case the determination of who is the owner of the disputed design is based on customary law.

The principles of customary law that can be accommodated in a *sui generis* law include: First, the provisions in the *sui generis* law are simple. This means that what is regulated in the law is easily understood and understood by the public at large, and its implementation does not require complicated procedures as is the case with IPR legislation. This characteristic is in line with the mindset of the people who are also simple. This simple mindset, among others, is reflected in the Customary Law system, which is clear and cash in nature. Customary Law does not recognize abstract legal institutions or "intellectual property" legal institutions.

Second, the *sui generis* law should not ignore elements based on religious norms. This is in line with the Customary Law system, which is religious magic. This element is the main factor that causes society not to be overly materialistic. The size of the award is not only material in the form of economic rewards, as rewards in the IPR regime. Appreciation also includes respect for the belief system or belief that traditional knowledge (including cultural expressions/TCE) is a gift from God that must be grateful for and practiced for the welfare of humankind.

Third, the *sui generis* law should still be based on a social system that highly values togetherness. This is in line with the customary law system which is not individualistic. In other words, a *sui generis* law should not be based on individualistic principles or ideas like the IPR regime. Adopting an individualistic system will only mean repeating the mistakes of the IPR regime, which have proven to be less successful in implementation.

Fourth, the *sui generis* law must guarantee or at least provide a great possibility that the use of traditional knowledge (including cultural expressions/TCE) and the practices associated with it can provide welfare for society in general. In this case, the law concerned must be able to assure that the people who become custodians of the TCE concerned will genuinely benefit from traditional cultural expressions.

The *sui generis* law specifically governing CIP is expected to contain a comprehensive set of communal intellectual property rules, to regulate the ownership and use of knowledge resources related to cultural heritage. In this understanding, a system of *sui generis* protection for traditional arts will:

- a. Defines the types of cultural content that can be protected, including old stories, motifs, musical themes, and others as well as contemporary interpretations of the inherited traditions;
- b. Determine the minimum terms/conditions for the protection and the duration of the protection;
- c. Establish "ownership" rules for this protected content, including principles regarding control over the use of generally accepted traditions;
- d. Grants owners a comprehensive range of exclusive use rights, including the right to reproduce, adapt, perform, and broadcast protected material in whole or in part;

- e. Give owners access to courts or other administrative bodies for proceedings against parties using the protected material without permission, as well as penalties for such unauthorized use; and
- f. Identify a series of limitations and exceptions (for personal use or educational purposes), which may confer exclusive rights other than those conferred on owners.

D. Closing

Intellectual Property Law, which initially only provided legal protection for the work of individuals, in its development also recognizes the existence of Communal Intellectual Property originating from communal communities which are works of cultural expression and traditional knowledge which is a transformation from ancestors, from generation to next generation. Based on the nature of the rights granted, Communal Intellectual Property Rights, which consist of Indications of Source, Geographical Indications, Appellation of Origin, Traditional Knowledge, Folklore/Traditional Cultural Expressions, and Genetic Resources. Various problems of misuse by foreign parties of Communal Intellectual Property originating from Indonesia require a national policy as an effort to protect Communal Intellectual Property.

Regulations regarding Communal Intellectual Property in Indonesia are currently spread across various regulations, but have not been explicitly stated in the form of a law. Even though the existence of Communal Intellectual Property is spread across various provisions, such as Law Number 28 of 2014 concerning Copyright, Law Number 13 of 2016 concerning Patents, and Law Number 20 of 2016 concerning Marks and Geographical Indications, the policy regarding Communal Intellectual Property is specifically still being adopted in Minister of Law and Human Rights Regulation Number 13 of 2017 concerning Communal Intellectual Property Data and Government Regulation Number 56 of 2022 concerning Communal Intellectual Property. Therefore, in order to provide legal certainty and protection for Communal Intellectual Property from misuse, a *sui generis* law is needed that specifically regulates Communal Intellectual Property with the aim of strengthening the legal position of communal communities, both in local, national and international contexts.

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DIGITAL ASSET AND PERSONAL DATA PROTECTION IN THE METaverse: ANALYZING THE IMPLEMENTATION OF INDONESIAN LAWS IN ADDRESSING CHALLENGES IN THE VIRTUAL ERA

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ABSTRACT

The rapid growth of metaverse technology significantly impacts the security of digital assets and personal data privacy. This qualitative study employs a social legal approach to analyze the implementation of Indonesian law concerning the protection of digital assets and personal data in the metaverse. Emphasizing the analysis of positive legal norms and principles in Indonesia, the research identifies potential barriers and necessary improvements in addressing virtual era challenges. By delving into existing regulations, the study outlines the legal framework governing digital assets and personal data in the metaverse context. The analysis focuses on legal responses to virtual environment dynamics, including data leaks, identity theft, and other cybersecurity threats. The findings aim to provide a profound understanding of Indonesia's legal effectiveness in safeguarding digital assets and personal data in the metaverse, offering practical implications for stakeholders to enhance legal protection in response to evolving metaverse technologies.

Keywords : Metaverse, Digital Assets, Personal Data Protection

A. Introduction

The current technological advancements have had a significantly impacted on various aspects of society. This is evident from the rapid spread of computer technology and the internet, which have connected the entire world without geographical boundaries. The digitalization era has significantly contributed to the emergence of new digital-based assets. This development has garnered attention, particularly in the financial and global trading industries, where asset-backed cryptocurrencies are increasingly being used as hedging instruments based on digital currencies.

The significant advancement in digital transactions is exemplified by the massive development of the Metaverse. Matthew Ball aptly defines the Metaverse as "a massively scaled and interoperable network of real-time rendered 3D virtual worlds, which can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications, and payments." The Metaverse enables users to

share experiences in the form of 3D virtual reality, a feat impossible in the physical world. This represents a technological and social evolution that opens a new chapter in human interaction. Various business aspects can be conducted through the Metaverse, including stock investments, blockchain utilization, and asset ownership. The Metaverse also offers convenience for SMEs, digital economies, and copyright protection in unprecedented ways. The digital technology of the Metaverse facilitates a wide range of business activities, such as investing in stocks, utilizing blockchain, and owning assets within the Metaverse. Its ease of use for SMEs, digital economies, and copyright protection allows users to conduct business without the need for physical meetings, offering limitless convenience.¹

Metaverse and NFTs represent a novel digital platform empowering artists by providing easy access and secure tools and methods for the monetization of their creations in a more efficient manner. However, it is undeniable that Metaverse and NFTs face numerous legal and technical challenges. Potential risks include fraud, virtual business investment losses, the validity of virtual business contract creation, copyright issues concerning content (entertainment, education) in the Metaverse, risks of business disputes and virtual land, and the role of governments in providing comprehensive and detailed protection guidelines, permissions, and restrictions for users or investors in the Metaverse. Indonesia requires modern legal breakthroughs and a comprehensive approach to address the legal vulnerability of the metanarrative in tackling cyberspace challenges.²

The progress, however, brings forth new challenges, notably the ease of collecting and transferring someone's personal data without their knowledge and consent. This situation poses a threat to the constitutional rights of individuals regarding their personal data and underscores the importance of personal data protection in response to these challenges.³

Human rights encompass a range of universal rights, including political, social, economic, and cultural rights inherent to every individual. When discussing the protection of personal data, several human rights become highly relevant. One of them is the right to privacy, empowering each individual to maintain confidentiality and control the use of their personal data. This right grants authority to everyone to determine whether, how, and to whom their personal data will be disclosed. The essence of personal data protection is to prevent unauthorized or unwanted access, use, and exposure of an individual's personal data. Thus, human rights serve as a crucial foundation in safeguarding the integrity and security of each individual's personal information.⁴

1 Thomas Dragono, Wiwik Sri, and Widiarty Bernard, "Perlindungan Aset Digital Dalam Dunia Metaverse Berdasarkan Hukum Nasional" 7, no. 1 (2023): 742-50.

2 Setyo Utomo, "Tantangan Hukum Modern Di Era Digital," *Jurnal Hukum Media Bhakti*, 2017.

3 Indriani Muin, "Perlindungan Data Pribadi Dalam Platform E-Commerce Guna Peningkatan Pembangunan Ekonomi Digital Indonesia," *MJP Journal Law and Justice (MJPJLJ)* 1, no. 2 (2023): 81-91, <https://jurnalilmiah.co.id/index.php/MJPJLJ>.

4 Sekaring Ayumeida Kusnadi, "Perlindungan Hukum Data Pribadi Sebagai Hak Privasi," *AL WASATH Jurnal Ilmu Hukum* 2, no. 1 (2021): 9-16.

Privateness constitutes a highly intricate concept. Coined as the “Right to Privacy” by Samuel Warren and Louis Brandeis, it was initially defined as the right to enjoy life and the right to be alone. The evolution of this legal concept is inevitable, demanding acknowledgment and safeguarding. Legal frameworks to protect privacy emerge as a necessity that can meet these demands. The definition of the right to privacy and the protection of personal data are intertwined, as personal data, belonging to each individual, requires safeguarding and is an integral part of universally recognized human rights, as outlined in international and regional legal instruments such as the UDHR, ICCPR, and ILC.⁵

Protection of individual privacy, although not explicitly mentioned in the 1945 Constitution, is clearly recognized in Article 28G paragraph (1) of the Indonesian Constitution. It is crucial for the government and relevant institutions to implement policies and regulations that ensure adequate protection of personal data. The safeguarding of personal data should be considered an integral part of human rights. Therefore, these efforts aim to achieve the right balance between the advancements in information technology and individual rights, ensuring ethical data management in accordance with prevailing human rights standards.⁶

Personal data is defined as “any information related to an identified or identifiable natural person”. According to the EU GDPR, personal data is described as any information concerning an individual (‘data subject’) that can identify or be identified; whether directly or indirectly, especially by referencing an identifier such as a name, identification number, location data, online identifier, or one or more factors specific to the physical, psychological, genetic, mental, economic, or social identity of that person. Digital personal data is often portrayed as a future resource, even referred to as a “new class of asset” by the World Economic Forum. They argue that the rapidly increasing amount of personal data “creates new opportunities for the generation of economic and social value.”⁷

In the context of the digital economic development in Indonesia, the protection of personal data emerges as a highly central issue, particularly as Indonesia currently stands as a promising hub for the digital economy. This is evident from the country’s total population of 265.4 million, with 50 percent, or 132.7 million, actively using the internet. Among them, 177.9 million individuals are mobile device users, and 120 million are active mobile social media users. According to a 2018 study by Google and Temasek, the predicted Market Size of Indonesia’s Digital Economy is expected to reach USD 100 billion by 2025.⁸ In

5 Raphael Haganta, “Legal Protection of Personal Data As Privacy Rights Of E-Commerce Consumers Amid The Covid-19 Pandemic,” *Lex Scientia Law Review* 4, no. 2 (2020): 77–90.

6 Muin, “Perlindungan Data Pribadi Dalam Platform E-Commerce Guna Peningkatan Pembangunan Ekonomi Digital Indonesia.”

7 Muin.

8 Ananthia Ayu, Titis Anindyajati, and Abdul Ghoffar, “Perlindungan Hak Privasi Atas Data Diri Di Era Ekonomi Digital,” *Pusat Penelitian Dan Pengkajian Perkara, Dan Pengelolaan Perpustakaan Kepaniteraan Dan Sekretariat Jenderal Mahkamah Konstitusi* 101 (2019).

April 2021, a substantial 88.1% of internet users in Indonesia utilized e-commerce services to purchase specific products in recent months, marking the highest percentage globally according to We Are Social's survey. E-commerce transactions significantly contributed to Indonesia's digital economy, reaching a value of US\$53 billion in 2021, and are anticipated to rise to US\$104 billion by 2025, with a growth rate of 18%.⁹

However, on March 26, 2018, The Guardian, a prominent UK media outlet, first disclosed a data breach incident. They suspected that Cambridge Analytica, a data analytics company, had utilized personal information from Facebook without permission to construct a system capable of targeting U.S. voters with politically personalized advertisements based on their psychological profiles. This deviation came to light when former Cambridge Analytica contractor, Christopher Wylie, detailed how the data was used to build algorithms. The privacy and personal data rights violation in the United States serves as a negative example of the consequences of information technology advancements that can set a harmful precedent.¹⁰

In order to preserve and secure digital assets and personal data, the Indonesian Government has introduced several legal protection measures in the digital economy sector. Notable regulations include the issuance of Law Number 11 of 2020 on Job Creation, Law Number 11 of 2008 (ITE Law) addressing the regulation of digital content handling, Government Regulation Number 71 of 2019 on the implementation of Electronic Transaction Systems, and Minister of Communication and Information Regulation Number 5 of 2021 on Risk-Based Business Licensing, which is a derivative regulation from the Job Creation Law in the communication and information sector covering sub-sectors such as postal services, telecommunications, broadcasting, as well as electronic systems and transactions. Concerning Cryptocurrency assets used by Metaverse users and investors, there are also four regulations from the Commodity Futures Trading Regulatory Agency (BAPPEBTI).

So, if unpacked, it can be understood that the current technological advancements, especially in the era of digitalization, have had a significant impact on various aspects of society. The rapid spread of computer and internet technology without geographical boundaries has given rise to digital assets, particularly in the global financial and trade industries, where cryptocurrencies are increasingly becoming value instruments that need protection. Additionally, the development of the Metaverse opens a new chapter in human interaction, allowing users to share experiences in a 3D virtual reality. The Metaverse not only facilitates various business activities, such as stock investments and asset ownership, but also offers convenience for SMEs, the digital economy, and copyright protection.

9 Muin, "Perlindungan Data Pribadi Dalam Platform E-Commerce Guna Peningkatan Pembangunan Ekonomi Digital Indonesia."

10 Muin.

However, the development of the Metaverse and NFTs also faces significant legal and technical challenges. Risks of fraud, investment losses, copyright issues, virtual business disputes, and the government's role in providing protection are some crucial issues. Indonesia needs to implement modern legal innovations and a comprehensive approach to address legal vulnerabilities in the Metaverse era.

Furthermore, technological progress also brings new challenges related to privacy and the protection of personal data and digital assets. Although technology enables easy collection and transfer of data, it poses a threat to individuals' constitutional rights regarding their personal data and digital assets. Human rights, especially the right to privacy, are crucial in preserving the integrity and security of personal information for each individual. Therefore, the protection of personal data should be considered an integral part of human rights, as the evolution of the concept of privacy and the protection of personal data and its closely related digital assets is embedded in the international and regional legal frameworks.

Further analysis of digital assets and personal data scattered across the Metaverse becomes crucial considering the urgency of legal protection. With an understanding of these issues, a thorough evaluation of adaptive legal updates is needed. This is necessary to provide adequate protection for businesses and the community in the continually evolving era of the Metaverse. Taking this background into consideration, the analysis of the issues is focused on legal protection efforts related to digital assets and personal data within the scope of the Metaverse, aligning with the goal of supporting the national digital economy's strength.

B. Research Method

The research method in this paper using qualitative research with a social legal approach that prioritizes the analysis of the application of positive legal norms or legal principles in Indonesia, as well as utilizing an approach through relevant laws and regulations.¹¹ The research is conducted conceptually, and the primary reference materials consist of laws related to Digital Assets and Personal Data, along with the implementation of rules stipulated in these laws. The technique for collecting legal materials involves a literature review, where books are examined as references, and previous research is utilized to obtain theoretical foundations related to the issues under investigation.¹² This approach allows for an in-depth exploration of specific provisions within the relevant laws and their practical application in handling cases of digital asset theft, personal data, and other related offenses.¹³ By analyzing legal norms and principles, the research aims to identify any gaps

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- 11 David Tan, "Metode Penelitian Hukum: Mengupas Dan Mengulas Metodologi Dalam Menyelenggarakan Penelitian Hukum," *Nusantara: Jurnal Ilmu Pengetahuan Sosial* 8, no. 8 (2021): 2463-78.
 - 12 Celso Fernandes Campilongo, Lucas Fucci Amato, and Marco Antonio Loschiavo Leme de Barros, *Luhmann and Socio-Legal Research An Empirical Agenda for Social Systems Theory*, 1st ed. (Routledge, 2021).
 - 13 Tan, "Metode Penelitian Hukum: Mengupas Dan Mengulas Metodologi Dalam Menyelenggarakan Penelitian Hukum."

or shortcomings in the existing legal framework and propose potential improvements to enhance the protection of digital assets and personal data in the metaverse.

C. Discussions

1. Digital Assets

Digital assets are described as something represented in a digital form that holds intrinsic or acquisition value. The key lies in whether the file can add value to a company. In general, digital assets encompass everything stored digitally that provides value to individuals or organizations. These assets can include images/photos, text, videos, audio, PDFs, designs/graphics, presentation slides, spreadsheets, and websites. Whenever a new digital file format emerges, it can be added to the pool of digital assets.¹⁴ Digital assets offer visual representations of products or services, enabling individuals to connect with an audience or viewers through internet channels and media anytime and anywhere.¹⁵

Digital assets are goods or items in an electronic system that hold value and can be owned and controlled by legal entities or individuals. Digital assets represent a development of the asset concept, which initially existed solely in the physical world but has expanded into the virtual realm. These digital assets are possessions or items whose ownership is recorded digitally and directly controlled by their owners.¹⁶ Essentially, the Metaverse is a concept of a future virtual world, also known as Web 3.0, intended to complement and potentially replace the current Web 2.0 internet we use daily. The Metaverse provides a virtual space that allows users to do many things, including purchasing digital assets such as virtual land, buildings, and artworks.¹⁷

The Metaverse enables individuals to interact with each other in a virtual world or space through digital technology.¹⁸ Furthermore, with the current advancements, the Metaverse has also become a means of investment for entrepreneurs. Several large technology companies have spent billions of dollars acquiring global gaming brands. In contrast, others invest billions of dollars in research and development to create technology and infrastructure within the Metaverse. Additionally, entrepreneurial investors spend millions

14 Milan Miric, Kevin J Boudreau, and Lars Bo Jeppesen, "Protecting Their Digital Assets: The Use of Formal & Informal Appropriability Strategies by App Developers," *Research Policy* 48, no. 8 (2019): 103738.

15 Tobias Glas, *Asset Pricing and Investment Styles in Digital Assets A Comparison with Traditional Asset Classes* (Switzerland AG: Springer Cham, 2022).

16 Arjun Rachana Harish et al., "Log-Flock: A Blockchain-Enabled Platform for Digital Asset Valuation and Risk Assessment in E-Commerce Logistics Financing," *Computers & Industrial Engineering* 151 (2021): 107001.

17 Nir Kshetri, "Web 3.0 and the Metaverse Shaping Organizations' Brand and Product Strategies," *IT Professional* 24, no. 02 (2022): 11–15.

18 Milad Ahmadi Marzaleh, Mahmoudreza Peyravi, and Fatemeh Shaygani, "A Revolution In Health: Opportunities And Challenges Of The Metaverse," *EXCLI Journal* 21 (2022): 791–92, <https://doi.org/10.17179/excli2022-5017>.

of dollars purchasing digital land in Metaverses to create virtual business spaces where consumers can buy and sell goods, and services and host shows and art exhibitions.¹⁹

Concerning legal protection for digital assets in the metaverse era, it is related to the security and privacy threats that the metaverse poses, encompassing issues regarding identity, data, privacy, networks, economy, governance, and physical/social effects as follows:²⁰

1. Threats Related to User Identity Theft in the Metaverse

When a user's identity is stolen, digital assets, avatars, social connections, and digital life can be compromised in more dangerous ways than identity theft in the real world. Hackers can obtain personal information through email phishing, compromised devices, and customer data, which can then be used for fraud within the metaverse itself, using the stolen user avatar.

2. Threats Related to User Identity Impersonation in the Metaverse

This tactic occurs when hackers impersonate legitimate users to gain access to metaverse services. They can disguise themselves by injecting malicious devices through Bluetooth connections. Hackers may also target user security and wearable devices, as entry points to impersonate users in the metaverse.

3. Threats Related to User Data

Data collected or generated by users, IoT devices, or avatars are at risk of being exploited, including risks to availability, confidentiality, false data injection, integrity, and tracking of ownership/origin of UGC (User-Generated Content). Moreover, there are attacks aimed at manipulating data by forging, modifying, deleting, or replacing it to disrupt physical entities, users, and their avatars. Hackers can also perform attacks using false data injection, involving injecting false information such as messages and instructions to deceive the metaverse system. For instance, attackers can generate Artificial Intelligence models by injecting adversarial training samples (centralized) or poisoning gradients (decentralized) during training.

4. Privacy Threats

Users locations, habits, lifestyles, data perceptions, transmissions, processing, governance, and storage can all be detected in the metaverse. Additionally, facial expressions, eye and hand movements, speech, biometric features, and brainwave patterns are all profiled in the creation of users metaverse avatars, which can be targeted by hackers, including users personal data collected by XR (Extended Reality) data like headsets transmitted through both wired and wireless communications.

19 Dai-In Danny Han, Yoy Bergs, and Natasha Moorhouse, "Virtual Reality Consumer Experience Escapes: Preparing for the Metaverse," *Virtual Reality* 26, no. 4 (2022): 1443–58.

20 Tara Annison, "The Future of Financial Crime in the Metaverse" (London, 2022).

Privacy Leakage in data processing from users and their surroundings is necessary for creating and rendering avatars, and this data can be leaked. Users personal data may violate regulations such as protection rules. Attackers can also infer users privacy and preferences from the processing outcomes published on their avatars. Storing users personal information on cloud servers or edge devices increases privacy disclosure concerns. Hackers can determine users privacy information through frequently asked questions using differential attacks or jeopardize cloud storage altogether through DDoS attacks.²¹

In addition to the crimes discussed earlier in the metaverse, another emerging form of crime occurs in the realm of digital assets through "Non-Fungible Tokens" (NFTs). The use of NFTs serves a noble purpose, to prevent violations of digital assets being sold, imitated, or even stolen by unauthorized parties. Through transparency and decentralization, NFTs and blockchain systems can create a community and foster a fairer culture. Moreover, blockchain technology enables tokens to be securely held and traded without the involvement of third parties.²² Regarding digital assets in the form of Non-Fungible Tokens, they are closely related to protecting intellectual property rights in copyrights, trademarks, and industrial designs, which can be accessed through the internet and enjoyed by the public. The challenge arises not from the accessibility to the public but when that access is utilized for purposes that infringe on those intellectual property rights.²³

Intellectual property violations related to digital assets are prevalent among Metaverse users. Metaverse refers to a virtual world where users can engage in various activities similar to the real world. The term "Metaverse" is increasingly popular, and within the crypto space, Metaverse has become a promising investment. Metaverse is a virtual community where interconnected worlds are built. Within this community, people can meet, work, play, and even conduct buying and selling transactions, much like in the real world, with the assistance of Augmented Reality (AR) and Virtual Reality (VR) technologies.²⁴

However, amidst the convenience and allure of the Metaverse, there has been a rise in intellectual property violations related to digital assets. The challenge lies in striking a balance between the freedom of creativity and expression in the Metaverse and safeguarding the rights of content creators and intellectual property owners. Implementing robust measures to detect and prevent intellectual property infringements in the Metaverse is essential for

21 Vasisht Duddu, Antoine Boutet, and Virat Shejwalkar, "Quantifying Privacy Leakage in Graph Embedding," in *MobiQuitous 2020-17th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services*, 2020, 76–85.

22 De-Rong Kong and Tse-Chun Lin, "Alternative Investments in the Fintech Era: The Risk and Return of Non-Fungible Token (NFT)," *Available at SSRN 3914085*, 2021.

23 Usman W Chohan, "Non-Fungible Tokens: Blockchains, Scarcity, and Value," *Critical Blockchain Research Initiative (CBRI) Working Papers*, 2021.

24 Ifeanyi E Okonkwo, "NFT, Copyright and Intellectual Property Commercialization," *International Journal of Law and Information Technology* 29, no. 4 (2021): 296–304.

creating a fair and sustainable digital ecosystem. This may involve introducing mechanisms for content creators to claim ownership of their work, enforcing copyright protection, and promoting awareness among Metaverse users about respecting intellectual property rights. As the Metaverse continues to evolve and expand, addressing these challenges will be crucial in ensuring a thriving and respectful virtual environment for all its participants.²⁵

One of the activities in the Metaverse allows users to attend virtual concerts and engage in buying and selling art collections. The buying and selling of art in the Metaverse are facilitated through NFTs. Users in the Metaverse can browse and purchase art collections from companies or artists if they find them appealing. In addition to artwork, users can also try on and directly purchase clothing from virtual companies. The clothing purchased can be worn by their avatars or showcased on the buyer's social media accounts, giving rise to the concept of "digital fashion" in the Metaverse.²⁶ Public policies related to the legal protection of digital assets in the Metaverse are akin to those applied to real-world assets due to their economic value. Violations of digital assets can lead to harm to others, especially concerning breaches of digital assets owned by individuals with valid proof of ownership, such as private digital keys, which serve as a protective measure implemented within the Metaverse itself, along with the secure security provided by blockchain technology, making it difficult to breach or misuse. However, in the event of digital asset theft, appropriate actions can be taken following public policies based on the existing laws in Indonesia, such as the Personal Data Protection Act Number 27 of 2022.²⁷

As the Metaverse continues to evolve and expand, it is essential to establish comprehensive regulations and mechanisms to safeguard intellectual property rights, privacy, and security within this virtual realm. This will protect creators and users and foster a fair and vibrant digital ecosystem where creativity can flourish without compromising the rights of individuals and organizations. By addressing these challenges proactively, we can create a sustainable and harmonious virtual world for the global community. Building a robust legal framework and public awareness will ensure that the Metaverse remains a place of innovation, creativity, and responsible use of digital assets.²⁸

25 Jaloliddin Abdusatarov, "ISSUES THAT NEED TO BE RESOLVED WHEN DEVELOPING THE LEGAL FRAMEWORK OF INTERNATIONAL PRIVATE LAW RELATIONS IN METAVERSE," *World Bulletin of Management and Law* 21 (2023): 193–204; Okonkwo, "NFT, Copyright and Intellectual Property Commercialization."

26 Swati Tayal, Kannan Rajagopal, and Vaishali Mahajan, "Virtual Reality Based Metaverse of Gamification," in 2022 6th International Conference on Computing Methodologies and Communication (ICCMC) (IEEE, 2022), 1597–1604.

27 "Undang-Undang Nomor 27 Tahun 2022 Tentang Pelindungan Data Pribadi" (n.d.).

28 Janna Anderson and Lee Rainie, "The Metaverse in 2040," Pew Research Centre 30 (2022).

2. Personal Data Protection

The Personal Data Protection Act imposes criminal sanctions for intentional and unlawful actions of obtaining or collecting personal data that does not belong to the perpetrator with the intent to benefit themselves or others, which can result in the subject of the personal data facing a maximum imprisonment of 5 years and/or a fine of up to IDR 5 billion. Additionally, anyone intentionally and unlawfully disclosing personal data that does not belong to them can face a maximum imprisonment of 4 years and/or a fine of up to IDR 4 billion. Moreover, those who intentionally and unlawfully use personal data that does not belong to them can face a maximum imprisonment of 5 years and/or a fine of up to IDR 5 billion.

Furthermore, the act also covers cases of creating false or falsified personal data to benefit themselves or others, causing harm to others. In such instances, the perpetrator can face a maximum imprisonment of 6 years and/or a fine of up to IDR 6 billion. Implementing of these criminal sanctions aims to deter individuals or entities from engaging in unlawful activities related to personal data. By imposing severe penalties for such actions, the law protects individuals' privacy and prevents unauthorized access and misuse of personal information. The Personal Data Protection Act aims to foster a safe and secure environment for personal data usage, both in the digital and physical realms, thus promoting trust in data-driven processes and encouraging responsible data handling practices across various sectors.²⁹

Based on the principle of *lex specialis*, Article 64 paragraph (2) of the Personal Data Protection Act Number 27 of 2022 states that the procedural law applicable in personal data protection proceedings shall be conducted following the provisions of the relevant laws and regulations. Moreover, the trial process shall be conducted in closed sessions when necessary to protect personal data. The admissible evidence under this law includes evidence as referred to in the procedural law and other evidence in the form of electronic information and/or electronic documents in accordance with the provisions of the relevant laws and regulations.

In addition to the specific provisions of the Personal Data Protection Act, protection for digital assets can also be achieved by applying sanctions stipulated in other related laws, particularly those concerning intellectual property, such as the Copyright Law, Trademark Law, and Industrial Design Law, which are commonly used in the Metaverse. These laws further protect digital assets, especially those related to original creative works, brands, and industrial designs. Enforcing these laws in the virtual realm can help safeguard digital creations and prevent unauthorized use or infringement.³⁰

29 Erna Prihasari, "Pentingnya Perlindungan Data Pribadi Dalam Transaksi Pinjaman Online," *Majalah Hukum Nasional* 49, no. 2 (2019): 1–27.

30 Mochammad Tanzil Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens," *Jurnal Politik Dan Pemerintahan Daerah* 4, no. 2 (2022): 293–303, <https://doi.org/10.36355/jppd.v4i2.58>.

By implementing these legal measures, individuals and businesses can have greater confidence in conducting transactions and creating innovative digital content within the Metaverse. The combination of comprehensive data protection regulations and intellectual property laws ensures a secure and fair environment for creators and users alike. As the Metaverse continues to evolve, the legal framework must adapt accordingly to address emerging challenges and protect the rights and interests of all stakeholders involved in this rapidly expanding digital landscape.³¹

In the context of copyright, NFTs are still controversial among the art community and the wider public. Surprisingly, blockchain technology and NFTs have opened up opportunities for irresponsible parties to exploit artworks. When a system allows anyone to create and sell tokens without verifying the copyright validity of the artwork, it can be easily misused if there is no legal framework to accommodate the various aspects of this technology. A notable case is that of Kendra Ahimsa, an Indonesian artist better known by the moniker "Ardneks".³²

Kendra Ahimsa faced a predicament when he discovered that some of his artworks had been tokenized and sold as NFTs without his permission or proper credit. These unauthorized NFTs were being traded in the digital market, leaving the artist with no control over his own creations and depriving him of potential earnings from his original works. This incident highlights the need for robust legal measures to protect artists' rights in the rapidly evolving world of NFTs and blockchain technology.³³

To address the issues surrounding NFTs and copyright, there is a growing call for clearer regulations and authentication mechanisms within the Metaverse. Implementing blockchain technology to verify the ownership and authorship of artworks before tokenization could be a step toward ensuring that NFTs truly represent the original creations and prevent unauthorized exploitation. Additionally, establishing a standard set of guidelines for NFT platforms and marketplaces can help safeguard artists' interests and give them with more control over their digital assets. As the technology advances and the use of NFTs expands, legal frameworks need to keep pace and strike a balance that protects both artists' rights and the potential benefits of this innovative digital ecosystem.³⁴

As the popularity of NFTs continues to grow, it becomes crucial to develop a more comprehensive and inclusive framework for NFT ownership and verification. Solutions could involve mechanisms for artists to provide evidence of the authenticity and originality

31 Mukhammadali Turdialiev, "Legal Discussion of Metaverse Law," *International Journal of Cyber Law* 1, no. 3 (2023).

32 Maya Ruhtiani, "TRANSFERRING COPYRIGHT OWNERSHIP OF NFT ON THE PERSPECTIVE OF POSITIVE LAW IN INDONESIA," *Perspektif* 28, no. 1 (2023): 56–65.

33 Ruhtiani.

34 Pınar Çağlayan Aksoy and Zehra Özkan Üner, "NFTs and Copyright: Challenges and Opportunities," *Journal Of Intellectual Property Law and Practice* 16, no. 10 (2021): 1115–26.

of their works before they are tokenized. Additionally, introducing stricter guidelines and validation processes on NFT platforms can help reduce the occurrence of plagiarism and protect artists rights more effectively. Ultimately, a balanced approach that upholds artists creative rights while embracing the potential of blockchain technology in the art world is essential for fostering a fair and thriving digital art ecosystem in the Metaverse.³⁵

In theory, NFTs are meant to empower artists and provide them with greater control over their creations, but there have been numerous cases where NFTs have actually facilitated malicious actors in selling someone else's artwork. When considering the implications of intellectual property in the context of NFTs, it is crucial to distinguish between the ownership of NFTs and the ownership of the underlying intellectual property. The rights granted by the NFT seller depend on the rights transferred through the license, and these rights can vary with each NFT.³⁶

The confusion around NFT ownership and intellectual property stems from the fact that NFTs represent a form of ownership over a digital asset, but they do not inherently grant ownership of the copyright or intellectual property rights of the artwork itself. While owning an NFT might signify ownership of a unique version of the artwork and provide bragging rights as the official token holder, it does not automatically grant the owner the right to reproduce or profit from the original artistic work. To address these complexities, artists and creators need to be aware of the terms and conditions associated with their NFT sales. They should carefully consider the rights they transfer to the NFT buyers through the smart contracts and licensing agreements. At the same time, buyers must be cautious and verify the rights they are obtaining when purchasing an NFT. Understanding the scope of ownership and usage rights associated with each NFT can help avoid potential legal disputes and ensure fair compensation for digital artists.³⁷

In the world of NFTs, the token itself does not inherently imply ownership of the underlying intellectual property rights of the artwork. Instead, it signifies ownership of a unique digital certificate of authenticity or proof of ownership for a specific digital asset, often associated with a piece of art or collectible.³⁸ To ensure a clear transfer of intellectual property rights, artists and creators must define the terms of use and licensing agreements associated with the NFT sales. These agreements should explicitly state what rights are being transferred to the NFT buyer and what rights are retained by the creator. This transparency is essential in avoiding misunderstandings and legal disputes down the line.

At the same time, NFT buyers should be diligent in understanding the rights they are acquiring when purchasing an NFT. They must be aware that owning an NFT does not

35 Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens."

36 Çağlayan Aksoy and Özkan Üner, "NFTs and Copyright: Challenges and Opportunities."

37 Çağlayan Aksoy and Özkan Üner.

38 Okonkwo, "NFT, Copyright and Intellectual Property Commercialization."

necessarily grant them the ability to reproduce or distribute the original artwork. In some cases, the NFT owner might have certain usage rights, such as displaying the artwork for personal enjoyment, but the artist or original rights holder may still retain commercial usage or reproduction rights.³⁹

In conclusion, NFTs provide a new and exciting way to demonstrate ownership and provenance for digital assets, including digital art. However, the ownership of an NFT should not be confused with full ownership of the intellectual property rights associated with the artwork. Artists, creators, and buyers alike should approach NFT transactions with clear agreements and a thorough understanding of the rights being transferred to ensure fair compensation and proper protection of intellectual property in the ever-evolving landscape of digital art and NFTs.

Moreover, platforms and marketplaces that facilitate NFT transactions can play a vital role in enforcing copyright protection. They can implement verification processes to ensure that the NFTs listed for sale have legitimate ownership and that sellers have lawfully acquired or licensed the corresponding intellectual property rights. Implementing robust content moderation and takedown procedures can also help prevent the circulation of unauthorized NFTs that infringe on copyrighted works.⁴⁰

According to the Copyright Law, offenders can be subject to sanctions as stated in Article 118 of the Copyright Law. This article stipulates that anyone who intentionally and without authorization infringes economic rights for commercial use may be sentenced to a maximum imprisonment of 4 (four) years and/or fined up to Rp. 1,000,000,000.00 (one billion Indonesian Rupiah). Additionally, those involved in piracy can face a maximum imprisonment of 10 (ten) years and/or a fine of up to Rp. 4,000,000,000.00 (four billion Indonesian Rupiah).

The penalties mentioned above are meant to deter and punish individuals or entities involved in copyright infringement, including cases related to NFTs and digital art in the metaverse. Beyond the legal sanctions, fostering awareness and education about copyright and intellectual property rights is equally crucial. Many NFT platforms and marketplaces are taking measures to educate users on the importance of respecting copyright and obtaining proper licenses for digital assets.⁴¹

As discussed earlier, theft can occur in the form of NFT-based creative works and in the replication of trademarks displayed in the metaverse. Trademarks present in the metaverse can be imitated in the real world, making it crucial to protect them with appropriate measures as specified in the Law Number 20 of 2016 concerning Trademarks

39 Sanction Scanner, "What Is a Non-Fungible Token (NFT)?," sanctionscanner.com, 2021.

40 Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens."

41 Multazam.

and Geographical Indications. In the metaverse, where virtual representations of products and services can closely resemble their real-world counterparts, trademark infringement poses a significant concern for businesses and brand owners. By applying the provisions set forth in the Trademark Law, companies can take legal actions against any unauthorized use or imitation of their trademarks within the metaverse.⁴²

The protection of trademarks in the Metaverse depends on future business models and product strategies. Companies must adopt a proactive approach to update their overall trademark protection strategies, particularly for well-known brands. As more brands choose to operate in the Metaverse, monitoring for any fraudulent or unauthorized use of trademarks becomes increasingly crucial. However, it is still too early to predict how trademark protection, management, and enforcement will evolve in the Metaverse.

E-commerce in the Metaverse or virtual environment involves the use of trademarks by unauthorized third parties in a manner that is identical or similar. If a company is already operating in the Metaverse or plans to do so, it must anticipate the potential risks by registering its trademarks for use in the virtual world. By doing so, businesses will have a better grasp of their brand's presence in virtual trade transactions.⁴³ Registering trademarks in the Metaverse not only helps protect a company's brand identity but also enables them to establish a stronger online presence. With a registered trademark, businesses can assert their ownership rights and take legal action against any infringement or misuse of their brand in the virtual space. This proactive approach can act as a deterrent to potential infringers and safeguard the company's reputation and consumer trust in the Metaverse.⁴⁴

Criminal sanctions for unauthorized use of identical or similar trademarks to registered trademarks can be imposed under Article 100 paragraphs (1) and (2) of the Trademark Law. The law stipulates that anyone who uses an identical trademark in its entirety to a registered trademark owned by another party for similar goods and/or services that are produced and/or traded may be sentenced to a maximum of 5 years in prison and/or a fine of up to Rp 2 billion. Similarly, anyone who uses a trademark that has substantial similarity to a registered trademark owned by another party for similar goods and/or services that are produced and/or traded may face a maximum sentence of 4 years in prison and/or a fine of up to Rp 2 billion.

These criminal sanctions are designed to protect the intellectual property rights of trademark owners and prevent unauthorized use or infringement of their brands. Intellectual

42 Vincent Delmas et al., "From Anatomical to Digital Dissection: A Historical Perspective since Antiquity towards the Twenty-First Century," in *Digital Anatomy: Applications of Virtual, Mixed and Augmented Reality* (Springer, 2021), 11–39.

43 Heejeong Jeong, Youkyoung Yi, and Dongsoo Kim, "An Innovative E-Commerce Platform Incorporating Metaverse to Live Commerce," *International Journal of Innovative Computing, Information and Control* 18, no. 1 (2022): 221–29.

44 Marta Staudt, "Legal Challenges Related to the Registration of Trademarks and Designs Connected with the NFTs and the Metaverse," 2023.

property infringement in the metaverse is not limited to trademarks; it can also extend to industrial designs. This is particularly relevant to industrial designs that are traded for avatars used in the virtual world of the metaverse. An industrial design is a creation related to the shape, configuration, or composition of lines or colors, or a combination of both, whether in three-dimensional or two-dimensional form, that gives an aesthetic impression and can be embodied in a three-dimensional or two-dimensional pattern. These designs can be used to produce various products, goods, commodities, industries, or crafts.⁴⁵

In the metaverse, the trading and utilization of digital designs for avatars have become increasingly common. Users seek unique and aesthetically appealing avatar designs to represent themselves in virtual environments. However, the increasing popularity of these designs also raises concerns about potential intellectual property infringements. Unauthorized use or replication of original industrial designs can harm the rights of the rightful creators and lead to disputes within the metaverse community.⁴⁶ To address these issues, designers and creators need to protect their intellectual property rights in the metaverse. Registering industrial designs can offer legal protection and ensure that others cannot exploit or reproduce their creations without authorization. Additionally, platforms operating within the metaverse should implement measures to prevent the trading of infringing designs and promote the use of original and authorized content.⁴⁷

Based on the definition provided, digital fashion displayed in the metaverse falls under the category of industrial designs as it fulfills the elements stated in Law Number 31 of 2000 Concerning Industrial Designs. Therefore, all digital fashion displayed should be protected, and the enforcement of criminal sanctions for industrial design infringement should be implemented in accordance with Article 54, which states that intentionally and without authority, conducting acts as referred to in Article 9, is punishable by imprisonment for a maximum of 4 (four) years and/or a fine of up to IDR 300,000,000 (three hundred million rupiah). Additionally, anyone who intentionally violates the provisions as referred to in Article 8, Article 23, or Article 32, is subject to imprisonment for a maximum of 1 (one) year and/or a fine of up to IDR 45,000,000 (forty-five million rupiah).

Digital fashion in the metaverse involves creating and trading unique avatar clothing designs, which have gained popularity in virtual environments. Users highly seek these designs to customize and enhance their virtual representations. However, the ease of access and sharing within the metaverse also opens up possibilities for unauthorized use and exploitation of these digital fashion designs. This situation poses a challenge for creators to protect their original works and ensures that their efforts are not misused or

45 Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens."

46 Georg David Ritterbusch and Malte Rolf Teichmann, "Defining the Metaverse: A Systematic Literature Review," *IEEE Access*, 2023.

47 Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens"; Ruhtiani, "TRANSFERRING COPYRIGHT OWNERSHIP OF NFT ON THE PERSPECTIVE OF POSITIVE LAW IN INDONESIA."

copied without permission.⁴⁸ To address these issues and promote a fair environment in the metaverse, a robust enforcement of the intellectual property laws, particularly concerning industrial designs, is crucial. Creators should consider registering their digital fashion designs to gain legal protection and enforce their rights if infringement occurs. Article 9, as referred to in Article 54 paragraph (1), stipulates that the holder of an industrial design right has an exclusive right to exercise their industrial design rights and to prohibit others from making, using, selling, importing, exporting, and/or distributing goods that are covered by the industrial design right without their consent.

D. Closing

Criminal activities involving digital assets in the metaverse are becoming increasingly prevalent, with data theft by hackers, identity impersonation of metaverse users, and the destruction and dissemination of personal data being common occurrences. Additionally, crimes in the metaverse extend to Non-Fungible Tokens (NFTs), which are closely related to the protection of intellectual property rights such as copyrights, trademarks, and industrial designs. Regarding NFTs, their rising popularity and potential for lucrative profits have attracted both legitimate creators and malicious actors seeking to exploit the system. The uniqueness and irreplaceability of NFTs make them susceptible to plagiarism and unauthorized replication, leading to disputes over intellectual property rights. Additionally, counterfeit NFTs can deceive collectors and investors, resulting in significant financial losses and reputational damage. The absence of a robust and harmonized legal framework for NFTs globally further complicates the enforcement of intellectual property rights, leaving creators vulnerable to exploitation and infringement.

The legal protection for digital assets in the metaverse can be effectively pursued in the real world by implementing the existing laws and regulations under Indonesia's positive legal framework. One crucial aspect is to enforce penalties for violations in the metaverse by adhering to the provisions outlined in the Data Protection Law Number 27 of 2022, specifically in Article 64. This law safeguards personal data and can be instrumental in prosecuting offenders engaging in data breaches, identity impersonation, or disseminating private information within the metaverse.

Another area that requires legal protection is the Non-Fungible Tokens (NFTs) used extensively in the metaverse. To address violations or theft related to NFTs, existing laws like the Copyright Law, as stated in Article 118, can be utilized to prosecute those who commit copyright infringements within the metaverse. Additionally, the Trademark and Geographical Indications Law, outlined in Article 100, can be applied to combat counterfeit trademarks or well-known brands within the virtual world. Furthermore, protection for digital

48 Abu Sadat Muhammad Sayem, "Digital Fashion Innovations for the Real World and Metaverse," *International Journal of Fashion Design, Technology and Education* (Taylor & Francis, 2022).

fashion, which falls under industrial designs, can be enforced using the provisions from the Industrial Design Law, specified in Article 54.

In conclusion, the legal protection for digital assets in the metaverse can be effectively pursued by implementing existing laws and regulations under Indonesia's positive legal framework. Key aspects include enforcing penalties for violations related to personal data, NFTs, trademarks, and industrial designs. The Data Protection Law Number 27 of 2022, Copyright Law, Trademark and Geographical Indications Law, and Industrial Design Law provide essential tools to prosecute offenders engaging in various forms of intellectual property violations within the virtual world.

As the metaverse continues to evolve, lawmakers and regulatory bodies must adapt and modernize these laws continually to address new challenges that may arise. Furthermore, international collaboration and coordination among legal systems can strengthen the legal protection of digital assets, transcending geographical boundaries and providing a more holistic approach to safeguarding creators rights and intellectual property in the metaverse. By implementing a harmonized legal approach and ensuring robust enforcement mechanisms, the metaverse can become a safer and more conducive environment for digital creators and users alike, fostering innovation and creativity while discouraging unlawful activities.

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REGULATING THE METAVERSE: ENSURING LEGAL PROTECTION AND INTELLECTUAL PROPERTY RIGHTS IN THE DIGITAL LANDSCAPE

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ABSTRACT

The rapid digital tech growth has led to Non-Fungible Tokens (NFTs) and Metaverse rise. NFTs are blockchain-based certificates for virtual ownership. Metaverse offers 3D virtual reality for shared experiences, shaping new social and interactive norms. Business, like investing and ownership, thrives within it. However, Indonesia lacks comprehensive regulations for its legal aspects, potentially affecting user rights and copyright. The purpose of this research is to conduct an analysis, especially regarding metaverse regulations, especially in relation to intellectual property so that it becomes reference material for the public and policy makers. Research method using qualitative methods. Research results related to copyright protect the creator, transfer of ownership with purchase. Due to the limited regulation of NFTs, legal protection, especially of intellectual property rights, is very important. Registering each NFT artwork under IP rights ensures legal protection for all created works. Research also shows that there is a gap where the existing law only relates to Intellectual Property but does not yet address the metaverse world which in fact is a virtual world, so this study is very important to support the sustainability of intellectual property in the current metaverse world.

Keywords : NFT (Non-Fungible Token), Metaverse, Intellectual property rights

A. Introduction

The rapid development of technology in the digital era is parallel to the increasing human involvement in the virtual world. One of the emerging phenomena is the digital assets in the form of NFT (Non-Fungible Token) within the Metaverse, enabling digital transactions in the virtual realm. NFT, or Non-Fungible Token, is a crypto technology that functions as a digital certificate representing ownership of a photo, video, or other virtual objects. Assets with NFT are recorded on the blockchain, a digital ledger used in Ethereum, Bitcoin, and other cryptocurrency networks. Once encrypted on the blockchain, NFTs cannot be replicated or duplicated. Blockchain itself is a technology that employs a decentralized computer network to record a series of transactions. It also serves as a secure digital data storage or bank protected by cryptography. The use of blockchain is closely associated with Bitcoin

and other cryptocurrencies.¹

The rapid technological advancement in the digital age, particularly in the field of digital trading, is a response to society's preference for practicality, seeking everything to be more accessible and efficient, such as the adoption of NFTs by artists to sell their creations in digital form.² Non-Fungible Tokens, commonly referred to as NFTs, are digital assets stored on a distributed public ledger that records transactions and possesses unique identification codes and metadata, distinguishing one from another, all within the blockchain network. Unlike cryptocurrencies, where each unit is considered interchangeable with another, hence termed fungible tokens, NFTs offer individual value and uniqueness that cannot be replicated or substituted by any other digital asset.³

The presence of NFTs has had a positive impact on the world of digital commerce, especially for artists. NFTs provide a novel way for artists to sell their creations digitally. They can utilize NFTs to create unique pieces of art with clear ownership rights, enhancing transparency and trust in the art industry. These Non-Fungible Tokens store digital assets on a public ledger distributed across the blockchain network, recording each transaction with distinct identification codes and metadata. This allows artists and collectors to easily and accurately trace the ownership history of a piece of art.⁴

The advancement of blockchain technology as the main support for NFTs has brought about significant changes in the digital transaction system. Blockchain operates independently through computer algorithms, without the need for specific regulatory systems. The security of data provided by this technology plays a crucial role in the development of NFTs and other cryptocurrencies. Through cryptography, blockchain ensures secure digital data storage and prevents the risk of data replication or manipulation. Consequently, NFTs and blockchain have made a significant breakthrough in the digital world, elevating the concept of virtual asset ownership to new heights.⁵

The emergence of NFTs in 2014 began with the introduction of a platform called Counterparty, where the first NFT artwork, Quantum, was created and now holds a value of 7 million US dollars. From 2017 until now, NFTs have gained widespread recognition and are predicted to continue growing in popularity due to their convenient method for buying and selling digital artworks. NFT transactions are known to have limited access and possess

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- 1 Dominic Chalmers et al., "Beyond the Bubble: Will NFTs and Digital Proof of Ownership Empower Creative Industry Entrepreneurs?," *Journal of Business Venturing Insights* 17 (2022): 1–8, <https://doi.org/10.1016/j.jbvi.2022.e00309>.
 - 2 Laura Bergamaschi et al., "Longitudinal Analysis Reveals That Delayed Bystander CD8+ T Cell Activation and Early Immune Pathology Distinguish Severe COVID-19 from Mild Disease," *Immunity* 54, no. 6 (2021): 1257–1275.
 - 3 Qin Wang et al., "Non-Fungible Token (NFT): Overview, Evaluation, Opportunities and Challenges," *arXiv preprint arXiv:2105.07447* (2021).
 - 4 Bikramaditya Ghosh et al., "Return and Volatility Properties: Stylized Facts from the Universe of Cryptocurrencies and NFTs," *Research in International Business and Finance* 65 (2023): 101945.
 - 5 Saqib Hakak et al., "Recent Advances in Blockchain Technology: A Survey on Applications and Challenges," *International Journal of Ad Hoc and Ubiquitous Computing* 38, no. 1–3 (2021): 82–100.

unique identification codes distinguishing each NFT from others. Moreover, NFTs come with inherent authentication features that serve as proof of ownership, providing reassurance regarding their authenticity and security. The transactions involved in buying and selling artworks through NFTs can lead to legal implications as they entail the division of rights, namely copyright and ownership rights. However, there are still many misunderstandings and confusions that arise during NFT transactions, particularly regarding the distinction between copyright holders and ownership rights, which can be perplexing for individuals unfamiliar with NFT usage.⁶

The complexities of NFT transactions, involving the allocation of copyright and ownership rights, have legal implications for both artists and buyers. The distinction between copyright holders and ownership rights often creates confusion and raises questions among individuals who are not well-versed in the realm of NFTs.⁷ As NFT transactions become increasingly widespread, there is a growing demand for clear and accessible explanations about the legal aspects concerning the ownership and copyright of the artworks traded through NFTs. Providing comprehensive guidance and educational materials on this matter will help foster a better understanding of NFT transactions, ensuring fair and transparent dealings between artists and collectors in the digital art market.⁸

NFT has emerged as a new digital platform that empowers artists by providing easy access and secure tools and methods to monetize their creative works efficiently. This enables artists to capitalize on their creations and streamline the process of generating revenue. However, it cannot be denied that there are still various legal and technical challenges that arise within the realm of NFTs. One of the key issues revolves around the position of NFTs in intellectual property rights, where NFT owners do not directly possess the underlying asset or artwork they purchase. Instead, they only hold a unique token and a record indicating their ownership of the specific digital asset.⁹

NFTs are designed with the purpose of preventing any form of illegal duplication, which would otherwise constitute a violation of an artist's intellectual property rights. However, in practice, NFTs still face challenges in claiming ownership of digital artworks due to a lack of transparency and the anonymity inherent in the blockchain system. This anonymity allows anyone to claim a digital artwork as their own by attaching a token to the piece. As transactions on the blockchain are publicly recorded in a digital ledger and cannot be altered, it becomes more feasible to attach identities to these transactions. However, this

6 Madison Yoder, "An" OpenSea" of Infringement: The Intellectual Property Implications of NFTs," *The University of Cincinnati Intellectual Property and Computer Law Journal* 6, no. 2 (2022): 4.

7 Andrew Park et al., "The Evolution of Nonfungible Tokens: Complexity and Novelty of NFT Use-Cases," *IT Professional* 24, no. 1 (2022): 9–14.

8 Lennart Ante, "Non-Fungible Token (NFT) Markets on the Ethereum Blockchain: Temporal Development, Cointegration and Interrelations," *Economics of Innovation and New Technology* (2022): 1–19.

9 Chalmers et al., "Beyond the Bubble: Will NFTs and Digital Proof of Ownership Empower Creative Industry Entrepreneurs?"

also creates difficulties in identifying and apprehending art thieves in the NFT space.¹⁰

The lack of transparency in the NFT ecosystem can lead to uncertainties and disputes over ownership rights. Since NFT transactions are often executed anonymously, it becomes challenging to verify the true ownership of digital artworks. In the absence of clear identification measures, artists may face difficulties in asserting their rights and proving their authorship. As a result, some artists may find it difficult to protect their creations from unauthorized use and reproduction, undermining the very purpose for which NFTs were intended.¹¹ Implementing improved identity verification processes within the blockchain system can help establish the rightful ownership of digital artworks. By associating the identity of artists with their NFT transactions, the risk of art theft and false claims can be minimized, creating a more secure environment for artists to showcase and monetize their creations. Additionally, fostering collaboration between NFT platforms, artists, and legal experts may lead to the development of standardized practices that uphold the principles of intellectual property rights while ensuring the efficiency and accessibility of NFT transactions.¹²

The Indonesian government has introduced several legal protection products in the digital economy sector, including the enactment of Law Number 11 of 2020 on Job Creation, Law Number 11 of 2008 (ITE Law) concerning digital content regulations, Government Regulation Number 71 of 2019 on the implementation of Electronic Transaction Systems, and Minister of Communication and Informatics Regulation Number 5 of 2021 on Risk-Based Business Licensing, which is a derivative regulation of the Job Creation Law in the communication and informatics sector covering sub-sectors such as postal services, telecommunications, broadcasting, and electronic systems and transactions. Regarding Cryptocurrency assets used by Metaverse users and investors, there are also four regulations issued by the Commodity Futures Trading Regulatory Agency (BAPPEBTI). Based on the preceding explanations, it is essential to further analyze the various activities that can be conducted within the Metaverse and consider the urgency of adaptive legal updates to provide protection for businesses and society in the era of the Metaverse. Therefore, an analysis of the legal protection efforts related to digital assets in the Metaverse is necessary to support the national digital economic strength.¹³

The introduction of the mentioned legal protection products signifies the Indonesian government's commitment to address the challenges and opportunities presented by the

10 Fulya Teomete Yalabik, "Future of NFTs in the Entertainment Industry: No Longer the 'Wild West' of Intellectual Property Law?," *European Journal of Law and Technology* 14, no. 1 (2023).

11 Sangam Bhujel and Yogachandran Rahulamathavan, "A Survey: Security, Transparency, and Scalability Issues of Nft's and Its Marketplaces," *Sensors* 22, no. 22 (2022): 8833; Dipanjan Das et al., "Understanding Security Issues in the NFT Ecosystem," in *Proceedings of the 2022 ACM SIGSAC Conference on Computer and Communications Security*, 2022, 667–681.

12 Kristin Cornelius, "Betraying Blockchain: Accountability, Transparency and Document Standards for Non-Fungible Tokens (Nfts)," *Information* 12, no. 9 (2021): 358.

13 Thomas Dragono, Wiwik Sri, and Widiarty Bernard, "Perlindungan Aset Digital Dalam Dunia Metaverse Berdasarkan Hukum Nasional" 7, no. 1 (2023): 742–750.

digital economy, particularly in the context of the rapidly evolving Metaverse. The Job Creation Law aims to streamline regulations and improve the business climate to encourage investment and economic growth. Additionally, the ITE Law addresses the handling of digital content and cybercrimes, providing a legal framework to tackle issues related to online defamation, hate speech, and other digital offenses.¹⁴ The regulations on electronic transactions and risk-based business licensing aim to promote the growth of e-commerce and digital businesses while ensuring a risk-managed approach to licensing. These legal instruments create a more conducive environment for businesses to thrive in the digital space while safeguarding the interests of users and investors.¹⁵

As Metaverse continues to gain momentum in Indonesia and around the world, it becomes crucial to analyze the legal implications and challenges associated with the use of digital assets within this virtual world. Cryptocurrencies, as one of the primary assets in the Metaverse, have garnered significant attention and interest from both users and investors.¹⁶ BAPPEBTI's regulations on Cryptocurrencies aim to provide a framework for transparent and regulated trading, enhancing consumer protection and market integrity. Analyzing the existing regulations and identifying potential gaps in addressing issues related to digital asset protection will be crucial to developing adaptive and comprehensive legal measures that foster trust, innovation, and economic growth within the Metaverse.¹⁷ A well-crafted legal framework will not only protect the interests of businesses and users but also encourage investment and participation in the digital economy, positioning Indonesia as a leading player in the global digital landscape.

In light of the growing importance of the Metaverse and the increasing use of digital assets within this virtual world, it is imperative for policymakers and legal experts to engage in continuous dialogue and collaboration with industry stakeholders. This collaborative approach will enable the development of agile and responsive legal frameworks that can adapt to the rapidly changing technological landscape of the Metaverse. By actively involving businesses, users, and investors in the regulatory process, the government can gain valuable insights into the unique challenges and opportunities presented by this emerging digital realm. Furthermore, fostering an open and inclusive ecosystem for discussions and feedback will facilitate the identification of potential risks and the formulation of effective

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- 14 Matt Fortnow and QuHarrison Terry, *The NFT Handbook How to Create, Sell and Buy Non-Fungible Tokens* (Wiley, 2021).
- 15 Rizki Fitri Amalia, "Legal Protection for Virtual Land Trading Investment Transactions in the Metaverse," in *3rd International Conference on Business Law and Local Wisdom in Tourism (ICBLT 2022)* (Atlantis Press, 2023), 488–496; Wukir Prayitno, Totok Tumangkar, and Sri Mulyani, "The Metaverse Symbol of Civilization Transfer in the Middle of Digital Economic Hegemony: Synthesis of Progressive Law of the Post-Modern Era," *Seven Editoria* (2023).
- 16 Cahyoko Edi Tando and Muhammad Arief Adillah, "Legal Development In Technology Investment Metaverse: Case In Indonesia," *Indonesian Law Journal* 15, no. 2 (2022): 42–59.
- 17 Susilowardhani Susilowardhani, Ashinta Sekar Bidari, and Reky Nurviana, "Regulation And The Future Of Cryptocurrency In Indonesia," *International Journal of Economics, Business and Accounting Research (IJEBAR)* 6, no. 3 (2022): 2177–2184.

measures to protect the interests of all parties involved. In the end, this research will of course be more directed towards a review and analysis of how the legal approach, especially the protection of intellectual property in the metaverse world, is to support business actors or intellectual property owners in Indonesia.

B. Research Method

The research employed a qualitative approach, specifically adopting a descriptive-analytical with narrative explain. This approach involved presenting and describing data in a comprehensive, detailed, and systematic manner.¹⁸ The data were then analyzed using legal theories, applicable regulations, and the researcher's own insights. The study primarily utilized a juridical approach to examine and analyze secondary data, which included legal materials, books, and previous research findings.¹⁹ Additionally, it utilized a descriptive-analytical approach through data collection via literature reviews, document analysis, and archival studies related to legal protection for digital assets within the Metaverse.

The use of a qualitative approach allowed the research to explore and provide a deeper understanding of the legal protection landscape in the Metaverse concerning digital assets. By employing a juridical approach, the study could critically analyze legal materials and evaluate the effectiveness and adequacy of existing laws in addressing the complexities and challenges of the Metaverse. Moreover, the study's reliance on secondary data sources, such as books, legal documents, and previous research, ensured a well-informed analysis of the subject matter, enabling the formulation of valuable insights and recommendations for policymakers and stakeholders in the digital economy.

C. Research Results and Discussion

1. Law Number 28 of 2014 concerning Copyright as the basis for Copyright Protection in the Metaverse World

The rapid development of copyright history has been remarkable, especially with the emergence of new challenges such as the internet in the digital era. Responding to these advancements, the World Intellectual Property Organization (WIPO) organized a conference in Geneva in December 1996 to update intellectual property norms in the face of the digital environment. WIPO invited representatives from 160 countries to participate in the conference, focusing on the creation, adoption, transmission, and distribution of works through digital mediums.²⁰

18 John W. Cresswell, *Research Design Pendekatan Kualitatif, Kuantitatif, Dan Mixed*, 3rd ed. (Yogyakarta: Pustaka Pelajar, 2010).

19 David Tan, "Metode Penelitian Hukum: Mengupas Dan Mengulas Metodologi Dalam Menyelenggarakan Penelitian Hukum," *Nusantara: Jurnal Ilmu Pengetahuan Sosial* 8, no. 8 (2021): 2463–2478.

20 Sam Ricketson, *Research Handbook on the World Intellectual Property Organization: The First 50 Years and Beyond* (Edward Elgar Publishing, 2020).

The WIPO conference in 1996 marked a significant milestone in the evolution of copyright laws. With the advent of the internet and the digital environment, traditional copyright norms faced new complexities and challenges. The conference provided an essential platform for participating countries to exchange ideas and seek innovative solutions to protect intellectual property in this rapidly changing landscape. It aimed to foster international cooperation and harmonize legal frameworks to ensure the fair and effective management of digital works.²¹

One of the critical outcomes of the WIPO conference was the recognition of the importance of striking a balance between the rights of creators and the needs of the public in the digital age. The traditional approach to copyright needed adjustments to accommodate the fast-paced digital world without stifling creativity and innovation. The outcome of the conference led to the creation of two significant agreements: the WIPO Copyright Treaty (WCT) and the WIPO Performance and Phonogram Treaty (WPPT). These treaties were designed to address the challenges posed by the digital environment on copyright regulations. Internationally recognized as the "WIPO Internet Treaties," these conventions marked a pivotal moment in the evolution of intellectual property protection in the digital age.²²

The WIPO Performance and Phonogram Treaty (WPPT), on the other hand, addressed the rights of performers and producers of phonograms in the digital environment. With the rise of digital music platforms and online streaming services, the treaty sought to ensure that performers and producers received fair compensation for their contributions to the digital entertainment industry. It laid down provisions for the protection of performances and phonograms in the digital domain and aimed to strike a balance between the interests of artists and the public's access to cultural content.²³

The "WIPO Internet Treaties" played a pivotal role in harmonizing copyright regulations across different countries. By promoting a unified approach to copyright protection in the digital era, these treaties facilitated cross-border collaboration and reduced legal uncertainties for creators and users alike. They also recognized the importance of technological protection measures (TPMs) to secure digital content and prevent unauthorized use and distribution, which further bolstered confidence in the digital marketplace.²⁴

With the establishment of the WIPO Copyright Treaty (WCT) and the WIPO Performance and Phonogram Treaty (WPPT), the international community took significant steps towards adapting copyright laws to the digital landscape. These treaties not only reflected the global

21 Faith O Majekolagbe, "The International Copyright System and Development: The Role of the World Intellectual Property Organization," *Available at SSRN 4349460* (2023); Ricketson, *Research Handbook on the World Intellectual Property Organization: The First 50 Years and Beyond*.

22 Ricketson, *Research Handbook on the World Intellectual Property Organization: The First 50 Years and Beyond*.

23 Cheryl Foong, "Copyright's Making Available Right: Distinguishing Downloads and Streams under the WIPO Internet Treaties," *Singapore Journal of Legal Studies* (2023).

24 *Ibid.*; Majekolagbe, "The International Copyright System and Development: The Role of the World Intellectual Property Organization"; Ricketson, *Research Handbook on the World Intellectual Property Organization: The First 50 Years and Beyond*.

effort to protect intellectual property rights but also highlighted the importance of continuous dialogue and collaboration between nations in addressing the challenges posed by the ever-changing digital environment.²⁵

In Indonesia, the regulation of copyright law has accommodated provisions related to security technology in its articles, which can be found in Law No. 28 of 2014 concerning Copyright. Although the Copyright Law (UUHC) has not explicitly explained the methods and usage of security technology, the concept of Security Technology in Indonesia's positive law has adequately encompassed the protection of creators' exclusive rights, moral rights, and economic rights. The use of security technology as protection for moral rights is governed by Articles 6 and 7 of the Copyright Law. Article 6 of Law No. 28 of 2014 states that to protect moral rights as referred to in Article 5 paragraph (1), the Creator may have: Copyright management information; and/or electronic Copyright information.

The implementation of security technology in Indonesia's copyright law aims to strike a balance between protecting the rights of creators and fostering innovation and creativity. By incorporating security technology provisions in the Copyright Law, Indonesia demonstrates its commitment to adapting to the digital age and ensuring that creators' rights are safeguarded in an increasingly digital and interconnected world.

While the Copyright Law in Indonesia provides a legal basis for the use of security technology, the specific implementation and practical aspects of such measures may still be subject to further development and clarification.²⁶ Furthermore, Article 7 of Law No. 28 of 2014 states the following provisions regarding Copyright Management Information (CMI) and Electronic Copyright Information (ECI):

1. Copyright Management Information, as referred to in Article 6 letter a, includes information about:
 - a. Methods or systems that can identify the originality of the substance of the creation and its creator; and
 - b. Information codes and access codes.
2. Electronic Copyright Information, as referred to in Article 6 letter b, comprises information about:
 - a. A creation, which appears and is electronically attached in connection with the Announcement of the Creation;
 - b. The name of the creator, alias, or pseudonym;
 - c. The creator as the Copyright Holder;
 - d. The period and conditions of the creation's usage;
 - e. The identification number; and

25 Ricketson, *Research Handbook on the World Intellectual Property Organization: The First 50 Years and Beyond*.

26 Dragono, Sri, and Bernard, "Perlindungan Aset Digital Dalam Dunia Metaverse Berdasarkan Hukum Nasional."

- f. Information codes.
3. Any removal, alteration, or destruction of the Copyright Management Information as referred to in paragraph (1) and the Electronic Copyright Information as referred to in paragraph (2) that is possessed by the Creator is prohibited.

The provisions in Article 7 of the Copyright Law emphasize the significance of Copyright Management Information (CMI) and Electronic Copyright Information (ECI) in ensuring the proper identification and protection of copyrighted works. These informational components play a crucial role in establishing the ownership and authenticity of creative works, especially in the digital age where the circulation and dissemination of content happen quickly and on a global scale.

By explicitly stating that the removal, alteration, or destruction of CMI and ECI is prohibited, the law aims to deter potential infringements and preserve the integrity of copyrighted works. These measures not only protect the interests of creators and copyright holders but also contribute to maintaining transparency and accountability in the management of intellectual property rights. The inclusion of detailed guidelines for CMI and ECI in the Copyright Law reflects Indonesia's commitment to embracing digital advancements while upholding the principles of copyright protection. These provisions empower creators and copyright owners with the necessary tools to safeguard their works, promote responsible usage, and combat unauthorized distribution or misuse of copyrighted content in the modern digital landscape.

The utilization of security technology as a means to protect economic rights in copyright is further governed by Articles 52 and 53 of the Copyright Law. Article 52 of Law No. 28 of 2014 states: "Any person is prohibited from damaging, destroying, removing, or disabling technological control measures used as protection for creations or related rights products, as well as copyright or related rights security measures, except for the purposes of national defense and security or other reasons in accordance with the provisions of regulations or other agreements." The inclusion of provisions in Articles 52 and 53 demonstrates Indonesia's commitment to ensuring the effective protection of economic rights associated with copyrighted works. By prohibiting the tampering with or removal of technological control measures, the law aims to create a secure environment for copyright holders and related rights owners, allowing them to enjoy the economic benefits derived from their creative endeavors.²⁷

The Copyright Law's allowance for the use of technological control measures for protection aligns with international efforts to combat copyright infringement and piracy.²⁸ Embracing such measures helps Indonesia conform to global standards of intellectual property protection and contributes to a more vibrant creative industry by encouraging

²⁷ Undang-Undang Nomor 28 Tahun 2014 Tentang Hak Cipta.

²⁸ lcx.com, "Legal Aspects of NFTs," *Lcx.Com*, last modified 2023, accessed November 11, 2023, <https://www.lcx.com/legal-aspects-of-nfts/>.

innovation and investment in copyrighted content.²⁹ Although current legislation in Indonesia does not explicitly and specifically address ownership and legal protection in the digital realm, especially concerning digital art, the regulation of digital creations can be referred to existing laws, one of which is the Copyright Law. In general, the Copyright Law protects various creations, some of which are mentioned in Article 40 paragraph (1), where it states that "compilations of works or data, whether in a format that can be read by a Computer Program or other media" are among the creations protected by copyright. Meanwhile, a Computer Program, as defined in Article 1 number 9 of the Copyright Law, is "a set of instructions expressed in the form of language, code, schema, or in any other form intended to make a computer perform specific functions or achieve specific results."

International collaboration and learning from global best practices can also play a crucial role in shaping Indonesia's approach to digital copyright. By engaging in dialogues with other countries and international organizations, Indonesia can gain insights into effective measures and strategies implemented in digital art and creative sectors worldwide. Such collaborations can foster harmonization of copyright laws and facilitate cross-border cooperation in addressing the challenges posed by the digital landscape.³⁰

Additionally, encouraging the adoption of digital watermarking and digital rights management (DRM) technologies can enhance the protection of digital creations in Indonesia. Watermarking enables artists to embed copyright information directly into their digital works, acting as a visible deterrent against unauthorized use. Simultaneously, DRM technologies help control access to digital content and prevent unauthorized copying, ensuring the rights of creators are respected in the digital space. Integrating these technologies into the legal framework and promoting their use among creators can be steps towards strengthening copyright protection in the digital era.³¹

Based on the given paragraph, it is evident that Computer Programs essentially consist of instructions created to make computers perform specific functions or achieve certain outcomes. When connected to the digital world, it becomes apparent that the digital realm exists due to computer systems. Therefore, the digital world and computer programs are closely linked, and the digital world cannot be separated from computer programs. Considering this connection and referring to Article 40 paragraph (1) point p, digital data compilations that can be read by Computer Programs are essentially protected under Copyright Law. As virtual structures are "constructed" through electronic codes read by Computer Programs, the protected elements are the arrangements of these electronic

29 Mochammad Tanzil Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens," *Jurnal Politik dan Pemerintahan Daerah* 4, no. 2 (2022): 293–303.

30 Edy Santoso, "Opportunities and Challenges: E-Commerce in Indonesia from a Legal Perspective," *Jurnal Penelitian Hukum De Jure* 22, no. 3 (2022): 395–410.

31 Agung Kurniawan Sihombing, Rika Ratna Permata, and Tasya Safiranita Ramli, "Comparison of Digital Copyright Protection on Over the Top (OTT) Streaming Content Media in Indonesia and the United States," *PADJADJARAN Jurnal Ilmu Hukum (Journal of Law)* 8, no. 2 (2021): 183–212.

codes. Thus, if another "structure" is found with the same arrangement of electronic codes, it can be deemed a copyright infringement against the arrangement of electronic codes. Since the arrangement of codes forming virtual structures is a copyrighted object, the creators of such arrangements hold economic rights as regulated in Article 9 of the Copyright Law.

Recognizing the inseparable relationship between computer programs and the digital world highlights the need for comprehensive and up-to-date copyright laws in Indonesia. Protecting the arrangements of electronic codes that form virtual structures ensures that creators' intellectual property rights are respected and encourages continued innovation and creativity in the digital landscape. A combination of robust legal frameworks, public awareness, and international cooperation is crucial in establishing a sustainable and equitable copyright ecosystem for digital creations.

2. Copyright and Property Rights in NFT works

The trading of artworks within NFTs can create confusion among the general public regarding the division of rights that occur after completing a transaction on NFT platforms. The distinction between copyright and ownership rights is sometimes misunderstood or even misconstrued, leading to uncertainty about which party holds which rights. Here, we will clarify the differences between copyright and ownership rights in the context of NFTs.³²

Ownership rights, on the other hand, pertain to the physical or digital possession of an asset. To avoid confusion and ensure clarity in NFT transactions, it is crucial for both creators and buyers to have a clear understanding of copyright and ownership rights. Creators should consider how they want to license their works and specify the terms of use for buyers in the NFT smart contract. On the other hand, buyers should be aware of what they are acquiring when purchasing an NFT and ensure they are not infringing on the creator's copyright.³³

As the NFT market continues to grow and evolve, educating creators and buyers about copyright and ownership rights will be vital to fostering a fair and transparent ecosystem. By promoting awareness and providing clear guidelines, the NFT community can create a more inclusive and mutually beneficial environment for all stakeholders involved in the creation and trading of digital assets.

a. Copyright

Copyright is a special right granted to creators and copyright holders to publicly display, reproduce, and grant permissions for their works, subject to legal restrictions. The term "special right" implies that only the creator or the authorized copyright holder can exercise

32 Ninne Zahara Silviani and Seela Anwar Sya'adah, "Non-Fungible Token (NFTs) Copyrights Towards Indonesia Digital Economy Development 2030: Polemic and Challenges," *Syiah Kuala Law Journal* 7, no. 1 (2023).

33 Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens."

these rights, including the right to sell, duplicate, and derive benefits from the creative work, as long as the creator does not provide permission or limitations. NFTs have the potential to enforce copyright through the transparent mechanisms provided by the blockchain.³⁴

Through the use of smart contracts, creators can embed specific terms and conditions related to copyright and licensing directly into the NFT. For example, they can specify whether the NFT owner has the right to display the artwork publicly, create derivative works, or commercialize the artwork. These predefined conditions ensure that copyright holders retain control over how their works are used, protecting their interests and maintaining the integrity of their creations.³⁵

NFTs hold significant potential for upholding copyright protections in the digital age. By leveraging blockchain technology and smart contracts, NFTs offer creators enhanced control, visibility, and security over their intellectual property. As the NFT ecosystem continues to evolve, it will be essential to promote awareness and adherence to copyright laws and ethical practices to foster a sustainable and equitable environment for both creators and NFT enthusiasts.³⁶

The ledger, a fundamental mechanism in blockchain, allows the transaction history to be transparent and traceable by the public. This transparency enables the inclusion of code in blockchain features to create contracts that govern the buying and selling process in NFTs. Consequently, digital artists can retain their economic rights over the artworks they sell, even if the works are repeatedly transferred. The combination of smart contracts and blockchain technology empowers small artists who may struggle to be accommodated through conventional means, as it enables them to control both their moral and economic rights, which are inherent in copyright law.³⁷

Through the use of NFTs, artists can leverage the benefits of blockchain to maintain control over their creations, even as ownership changes hands over time. The decentralized and immutable nature of blockchain ensures that every transaction involving the NFT is recorded and cannot be altered, providing a secure and tamper-proof mechanism to enforce artists' rights. This approach safeguards the economic interests of artists, as they can receive a percentage of each subsequent sale or transfer of their NFTs, known as royalties, as specified in the smart contract.³⁸

In addition to financial benefits, NFTs also empower artists to maintain their moral rights over their creations. Moral rights include the right to be identified as the creator of the work

34 Pınar Çağlayan Aksoy and Zehra Özkan Üner, "NFTs and Copyright: Challenges and Opportunities," *Journal Of Intellectual Property Law and Practice* 16, no. 10 (2021): 1115–1126.

35 Maya Ruhtiani, "Transferring Copyright Ownership of NFT on The Perspective of Positive Law In Indonesia," *Perspektif* 28, no. 1 (2023): 56–65.

36 Das et al., "Understanding Security Issues in the NFT Ecosystem."

37 Ifeanyi E Okonkwo, "NFT, Copyright and Intellectual Property Commercialization," *International Journal of Law and Information Technology* 29, no. 4 (2021): 296–304.

38 Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens"; Okonkwo, "NFT, Copyright and Intellectual Property Commercialization."

and the right to object to any modifications or derogatory use of the work. With blockchain technology and NFTs, artists can assert and protect these moral rights, ensuring that their works are attributed correctly and that they have a say in how their creations are presented and used.³⁹

The platform sets out specific terms and conditions that outline the buyer's rights to the NFT artwork, akin to a limited license. Buyers are allowed to display the artwork publicly and make copies for personal use, but they are restricted from using it for commercial purposes. To ensure clarity and adherence to policies, it is preferable to incorporate the platform's privacy policy and terms of service into the NFT sales process. By doing so, buyers are made aware that they do not have the right to license, exploit, or create derivative works from the artwork on the NFT, except for public display, personal use, and non-commercial copying. However, buyers retain the right to resell the NFT.⁴⁰

As a result, all copyrights and other artistic rights within an artwork on an NFT automatically belong to the original creator of that NFT. The creator retains full ownership and control over the intellectual property, even after the NFT is sold to a buyer. This arrangement ensures that the creator's creative rights are protected, and they maintain authority over how their artwork is used and distributed. By preserving the creator's rights, the NFT ecosystem fosters a fair and respectful environment for artists, encouraging them to continue producing valuable and innovative digital art.

The terms and conditions established by NFT platforms play a critical role in defining the rights and limitations of buyers and creators within the NFT ecosystem. By clearly outlining the rights and responsibilities of all parties involved, NFT platforms can foster a sustainable and equitable marketplace for digital art, where artists retain control over their creations, and collectors can enjoy ownership and display rights within the specified boundaries.

b. Property Rights

NFTs can be linked to digital texts when accompanied by a legal contract specifying the type of rights and ownership over a particular work, theoretically speaking. For instance, Michael Arrington, the founder of TechCrunch media company, successfully sold his residence in Kyiv in June 2021 through an NFT. The Ukrainian government even approved the platform used for the property transaction, and the sale of the NFT was registered as a property deed transfer. Hence, NFTs can be clarified as securities since they can be used as evidence of ownership, demonstrating the authenticity of the property and facilitating secondary market trading.⁴¹

39 Balázs Bodó et al., "The Rise of NFTs: These Aren't the Droids You're Looking For" (2022).

40 Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens."

41 S H Alexander Sugiharto et al., *NFT & Metaverse: Blockchain, Dunia Virtual & Regulasi*, vol. 1 (Indonesian Legal Study for Crypto Asset and Blockchain, 2022).

In the context of NFTs, digital texts can be integrated into smart contracts to provide a clear and legally binding record of ownership rights and terms of use for the digital assets. By combining digital texts with NFTs and smart contracts, creators and buyers can establish a transparent and immutable record of transactions, ensuring proper attribution and provenance of the artworks. This integration enhances trust and transparency in the NFT market, bolstering confidence among creators, collectors, and investors.⁴²

Moreover, NFTs offer a novel approach to digitizing and securing intellectual property rights, allowing creators to tokenize their digital works and establish verifiable ownership on the blockchain. This innovative use of NFTs in conjunction with digital texts provides a new level of control and protection for creators, as the immutable nature of the blockchain ensures that the rights associated with the NFTs cannot be altered or disputed.⁴³

The concept of NFTs revolutionizes the way ownership and intellectual property rights are managed in the digital world. By tokenizing digital assets and recording ownership on the blockchain, NFTs provide a transparent and secure mechanism for creators and buyers to validate ownership and establish provenance. This innovation empowers creators to retain control over their works and ensures they receive recognition and compensation for their artistic contributions.⁴⁴

Furthermore, NFTs offer new opportunities for artists and content creators to monetize their digital creations in unprecedented ways. With the rise of decentralized marketplaces and the growing acceptance of NFTs across various industries, creators can directly connect with collectors and buyers, bypassing traditional intermediaries and retaining more of the value generated by their works.⁴⁵

NFTs represent a groundbreaking development in the world of digital ownership and intellectual property rights. With their decentralized and secure nature, NFTs offer creators a new level of control, while enabling buyers to engage in unique digital assets with verified provenance. As the NFT market continues to evolve, it is essential to embrace these advancements responsibly and establish clear legal frameworks that safeguard the interests of all parties involved.

3. NFT within the perspective of Intellectual Property Rights

Intellectual Property (IP) refers to the wealth or assets that are born from human intellectual abilities, including works in the fields of arts and literature, science, and technology. These creations are produced through time, effort, ideas, and creativity, setting them apart from other forms of wealth that may be owned by humans but are not products of intellectual endeavors. For instance, natural resources like land and plants can be owned

42 Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens."

43 Yoder, "An "OpenSea" of Infringement: The Intellectual Property Implications of NFTs."

44 Lorena Lucia Gonzalez, "Digital Art, NFTs and the Protection of Intellectual Property Rights" (2023).

45 Ruhtiani, "Transferring Copyright Ownership of NFT on The Perspective of Positive Law In Indonesia."

by humans, but they are not results of human intellectual activities. Intellectual property encompasses works that are the outcome of human thought and intelligence, possessing economic value and utility in human life, thus making them commercial assets. As such, it is crucial to protect and develop a legal framework to safeguard intellectual property, known as Intellectual Property Rights (IPR).⁴⁶

The concept of Intellectual Property Rights is rooted in the recognition that creators' efforts in producing intellectual works deserve legal protection and recognition. By granting IPR, society incentivizes innovation and creativity while ensuring that creators can enjoy the economic benefits derived from their creations. These rights provide creators with the exclusive control over the use, reproduction, and distribution of their works, fostering a conducive environment for creativity and knowledge dissemination.⁴⁷

To promote the development of innovative and creative industries, governments and international organizations play an essential role in establishing robust legal frameworks for intellectual property protection. By encouraging research and development, fostering intellectual property literacy, and collaborating on global intellectual property standards, nations can create a balanced and harmonious environment that fosters creativity, respects the rights of creators, and fuels economic growth through the commercialization of intellectual assets.⁴⁸

The technology of NFTs (Non-Fungible Tokens) is still relatively new, and as a result, there are many aspects of NFTs that lack comprehensive regulations. From an Intellectual Property perspective, NFTs can be viewed as a simplification tool, while in the realm of Intellectual Property ownership, NFTs are seen as intangible personal property. This means that while the NFT itself cannot be physically held or touched, it possesses a certain value level that is assigned to the underlying asset. It is essential to clarify that owning an NFT does not grant the owner unlimited rights over the associated creative work. If an artist intends to transfer their ownership rights or exclusive rights to a collector, it must be done through a smart contract. However, it should be noted that the use of smart contracts on the blockchain is still relatively immature both in technical and legal aspects.⁴⁹

One of the significant advantages of NFTs lies in their ability to provide provenance and traceability for digital art and other creative works. Blockchain technology, which underpins

46 I Putu Wisnu Karma and I Ketut Artadi, "Arbitration As a Description of Settlement Distribution Outside the Court in the Disposal," *Kertha Wicara Journal* 2 7 (2022).

47 Taufik H Simatupang, "Hak Asasi Manusia Dan Perlindungan Kekayaan Intelektual Dalam Perspektif Negara Hukum," *Jurnal Ham* 12, no. 1 (2021): 111–122.

48 Dewi Sulistianingsih, Yuli Prasetyo Adhi, and Pujiono Pujiono, "Digitalisasi Kekayaan Intelektual Komunal Di Indonesia: Digitalization of Communal Intellectual Property in Indonesia," in *Seminar Nasional Hukum Universitas Negeri Semarang*, vol. 7, 2021, 645–656.

49 Bio Bintang Gidete, Muhammad Amirulloh, and Tasya Safiranita Ramli, "Pelindungan Hukum Atas Pelanggaran Hak Cipta Pada Karya Seni Yang Dijadikan Karya Non Fungible Token (NFT) Pada Era Ekonomi Digital," *Jurnal Fundamental Justice* (2022): 1–18; Arna Safitri, "Perlindungan Hukum Bagi Pemilik Konten NFT (Non-Fungible Token) Menurut Sistem Hukum Hak Kekayaan Intelektual" (Universitas Jambi, 2022).

NFTs, allows for a transparent and immutable record of ownership and transaction history. This feature can be leveraged to authenticate the provenance of digital artworks, preventing issues such as art forgery and copyright infringement. Ensuring a reliable and secure system of provenance can boost confidence in the NFT market and encourage further adoption by artists and collectors.⁵⁰

Smart contracts are computerized transaction protocols that automatically handle contract requirements when pre-defined conditions agreed upon by parties are met. The primary objective of smart contracts is to minimize the occurrence of misconduct by irresponsible parties, thereby reducing administrative costs and services. By leveraging decentralized blockchain systems, smart contracts can be automatically executed, ensuring a more secure and efficient process for various transactions. One of the key advantages of smart contracts is their ability to provide a trustless environment for transactions. By eliminating the need for intermediaries or third-party validators, smart contracts reduce the potential for fraud and manipulation in contractual agreements. This trustless nature enhances transparency and accountability, making smart contracts an attractive option for conducting business transactions in the digital era.⁵¹

The automation offered by smart contracts significantly streamlines business operations, particularly in finance and trade. With automated financial settlement mechanisms, companies can expedite payment processing, reduce transactional delays, and optimize overall operational efficiency. One of the drawbacks of smart contracts lies in their intention to replace traditional contracts. While this innovation offers several advantages, it also introduces new challenges. One notable concern is the permanence of smart contracts once they are deployed on the blockchain system. Any errors or mistakes that occur in the smart contract code become irreversible, making it challenging to rectify issues or mitigate potential risks post-deployment. This characteristic of blockchain technology could lead to significant repercussions in case of contract violations or operational errors.⁵²

To overcome the challenges associated with smart contracts, it is essential for all parties involved to possess a comprehensive understanding of the technical and legal aspects. Designing and implementing smart contracts require expertise in both fields, and adequate precautions must be taken to ensure that the smart contract accurately reflects the intended terms and conditions. Moreover, a clear and precise description of the contract's rules and obligations should be outlined to avoid misunderstandings or misinterpretations.

Collaboration among different stakeholders, including legal experts, software developers, and end-users, is vital in addressing the challenges and complexities of smart

50 Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens."

51 Alexander Sugiharto et al., *NFT & Metaverse: Blockchain, Dunia Virtual & Regulasi*, vol. 1, p. ; Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens."

52 Alexander Sugiharto et al., *NFT & Metaverse: Blockchain, Dunia Virtual & Regulasi*, vol. 1, p. ; Recca Ayu Hapsari, Aprinisa Aprinisa, and Rachel Anzani Putri, "Perlindungan Hukum Terhadap Teknologi Non-Fungible Token (NFT) Sebagai Identitas Karya Intelektual," *Amsir Law Journal* 4, no. 2 (2023): 236–245.

contracts. By promoting cross-disciplinary cooperation and knowledge exchange, the blockchain community can collectively work towards developing robust and secure smart contract solutions that align with legal requirements and the needs of diverse user groups. This collaborative approach can pave the way for more widespread adoption of smart contracts and, ultimately, the realization of their full potential in revolutionizing various industries.

In essence, the artworks that have been auctioned or sold as NFTs are closely related to Intellectual Property Rights (IPR). Therefore, the role of IPR in NFTs is crucial as it serves as the legal mechanism to protect a work (NFT digital assets). NFTs can be better described as licensing mechanisms or supporting evidence for the transfer of ownership of a work, but they are not the primary proof since the primary evidence requires registration with a public agency. Therefore, NFTs only serve as a reinforcement of IPR, not a replacement, as IPR possesses unique attributes that NFTs lack. IPR prohibits others from using and commercializing a creation without permission and without paying royalties.⁵³ As NFTs gain traction in various creative industries, the integration of IPR principles into the NFT ecosystem becomes increasingly critical to safeguard the interests of creators and rights holders.⁵⁴

Despite the benefits that NFTs bring to the protection of digital assets, it is essential to recognize their limitations. While NFTs provide a strong proof of ownership, they do not replace the legal foundation of IPR. Formal registration of intellectual property with relevant public authorities remains a vital step in obtaining comprehensive legal protection. Additionally, understanding the nuanced relationship between NFTs and IPR is necessary to navigate the legal landscape effectively and ensure creators' rights are adequately safeguarded.⁵⁵

To harness the full potential of NFTs and IPR, collaborations between legal experts, blockchain developers, and creative professionals are essential. Together, these stakeholders can work to establish guidelines and best practices for utilizing NFTs in conjunction with IPR to create a robust and secure environment for the digital creative economy. By fostering an inclusive and cooperative approach, the convergence of NFTs and IPR can pave the way for a thriving ecosystem that empowers creators, protects their rights, and fosters innovation in the rapidly evolving digital world.⁵⁶ Additionally, this

53 Hapsari, Aprinisa, and Putri, "Perlindungan Hukum Terhadap Teknologi Non-Fungible Token (NFT) Sebagai Identitas Karya Intelektual."

54 Dewi Sulistianingsih and Apriliana Khomsa Kinanti, "Hak Karya Cipta Non-Fungible Token (NFT) Dalam Sudut Pandang Hukum Hak Kekayaan Intelektual," *Krtha Bhayangkara* 16, no. 1 (2022): 197-206.

55 Alexander Sugiharto et al., *NFT & Metaverse: Blockchain, Dunia Virtual & Regulasi*, vol. 1, p. ; Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens."

56 Hapsari, Aprinisa, and Putri, "Perlindungan Hukum Terhadap Teknologi Non-Fungible Token (NFT) Sebagai Identitas Karya Intelektual"; Multazam, "Exploring the Legal and Policy Implications of Non-Fungible Tokens"; Sulistianingsih and Khomsa Kinanti, "Hak Karya Cipta Non-Fungible Token (NFT) Dalam Sudut Pandang Hukum Hak Kekayaan Intelektual."

integration could enable automatic royalty payments for creators whenever their NFTs are resold in secondary markets, ensuring fair compensation for their work and fostering a sustainable creative ecosystem.

In summary, NFTs and IPR complement each other in the realm of digital assets, and their convergence offers promising opportunities for creators and the creative industry as a whole. By harnessing the advantages of both NFTs and IPR, creators can assert greater control over their works while enjoying broader exposure and commercial possibilities. The development of clear legal guidelines and collaborative efforts between blockchain experts and legal professionals will be instrumental in shaping a future where NFTs and IPR coexist harmoniously, fostering innovation, creativity, and equitable reward for creators.

D. Conclusion

Protection of Copyright in the Virtual World (Metaverse) based on Law Number 28 of 2014 concerning Copyright has accommodated the use of security technology as a means of protecting copyright in the digital environment. Although the method and implementation of this technology have not been explicitly specified, the Law provides safeguards for the moral and economic rights of creators through the use of security technology. However, the legal regulations have not specifically addressed ownership and legal protection in the digital world, including digital artworks.

The emergence of the Metaverse has posed new challenges and opportunities for copyright protection. Even though there is already a law that regulates the types of punishment given to people who violate intellectual property, it is still weak. Apart from that, this research also calls for continued corrections in the law on intellectual property so that it can be revised further and in line with interests in the metaverse world. Besides that as the virtual landscape expands, creators face the risk of unauthorized use and distribution of their works. To address this issue, lawmakers are actively discussing potential amendments to the existing Copyright Law. These amendments aim to address the unique aspects of the digital realm, including the ownership and protection of digital art.

By clearly defining the roles and responsibilities of creators, users, and platforms within the Metaverse, the proposed changes seek to strike a balance between promoting creativity and innovation while safeguarding the rights of copyright holders in this rapidly evolving digital era. As the discussions continue, stakeholders are eagerly awaiting a comprehensive and robust legal framework that can effectively safeguard creative expression and ensure fair compensation for creators in the virtual world.

The distinction between copyright and ownership in NFT works can lead to separate individuals holding these rights. Copyright holders have the option to trade their creations with others, subsequently transferring ownership rights to the new acquirer. As a result, copyright and ownership are distinct entities in NFTs. Copyright is exclusively granted to

the creator of the work, while ownership can be bestowed upon any party that purchases the artwork. From an intellectual property perspective, the NFT technology is relatively new, and there is a significant scope of NFTs that lack comprehensive regulations or are susceptible to unforeseen actions. In this context, intellectual property rights (IPR) become the legal safeguard for NFT assets (artworks). NFTs can be regarded as licensing mechanisms or supporting evidence in the transfer of ownership, but they cannot serve as primary evidence since official registration with public authorities is crucial. Thus, NFTs act as reinforcement for IPR protection rather than replacing it, as IPR plays a fundamental role in safeguarding NFTs. Each artwork within the NFT ecosystem should be registered and documented under IPR to ensure legal protection for every creation.

The implementation of NFT technology has prompted discussions and considerations for its broader implications beyond the realm of digital art. In addition to artwork, NFTs have found applications in various industries, such as music, gaming, and real estate. However, as these applications expand, the legal landscape surrounding NFTs remains relatively uncharted. To address this, legal experts and policymakers are actively examining the potential need for new laws or amendments to existing ones to better govern NFTs and provide a robust legal framework for their ownership, licensing, and dispute resolution. Ensuring that NFT creators' rights are adequately protected and that ownership transactions are transparent and legally binding is of paramount importance. By establishing clear and comprehensive regulations, the legal community seeks to strike a balance between encouraging innovation and creativity in the NFT space while safeguarding the rights and interests of all stakeholders involved.

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D. Regulations

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THE FUTURE OF INTELLECTUAL PROPERTY PROTECTION: ISSUES AGAINST THE METAVERSE AND NON-FUNGIBLE TOKENS (NFTs)

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ABSTRACT

Intellectual property protection is a right that must be granted by the state to the holder of a work and the increasing number of intellectual property rights problems such as theft of a work or indirect theft, for example, plagiarism, means that it is very necessary to protect every work produced. This research uses a literature review. This research aims to provide information on the results of analyses related to the protection of intellectual property which has caused many problems related to intellectual property. The results of this research show that the blockchain system must also be utilized by the Indonesian Government to become a central database for virtual intellectual property and public domain collections. Legal protection in Indonesia still needs to be strengthened on the law enforcement side to provide legal certainty for stakeholders so that public confidence arises in registering their intellectual property.

Keywords : Intellectual Property, Public Domain, Legal Certainty, Virtual World

A. Introduction

Intellectual Property is one of the studies that can be studied and reviewed from various scientific scopes, including politics, economics, and law.¹ However, the implementation of applying intellectual property imposes a lot of costs on society as an effort to protect the wealth that exists in society and by law certain limitations will apply as an effort to protect.² The protection provided will be an advantage for creators of intellectual property and the impact will be increased welfare that will be received and prevention of duplication and violations, both minor and significant which can harm all parties, especially owners of intellectual property and eliminate cases of plagiarism that lead to to the benefit of the

1 Rachmad Abduh, "Intellectual Property Rights Protection Function in Resolving Copyright Disputes," *International Journal Reglement & Society (IJRS* 2, no. 3 (2021): 170-78, <https://doi.org/10.55357/ijrs.v2i3.154>.

2 Mario Biagioli, "Weighing Intellectual Property: Can We Balance the Social Costs and Benefits of Patenting?," *History of Science* 57, no. 1 (2019): 140-63, <https://doi.org/10.1177/0073275318797787>.

plagiarists.³ Violation due to irresponsible persons in the context of intellectual property is a complex problem, especially for developed and developing countries.⁴

The development of technological advancements in the future and the presence of virtual worlds that are online or metaverse or in the form of NFTs (Noken Fungible Tokens) are one of the real challenges of today's intellectual property.⁵ Metaverse and NFT are containers for storing digital assets that can be exchanged with other parties because they have Tokens (Certain Numbers) with objects that are almost the same as the real world such as paintings, photography, pictures, videos, tickets, signatures and other objects.⁶ The existence of NFTs in the virtual world is very easy to learn and the digital ecosystem in Metaverse really supports the use of these NFT applications. NFT itself is a virtual world platform that is used to empower and provide great access to its users and allows users who have economic motives to sell their work to be processed in an easier, faster and more profitable way. However, a serious problem is where the legal and technical implementation of NFTs is still low, where is the position of intellectual property.⁷

The weakness in this system, when referring to the results of an analysis conducted by Iyengar and Sarlin in CNN media, states that NFT, which is a platform in a virtual world within the Metaverse digital ecosystem, is unable to protect all forms of copyright recognition for the works of artists in it. According to Iyengar and Sarlin, which explain Infringement and theft of copyrighted works still often occur in NFTs because buyers only have a cash code and all buyers can own it and all of them can claim ownership unilaterally, and attaching transaction data that has been made is difficult to implement due to the lack of transparency and the NFT system's nature blockchain because of the freedom to buy in it.⁸

One of the cases regarding copyright infringement was in 2015, where the Ministry of Communication and Information of the Republic of Indonesia (*Kominfo RI*) and the Ministry of Law and Human Rights of the Republic of Indonesia (*Kemenkumham RI*) blocked as many as 22 internet sites which harmed many parties in Indonesia. This is also contained in

3 Fajar Candra Bagas Pratama, "Legal Protection of Intellectual Property Rights for Copyright Holders in the Perspective of Community Legal Culture," *Journal of Creativity Student* 5, no. 1 (2020): 1–24, <https://doi.org/10.15294/jcs.v7i2.38493>.

4 Indirani Wauran-Wicaksono, "Hak Kekayaan Intelektual Sebagai Benda: Penelusuran Dasar Perlindungan Hki Di Indonesia," *Refleksi Hukum: Jurnal Ilmu Hukum* 9, no. 2 (2015): 133–42, <https://doi.org/10.24246/jrh.2015.v9.i2.p133-142>.

5 Teti Tiran, "Hak Cipta Karya Digital Pada NFT Dikaitkan Dengan Hak Akses Yang Memiliki Nilai Ekonomi Sebagai Hak Kebendaan Berdasarkan Peraturan Perundang-Undangan Di Indonesia," *Jurnal Kewarganegaraan* 6, no. 3 (2022): 6006–13.

6 Dewi Sulistianingsih and Apriliana Khomsa Kinanti, "Hak Karya Cipta Non-Fungible Token (NFT) Dalam Sudut Pandang Hukum Hak Kekayaan Intelektual," *Krtha Bhayangkara* 16, no. 1 (2022): 197–206, <https://doi.org/10.31599/krtha.v16i1.1077>.

7 Sanction Scanner, "What Is a Non-Fungible Token (NFT)?," sanctionscanner.com, 2021.

8 Rishi Iyengar and Jon Sarlin, "NFTs Are Suddenly Everywhere, but They Have Some Big Problems," *CNN Business*, 2021, <https://edition.cnn.com/2021/03/30/tech/nft-hacking-theft-environment-concerns/index.html>.

Law Number 28 of 2014 concerning Copyright (*Undang-Undang Nomor 28 Tentang 2014 tentang Hak Cipta*) and the Joint Ministerial Regulation between the Minister of Law and Human Rights and the Minister of Communication and Information with the issuance of regulations Number 14 of 2015 and number 26 of 2015 concerning the implementation of closing content or rights for user access in violation of rights create. Whereas in that year as many as 25 original films made in the country and the work of the nation's children had been hijacked by these sites.⁹

The closure of sites for copyright infringement also came from the Indonesian Ministry of Law and Human Rights through content letter number HK1.7.HM.O1.O5-264 in 2015 containing recommendations for closing content and user access rights for copyright infringement, many of which came from complaints from Indonesian recording industry associations.¹⁰ A total of 22 pieces of music have caused a lot of losses to several musicians in Indonesia, assuming a loss of 6 billion per month. These losses are not only received by the musicians but also in terms of state tax revenue which of course will not be paid by these elements. After this incident, throughout 2017 there were at least 190 online sites that were blocked by the Indonesian Ministry of Information and Communication, continued in 2018 with 412 sites, then increased in 2019 with 1143 sites that indicated copyright infringement in Indonesia.¹¹

In addition to this case, in 2023 the Ministry of Law and Human Rights through the Directorate General of Intellectual Property has mediated a case of copyright infringement of an electronic book or e-book, namely between the Cipta Karya Concern Association (PPKC) and the Pekanbaru Forestry Vocational High School (*Sekolah Menengah Kejuruan*), where in this case one of the authors from PPKC received a report about an e-book in the online library belonging to the Pekanbaru Kehutanan Vocational School which already has a watermark, which can be printed and downloaded freely by its readers. So it is considered a violation because the authors from PPKC have legal evidence that the activity violated the rules in Law Number 28 of 2014 concerning Copyright.¹²

Referring to the Law on Intellectual Property is certainly one way to protect Intellectual Property in Indonesia. However, in reality there are still many obstacles and shortcomings or prosecution of perpetrators which should be accommodated by various parties, for

9 Kominformo RI, "Kemkominfo Dan Kemkumham Tutup Akses 22 Situs Pembajak Hak Cipta," kominformo.go.id, 2015, https://www.kominformo.go.id/content/detail/5643/kemkominfo-dan-kemkumham-tutup-akses-22-situs-pembajak-hak-cipta/0/berita_satker.

10 Kominformo RI, "Kemkominfo Tutup 22 Situs Musik Ilegal," kominformo.go.id, 2015, https://www.kominformo.go.id/index.php/content/detail/6442/Kemkominfo+Tutup+22+Situs+Musik+Ilegal/0/berita_satker.

11 Kominformo RI, "Kemkominfo Blokir 1.745 Situs Melanggar HKI," kominformo.go.id, 2020, https://www.kominformo.go.id/content/detail/23767/kemkominfo-blokir-1745-situs-melanggar-hki/0/sorotan_media.

12 DJKI, "Mediasi Pelanggaran Hak Cipta Buku PPKC Berujung Damai," Direktorat Jenderal Kekayaan Intelektual, 2023, <https://www.dgip.go.id/artikel/detail-artikel/mediasi-pelanggaran-hak-cipta-buku-ppkc-berujung-damai?kategori=Berita Resmi Indikasi Geografis>.

example police agencies or other authorities, including the Ministry of Law and Human Rights as the agency that has an Intellectual Property work unit.

Based on the problems above, in this study the researchers will be focus about how to protect intellectual property, especially in relation to the metaverse and NFTs which have indications of intellectual property infringement. Researchers in this study will focus more on research on the protection of intellectual property in Indonesia both from a legal perspective and from a policy perspective owned by the Government. The purpose of this research is to produce an analysis from the academic side of the academic community in viewing the phenomenon of intellectual property violations in Indonesia so that input and suggestions will be given to stakeholders through this research later.

B. Research Method

Research Method will use systematic literature review approach. As for this research, it will prioritize the results of studies on scientific sources in the form of scientific journals found by applying several protocols in accordance with the rules of literature review research.¹³ The scientific sources is Taylor and Francis Group database and the ScienceDirect database. As for the protocol applied to this study, there are 4 stages, namely referring to the opinion of Price in 2017, namely the first step is to develop a topic, the second is to search for literature, then narrow the scope and the fourth step is synthesis.¹⁴ The four steps are as follows:

The first step, using the relevant keywords namely “intellectual property protection” and “NFTs” and also use location research in “Indonesia” as keywords for this step (*see pictures 1 and 2*). The function of keywords is intended to provide information about relevant articles and the scope of the discussion so that if no relevant articles are found, the researcher can make a decision to use other, more relevant keywords.¹⁵

13 Yu Xiao and Maria Watson, “Guidance on Conducting a Systematic Literature Review,” *Journal of Planning Education and Research* 39, no. 1 (2019): 93–112, <https://doi.org/10.1177/0739456X17723971>.

14 Rebecca H. Price, “The Four-Part Literature Review Process: Breaking It down for Students,” *College Teaching* 65, no. 2 (2017): 88–91, <https://doi.org/10.1080/87567555.2016.1276042>.

15 Barbara Kitchenham et al., “Systematic Literature Reviews in Software Engineering – A Tertiary Study,” *Information and Software Technology* 52, no. 8 (2010): 792–805, <https://doi.org/10.1016/j.infsof.2010.03.006>.



Figure 1. Taylor and Francis Group database article search

The second step is to search for relevant articles by filtering by eliminating articles to focus more on the topic of discussion, where filtering will be applied including eliminating articles that were not published in the 2015-2022 period, eliminating articles in the form of book reviews, article reviews, conference results in the form of proceedings and others that are similar. Eliminate articles that do not clearly state the research method. Eliminate articles whose publications fall into the predatory category. Eliminate articles that do not discuss the abstract in accordance with the keywords. Also, eliminate articles that are not open access.¹⁶

The third step is narrowing the scope of scientific articles by exploring and understanding every existing reading so that later they can categorize according to the themes determined by the researcher based on the results of these categories. The last is the synthesis of the article which will be matched with other articles that are equally relevant to answer the research question that has been determined previously by the researcher. In the explanation section of this research, it will also be more directed at qualitative analysis in narrative form by connecting the research results along with grounded argumentative analysis later.

C. Discussions

The results of this study will be divided into several sub-discussions, while the first is the result of searching articles with using these four steps which will be presented in this below :

1. Article Search Results

Based on the search results for articles using databases and keywords that are relevant to the following problem topics, they will be presented in table form below:

16 Tracy Hall et al., "A Systematic Literature Review on Fault Prediction Performance in Software Engineering," *IEEE TRANSACTIONS ON SOFTWARE ENGINEERING* 38, no. 6 (2012): 1276–1304.

Table 1. Search results for scientific articles

No	Databases	Step 1	Step 2	Step 3	Step 4
1	Taylor and Francis Group	66	9	7	7
2	ScienceDirect	162	26	20	13
total					20

Source: processed data (2023)



Figure 2. Article search in the ScienceDirect database

Based on the results of the article search above, it can be explained that by using the Taylor and Francis Group database which is focused on using keywords, there are at least 66 scientific articles in various forms. Then to find relevant articles, the researcher used the elimination method and found 9 scientific articles that met the criteria. Furthermore, in the third step and fourth step, 7 relevant articles were found in answering the research problem formulation. Meanwhile, in the ScienceDirect database, researchers found 162 scientific articles in various forms with predefined keywords. Then in the second step through the process of elimination found 26 relevant scientific articles. Whereas in the third step through deepening the contents of the abstract and analysis of each article, only 20 scientific articles were found. Furthermore, in the fourth step, the researcher concluded that from all of these, only 13 articles were relevant in answering the research problem formulation. So that in total in this study researchers only used 20 scientific articles in international journals.

2. Scientific Article Synthesis

Table 2. Results of the synthesis of scientific articles

Categorization	Brief description	Writer	Total
Blockchain system	securing users' personal data, especially in the financial sector to make it more secure, transparent, audit easier and more efficient.	17, 18, 19, 20, 21, 22,	6
copyright	protect the holders of works of art and guarantee the security of works of art to be recognized by all parties	23, 24,	2
investment	securing and recognizing a work will have a significant impact on increasing domestic investment in a country	25, 26,	2

- 17 Liutao Zhao, Jiawan Zhang, and Lin Zhong, "A Blockchain-Based Transaction System with Payment Statistics and Supervision," *Connection Science* 34, no. 1 (2022): 1751–71, <https://doi.org/10.1080/09540091.2022.2080181>.
- 18 Tomás N. Rotta and Edemilson Parana, "Bitcoin as a Digital Commodity," *New Political Economy* 27, no. 6 (2022): 1046–61, <https://doi.org/10.1080/13563467.2022.2054966>. the paper argues that Bitcoin mining is an automated reproduction process that requires no direct (living
- 19 Catherine Flick, "A Critical Professional Ethical Analysis of Non-Fungible Tokens (NFTs)," *Journal of Responsible Technology* 12 (2022): 1–16, <https://doi.org/10.1016/j.jrt.2022.100054>.
- 20 Dandan He et al., "The Development of Digital Collection Platform under Responsible Innovation Framework: A Study on China's Non-Fungible Token (NFT) Industry," *Journal of Open Innovation: Technology, Market, and Complexity* 8, no. 4 (2022): 1–15, <https://doi.org/10.3390/joitmc8040203>.
- 21 Dominic Chalmers et al., "Beyond the Bubble: Will NFTs and Digital Proof of Ownership Empower Creative Industry Entrepreneurs?," *Journal of Business Venturing Insights* 17 (2022): 1–8, <https://doi.org/10.1016/j.jbvi.2022.e00309>.
- 22 Gönenç Gürkaynak et al., "Intellectual Property Law and Practice in the Blockchain Realm," *Computer Law and Security Review* 34, no. 4 (2018): 847–62, <https://doi.org/10.1016/j.clsr.2018.05.027>.
- 23 Justus Duhnkrack, "The Art of Regulating the Arts - Artistic Street Photography and the Limits of EU Regulation," *Journal of Intellectual Property Law and Practice* 15, no. 1 (2020): 66–69, <https://doi.org/10.1093/jiplp/jpz153>.
- 24 Salman Atif, "Appointed Person Rejects Appeal That Two DG Decisions Are Inconsistent," *Journal of Intellectual Property Law and Practice* 15, no. 1 (2020): 5–7, <https://doi.org/10.1093/JIPLP/JPZ155>.
- 25 Po Lu Chen, "Modelling the Impact of Intellectual Property Protection and Spillovers on Attracting Foreign Direct Investment," *Economic Research-Ekonomska Istrazivanja* 35, no. 1 (2022): 622–36, <https://doi.org/10.1080/1331677X.2021.1931909>.
- 26 Elissar Toufaily, "An Integrative Model of Trust toward Crypto-Tokens Applications: A Customer Perspective Approach," *Digital Business* 2, no. 2 (2022): 1–15, <https://doi.org/10.1016/j.digbus.2022.100041>.

law enforcement	Law enforcement on intellectual property is carried out by starting with legal legal aspects.	27 28 29 30 31 , , , , ,	5
educated group	this group consists of experts in their fields who exchange information, including in the fields of technology, natural disaster prevention, and human resource management.	32 33 34 35 36 , , , , ,	5

Source: processed data (2023)

3. Blockchain System to NFTs

The Blockchain system is a system designed as a tool to provide supporting data in law enforcement of any intellectual property. Has a feature as a supporter in the NFTs system. The working principle of this system is to involve other agencies that have authority in enforcing intellectual property. For example from the Customs Agency which will supervise products more-products that enter the country, especially the prosecution of counterfeit products that threaten the national security and resilience of a country, research conducted

- 27 Shiu Hung Lin and Leslie Wu, "Intellectual Property Rights and Law Enforcement in Developing Countries," *Economic Research-Ekonomiska Istrazivanja* 35, no. 1 (2022): 143–57, <https://doi.org/10.1080/1331677X.2021.1889390>.
- 28 Sun Park, "The Ambivalence in the Ambiguity of UNESCO's Cultural Policy Remit: A Structural Description of the Common Heritage of Mankind in the Cultural Diversity Convention," *International Journal of Cultural Policy* 00, no. 00 (2022): 1–15, <https://doi.org/10.1080/10286632.2022.2107637>.
- 29 Michele Grimaldi, Marco Greco, and Livio Cricelli, "A Framework of Intellectual Property Protection Strategies and Open Innovation," *Journal of Business Research* 123 (2021): 156–64, <https://doi.org/10.1016/j.jbusres.2020.09.043>.
- 30 Thuy Thi Nguyen et al., "The Impact of Trust on Intellectual Property Right Protection: A Cross-National Study," *Journal of Economics and Development*, 2021, 1–14, <https://doi.org/10.1108/jed-05-2021-0063>.
- 31 Daniel Berkowitz, Chen Lin, and Yue Ma, "Do Property Rights Matter? Evidence from a Property Law Enactment," *Journal of Financial Economics* 116, no. 3 (2015): 583–93, <https://doi.org/10.1016/j.jfineco.2015.04.003>.
- 32 Asad Ullah, Qingyu Zhang, and Mansoor Ahmed, "The Influence of Intellectual Property Rights Protection on Contribution Efforts of Participants in Online Crowdsourcing Contests," *Computers in Human Behavior* 123 (2021): 106869, <https://doi.org/10.1016/j.chb.2021.106869>.
- 33 Misbah Habib, Jawad Abbas, and Rahat Noman, "Are Human Capital, Intellectual Property Rights, and Research and Development Expenditures Really Important for Total Factor Productivity? An Empirical Analysis," *International Journal of Social Economics* 46, no. 6 (2019): 756–74, <https://doi.org/10.1108/IJSE-09-2018-0472>.
- 34 Hee soo Choi and Sang heon Kim, "A Content Service Deployment Plan for Metaverse Museum Exhibitions—Centering on the Combination of Beacons and HMDs," *International Journal of Information Management* 37, no. 1 (2017): 1519–27, <https://doi.org/10.1016/j.ijinfomgt.2016.04.017>.
- 35 Michael A. Kock, "Open Intellectual Property Models for Plant Innovations in the Context of New Breeding Technologies," *Agronomy* 11, no. 6 (2021): 1–38, <https://doi.org/10.3390/agronomy11061218>.
- 36 Sebastian Bökle et al., "Conceptual Framework of a Decentral Digital Farming System for Resilient and Safe Data Management," *Smart Agricultural Technology* 2 (2022): 1–15, <https://doi.org/10.1016/j.atech.2022.100039>.

by Gurkaynak in 2018 also confirms that the Blockchain system will become an eternal database storage without space and time limits and by involving the NFTs which becomes a virtual space. Users will immediately know from these products whether there are indications of fake or not and violates intellectual property rights or not.³⁷ The holders of royalties for their creations will also be assigned an IP (*a type of personal website address*) they are allowed to access and manage and contract their royalties and significantly encourage their creations and direct consumers to avoid counterfeit products before they buy them.³⁸

The involvement of NFT and Blockchain was also explained in research by Rotta and Parana in 2022 where they explained the two systems where both are interrelated and both have weaknesses in operation, namely it is wasteful of electricity and a very large carbon footprint.³⁹ Therefore, based on another explanation by Flick in 2022, it is better if the technology from NFT and Blockchain must have a separator and for NFT itself it should be avoided by various groups considering that activity in NFT is currently almost in all countries unable to provide absolute identification whether NFT is a a free world or a world full of crimes that cannot be penetrated by the laws of every state parliament.⁴⁰

Apart from that, Dandan He, et al., in 2022, explained that NFT and the Blockchain system were also developed further. In 2022, he alluded to the development of the metaverse world and its market which was growing rapidly in China, and became part of the country's big business. The results of his research state that the combination of NFT and Blockchain that leads to intellectual property in China has received a positive response and as an ongoing effort to address the weakness of this NFT system, efforts to develop platforms from NFT in China will continue to be pursued.⁴¹ This is also encouraged by the government of the country, where Beijing expressly gives flexibility to entrepreneurs to utilize technology in their business and one of them is NFT which will take priority in product development and fulfill China's export market. There are clear differences in this country and of course the central government will concentrate more on technological advances and market demand. If there are problems in the future, the central government with all its resources will be the first law enforcer to protect the interests of its domestic industry.⁴²

37 Gürkaynak et al., "Intellectual Property Law and Practice in the Blockchain Realm."

38 Zhao, Zhang, and Zhong, "A Blockchain-Based Transaction System with Payment Statistics and Supervision."

39 Rotta and Parana, "Bitcoin as a Digital Commodity:"the paper argues that Bitcoin mining is an automated reproduction process that requires no direct (living

40 Flick, "A Critical Professional Ethical Analysis of Non-Fungible Tokens (NFTs)."

41 Chalmers et al., "Beyond the Bubble: Will NFTs and Digital Proof of Ownership Empower Creative Industry Entrepreneurs?"

42 He et al., "The Development of Digital Collection Platform under Responsible Innovation Framework: A Study on China's Non-Fungible Token (NFT) Industry."

4. Law Enforcement of Intellectual Property in Indonesia

Law enforcement of intellectual property especially in developing countries is still ambiguous,⁴³ this was emphasized by Lin and Wu in 2022 through the title of intellectual property rights and law enforcement in developing countries stating that for the Chinese state in the 1996-2015 range it was still compartmentalized by the concerns of most business people to develop their products and were worried about being exposed to sanctions in other countries as a result of carrying out various methods in developing their products and being affected by intellectual property rights in other countries and within their own country. This makes the central government in Beijing take various ways to keep motivating these business people not to worry about this, where the central government gradually gives concessions to innovation from business people in developing their products and there will certainly be counterproductive to this.⁴⁴

Whereas in Indonesia itself through Law Number 28 of 2014 concerning Copyright has a relatively short copyright protection period including for example broadcasting institutions only 20 years since it was first broadcast, then record producers only 50 years since the creation was fixed while for computers only 50 years from publication and copyright protection other than that applies for the life of the creator or 70 years after the creator dies and must register for each creation. Meanwhile, in comparison with neighboring countries, for example Malaysia used the *Copyright Act 1987* and ratified the *Berne Convention* in 1990 and became a member of the World Trade Organization (WTO) in 1996 where protection will be automatically given to users without prior registration with a record of their original work, it has been embodied in copyright form, and first published in Malaysia.⁴⁵

In addition, according to research by Grimaldi, Greco, and Cricelli in 2021, intellectual property management must be dynamic and open innovation in order to increase its advantages and competitiveness compared to other products abroad.⁴⁶ The dynamics of regulations in other countries compared to Indonesia must also receive attention from all parties, especially at the Directorate General of Intellectual Property, Ministry of Law and Human Rights of the Republic of Indonesia. Where so far intellectual property rights have been minimal in providing royalties. The reference used for example for music is Government Regulation Number 56 of 2021 concerning Management of Song Copyright Royalties which is reiterated in the Decree of the Minister of Law and Human Rights Number

43 Park, "The Ambivalence in the Ambiguity of UNESCO's Cultural Policy Remit: A Structural Description of the Common Heritage of Mankind in the Cultural Diversity Convention."

44 Lin and Wu, "Intellectual Property Rights and Law Enforcement in Developing Countries."

45 Rakhmita Desmayanti, "Undang-Undang Hak Cipta Indonesia Dan Undang-Undang Hak Cipta Malaysia: Perlindungan Dan Penerapan (Sebuah Perbandingan)," *Jurnal Hukum* 4, no. 2 (2013): 372-94, <https://academicjournal.yarsi.ac.id/index.php/Jurnal-ADIL/article/view/807>.

46 Grimaldi, Greco, and Cricelli, "A Framework of Intellectual Property Protection Strategies and Open Innovation."

HKI.2.OT.03.01-02 of 2016 applies music royalty rates, for example holding commercial seminars and conferences is 500 thousand per day, then cafe and restaurant royalties are 60 thousand, pubs, bars and distros are 180 thousand / square meter per year (provisions will apply according to area of work area).⁴⁷ Research conducted by Nguyen et al in 2021 trust in intellectual property will greatly increase if the government provides guarantees for an equitable increase in the economy, and the results of his research Nguyen reveal that if the state immediately strengthens its role in intellectual property and facilitates the protection of their intellectual property it will create business processes and business people will carry out many innovations which are of course beneficial for both the state and business people as well as the welfare of the community.⁴⁸

Meanwhile, the application in Indonesia, if you look at the existence of intellectual property, is still very low and in the November 2021 period there were only 216 thousand applicants for intellectual property and this figure is considered very small when compared to the total population of Indonesia⁴⁹. On the other hand, the public's reluctance to register their copyrights is an economic problem. Where the guarantees provided are still very minimal, whereas in 2022 with the issuance of Government Regulation Number 24 of 2022 concerning the creative economy, copyright holders should be able to provide loans to banks and banks will accept the transfer of intellectual property from the holders as collateral. Not only that, patent guarantees can also be used as fiduciary guarantees in banks because they are stated in Law Number 13 of 2016 concerning Patents in article 108 paragraph 1 where patent rights from the holder can be used as fiduciary guarantees in banks.⁵⁰

Thus, if the government through DJKI gives freedom to copyright holders and encourages copyright owners to immediately register their copyrights and fiduciary guarantees as well as royalty laws and legal certainty for enforcement, this will certainly provide a sense of security to the public and the public will trust the government regarding their creations. Moreover, Indonesia is one of the countries that agrees to the Agreement on Trade Related Aspects of Property Rigiht (TRIPs) so that both patents, copyrights, industrial designs, brands, trade secrets, and others must be a top priority and a guarantee to their fiduciary holders.⁵¹

47 "Peraturan Pemerintah Nomor 56 Tahun 2021 Tentang Pengelolaan Royalti Hak Cipta Lagu" (n.d.).

48 Nguyen et al., "The Impact of Trust on Intellectual Property Right Protection: A Cross-National Study."

49 Direktorat Jenderal Kekayaan Intelektual, "Kesadaran Masyarakat Masih Rendah, DJKI Gencarkan Edukasi KI," DJKI, 2021, <https://dgip.go.id/artikel/detail-artikel/kesadaran-masyarakat-masih-rendah-djki-gencarkan-edukasi-ki?kategori=liputan-humas>.

50 "Undang-Undang Nomor 13 Tahun 2016 Tentang Paten" (n.d.).

51 Maria Alfons, "Kepastian Hukum Perolehan Hak Atas Kekayaan Intelektual," *Jurnal Hukum Jatiswara* 31, no. 2 (2017): 303–17, <https://jatiswara.unram.ac.id/index.php/js/article/view/51>.

5. Educated For Society About Intellectual Property Protection

The existence of educated groups as human resources or human capital in a country is very important in contributing to national interests. Research by Habib, Abbas and Noman in 2019 showed that human capital in increasing intellectual property is something that state must be guard because the economic improvement of their existence is very crucial, for example in the country Pakistan which always provides protection to educated human capital to develop its innovations and given the widest possible freedom for progress and providing jobs to the community without any tightening of rules that worsen the state's condition.⁵²

Of course, this in the future will give rise to what is called Crowdsourcing, but research by Ullah, Zhang, and Ahmed in 2021 states that the position of intellectual property will always be dynamic and not static, therefore when Crowdsourcing occurs it will always provide novelty and innovation to the recipients. and other registrars will be treated the same and the task of the intellectual property agency will be very busy looking for and analyzing the novelty of each registered intellectual property, and assessing whether or not it deserves recognition.⁵³

The existence of intellectual property can also be influenced by the role of the state in managing its national strategy where according to Kock in 2021 that the state does not have to get carried away in managing intellectual property, the state can direct every creator to be able to answer various social problems and problems of the country and these solutions will be provided intellectual property if successful in alleviating it.⁵⁴ Practices like this are a means of utilizing human capital. Another explanation is also given by Bökke, Paraforos, Reiser, and Griepentrog where the explanation is that the progress of a technology in a country will of course be in line with complex problems. The state can not only see this as an opportunity and the intellectual property agenda will still be prioritized, but the way to go in that direction is to take advantage of this educated group to devote all forms of its ability to be creative.⁵⁵

Meanwhile, other agencies that also have to change to adapt to the times and the flow of technology are museums, through many explanations that NFT which has become

52 Habib, Abbas, and Noman, "Are Human Capital, Intellectual Property Rights, and Research and Development Expenditures Really Important for Total Factor Productivity? An Empirical Analysis."intellectual property rights (IPRs

53 Ullah, Zhang, and Ahmed, "The Influence of Intellectual Property Rights Protection on Contribution Efforts of Participants in Online Crowdsourcing Contests."it is unclear what factors affect the quality of contributions by participants in crowdsourcing activities. This study attempts to understand the mechanism of how perceived intellectual property rights (IPR

54 Kock, "Open Intellectual Property Models for Plant Innovations in the Context of New Breeding Technologies."

55 Bökke et al., "Conceptual Framework of a Decentral Digital Farming System for Resilient and Safe Data Management."

part of the Metaverse is also growing very rapidly, museums can take advantage of these advances to provide graphic designs from past history of the development of an era. and its progress by promoting the virtual concept. According to research by Choi and Kim in 2017, the existence of minimal resources in libraries is one of the advantages of human capital in developing attractive solutions and will result in a lot of copyrights in it. Museum agencies must see this opportunity in order to be able to become a museum that is eyed by various investors if they want to develop it in a better direction.⁵⁶

D. Closing

The closing in this study is related to the protection of intellectual property especially with the NFT and Metaverse for Indonesia, of course it must be an opportunity to improve the economy and strengthen people's welfare. Intellectual property on a certain side, for example, the results of the analysis of researchers with several articles show the existence of a Blockchain system which is of course a very big big data in developing intellectual property. Where the system will become the basis of a public domain and the public can access it and become a benchmark whether the work to be registered as intellectual property is available or becomes a new innovation. Meanwhile, in the aspect of legal protection and the future of Indonesia, the researcher sees that there is still very low public awareness to register their intellectual property and the public is still reluctant because there is no legal certainty that their work is not plagiarized, then fiduciary guarantees are still low and royalties are also minimally received by apprentices in Indonesia.

On other side, there should be an applicable law, but the strength in enforcement, according to researchers, is still low and there needs to be serious enforcement from the Indonesian government, especially through the DGIP at the Ministry of Law and Human Rights of the Republic of Indonesia, as the highest authority in the legality of intellectual property in Indonesia. followed by low fiduciary guarantees and minimal royalties received by apprentices in Indonesia. On this side, there should be an applicable law, but the strength in enforcement, according to researchers, is still low and there needs to be serious enforcement from the Indonesian government, especially through the DGIP at the Ministry of Law and Human Rights of the Republic of Indonesia, as the highest authority in the legality of intellectual property in Indonesia. followed by low fiduciary guarantees and minimal royalties received by apprentices in Indonesia. On this side, there should be an applicable law, but the strength in enforcement, according to researchers, is still low and there needs to be serious enforcement from the Indonesian government, especially through the DGIP at the Ministry of Law and Human Rights of the Republic of Indonesia, as the highest authority in the legality of intellectual property in Indonesia.

56 Choi and Kim, "A Content Service Deployment Plan for Metaverse Museum Exhibitions—Centering on the Combination of Beacons and HMDs."

In addition, the findings of the analysis from the researcher's literature review are regarding educated groups which are also owned by Indonesia where on this occasion the researcher analyzed that if human capital is fully utilized by the Government of Indonesia it is not impossible that it can become a means of development and solutions to problems in society. Apart from that, the existence of other agencies that also have to improve in gaining profits and also developing technology is the existence of museums which are commonplace in Indonesia which are still conventional and have not used high technology in their promotions. Researchers also hope that all laws and regulations are sufficient for the sustainability of Indonesian intellectual property.

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REGULATING INNOVATION: ADDRESSING THE POTENTIAL THREATS OF NFT AND METAVERSE ON INTELLECTUAL PROPERTY RIGHTS

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ABSTRACT

In recent years, technological advancements have brought forth significant innovations in various sectors, including the realm of intellectual property. Notable among these innovations are Non-Fungible Tokens (NFTs) and the virtual universe (Metaverse). While these innovations offer new opportunities for intellectual property creators, they also pose potential threats to the ownership of intellectual assets. This article presents a normative legal research, descriptive in nature and based on primary and secondary literature. The gathered data is analyzed using a qualitative method, incorporating statute and conceptual approaches, as well as comparative analysis. The study aims to analyze how regulations can respond to these innovations, highlighting potential threats related to intellectual property infringement, identity theft, privacy, and money laundering. It also explores legal protection efforts for intellectual assets found in NFTs and Metaverse in line with existing regulations, community guidelines, and collaboration with various stakeholders.

Keywords : intellectual property, legal protection, metaverse, non-fungible tokens (NFT).

A. Introduction

The contemporary world is witnessing a continuous wave of technological innovation. A prominent example of such innovation is the emergence of Non-Fungible Tokens (NFTs) and the Metaverse. An empirical illustration of their impact is the case of Ghozali Everyday, which gained significant attention in early 2022. A student named Sultan Gustaf Al Ghozali unexpectedly became a billionaire by selling a series of his selfies in the form of NFTs, generating approximately Rp1.7 billion in revenue. Ghozali commenced selling his selfies on January 10, 2022, at a price of around Rp48,000 per photo. On the first day, 33 photos were sold, and on the second day, his entire collection of 933 selfies was sold out. Interestingly, on the third day, Ghozali's photos were being resold on the secondary market at prices as low as Rp13.3 million per photo.¹ This success marked a pivotal moment in

1 Widiawardana, Pramaseto, and Rianda Dirkareshza. "Hak Cipta Aset NFT (Non-Fungible Token): Ancaman Nyata Bagi Seniman." *Ganaya: Jurnal Ilmu Sosial dan Humaniora* 6, no. 3 (2023): 631-640. DOI:[10.37303/a.v25i1.316](https://doi.org/10.37303/a.v25i1.316)

popularizing NFTs in Indonesia.

Teguh Kurniawan Harmanda, Chairman of the Indonesian Crypto Asset Traders Association (Aspakrindo), predicted that the NFT phenomenon would continue to grow as a significant trend, driven by increasing public awareness of the benefits and growth opportunities in the creative and digital economy sectors.² The popularity of NFTs has been steadily rising in recent times, with considerable interest from investors and collectors worldwide, allocating substantial financial resources to access NFTs on the blockchain network.³

The emergence of NFTs is an innovation that was foreshadowed by the sixth-century BC Greek philosopher Parmenides, who postulated that “nothing comes from nothing.” In the digital age, unprecedented phenomena periodically emerge, seemingly from “nothing,” yet they have the potential to reshape the world and the laws that govern it.⁴ Just as in recent years, we witnessed the advent of Web 2.0, followed by Cloud Computing, Blockchain, Web 3.0, and now the Metaverse.⁵

Regarding the Metaverse, it gained significant attention when Facebook’s CEO, Mark Zuckerberg, took a major step by renaming Facebook to Meta, signifying a focus on Metaverse development.⁶ The term “Meta” is of Greek origin, meaning “after,” “together with,” “among,” or “behind,” while “Verse” is an abbreviation for “Universe.”⁷ The Metaverse technology bridges the virtual and physical worlds, integrating internet technology with social media, thus representing a substantial digital technology innovation.⁸

The term “metaverse” was first introduced by Neal Stephenson in his novel titled “Snow Crash” in 1992. In this novel, Stephenson depicts the metaverse as a virtual environment closely interconnected with the real world, where users interact through digital avatars. The metaverse presents virtual technology in a three-dimensional (3D) format, enabling users to engage in a variety of activities virtually by using avatars that create an interaction experience similar to the physical world. The emergence of the metaverse promises significant changes in how we interact, conduct business, and access information in the

2 <https://katadata.co.id/desysetyowati/digital/622b35467c0c8/bappebti-butuh-waktu-mengatur-nft-meski-perdagangannya-kian-marak>, accessed at 27 Agustus 2023, 07.20 WIB.

3 <https://databoks.katadata.co.id/datapublish/2021/12/31/deretan-nft-termahal-di-dunia-ada-yang-mencapai-rp-13-triliun>, accessed at 27 Agustus 2023, 07.31 WIB.

4 Andy Ramos, “The metaverse, NFTs and IP Rights: to regulate or not to regulate?.” In *Intellectual Property Forum: journal of the Intellectual and Industrial Property Society of Australia and New Zealand*, no. 129, pp. 76-78. Melbourne, Vic.: Intellectual and Industrial Property Society of Australia and New Zealand Inc, 2022., <https://search.informit.org/doi/10.3316/informit.876750161553999>

5 *Ibid.*

6 Indria Sukma Sektiyaningsih, “Tren Nft Dan Defi Dalam Bisnis Di Era Metaverse.” *JMBA Jurnal Manajemen dan Bisnis* 8, no. 02 (2022): 22-30., <http://journal.ibmasmi.ac.id/index.php/JMBA/article/view/493/332>

7 Alexander Sugiharto, Muhammad Yusuf Musa, and Mochamad James Falahuddin. *NFT & Metaverse: Blockchain, Dunia Virtual & Regulasi*. (Jakarta: Indonesian Legal Study for Crypto Asset and Blockchain, 2022.), 45.

8 Indria Sukma Sektiyaningsih, *Op.Cit.*

continually evolving digital era.⁹

The relationship between the Metaverse and NFTs lies in their common use of blockchain technology. Through blockchain technology, various services can be provided, including identity verification without authorization, high-speed exchange processes, and financial services. The Metaverse concept holds great potential for enhancing business activities in the future. This explains the increasing popularity of NFTs in the business context within the current Metaverse era, attracting a wide range of individuals, not only celebrities but also businesses.¹⁰

However, besides the positive impacts, NFTs and Metaverse also bring negative consequences, stemming from various causes such as a lack of regulation, ethical boundaries in transactions, and more. Reports on social media have indicated that non-digital (traditional) art has been transformed into NFTs without the permission of the copyright holders. Their artwork has appeared on various NFT marketplaces without consent.¹¹ Even outside Indonesia, on one of the largest NFT marketplaces, OpenSea, it was found that eighty percent of NFTs created using free minting tools were results of plagiarism and forgery.¹² Additionally, the case of Emmanuel Masmajejan, an orthopedic surgeon at the Georges Pompidou European Hospital in Paris, France, reflects the potential serious legal consequences. Masmajejan faced legal threats for allegedly selling X-ray images of his patients as NFTs on the OpenSea platform.¹³

Given the rapid pace of technological innovation, this study is essential to examine NFTs and the Metaverse. This article will investigate to: What extent the current legal framework on intellectual property rights have been able to respond the challenges posed by NFT and Metaverse? The urgency of this research becomes evident when we consider how the law must respond to the swift evolution of technology, frequently intertwined with new discoveries (innovations). Thus, it is essential to investigate the relationship between regulations and innovation, particularly within the Indonesian legal landscape, to ensure it remains responsive to various challenges and needs.

In the realm of examining the impact of NFTs and the Metaverse on Intellectual Property Rights, our research stands out in its comprehensive exploration of regulatory strategies. Previous studies have touched upon related aspects, but our work distinguishes

9 *Ibid.*

10 Read more at Kompas.com 8" Selebritas Dunia yang Ikut Terjun ke Dunia NFT dan Metaverse." <https://lifestyle.kompas.com/read/2022/01/07/082655820/8-selebritas-dunia-yang-ikut-terjun-ke-dunia-nft-dan-metaverse?page=all>, Liputan6.com, "Potensi NFT dan Metaverse di Indonesia Menarik Minat Artis" <https://www.liputan6.com/crypto/read/4932824/potensi-nft-dan-metaverse-di-indonesia-menarik-minat-artis>, hybrid.co.id, "Asus Luncurkan Platform NFT Sebagai Langkah Awal Wujudkan Visi Metaverse," <https://hybrid.co.id/post/platform-nft-asus-art-black-hole-metaverse> accessed at 28 Agustus 2023.

11 Yenny Permata Liegestu and David Tan. „Perlindungan Hak Cipta Terhadap Aset Digital NFT.“ Maleo Law Journal 6, no. 2 (2022): 127-141. <https://jurnal.unismuhpalu.ac.id/index.php/MLJ/article/view/2269>, 129.

12 *Ibid.*

13 <https://tekno.kompas.com/read/2022/02/02/14310067/dokter-bedah-digugat-gara-gara-jual-nft-foto-x-ray-pasien>, accessed at 27 Agustus 2023, 07.48 WIB.

itself by providing an extensive analysis of the evolving landscape and proposing specific regulatory measures to mitigate potential threats. Unlike prior research which may have briefly discussed certain implications, our study delves deeper, offering detailed insights into the complexities and challenges presented by the intersection of NFTs, Metaverse, and Intellectual Property Rights. While existing literature touches upon the subject, our work contributes a nuanced and in-depth understanding, serving as a guide for policymakers and stakeholders navigating this rapidly evolving domain.

B. Research Method

The research methodology applied in this study is a normative juridical method characterized as descriptive-analytical. The normative juridical method is a research approach used to analyze knowledge based on legal regulations and existing legal concepts. The study employs both primary and secondary legal materials, which are then comprehensively analyzed and evaluated.¹⁴

Various documents, including legislative regulations, scholarly articles related to NFTs, the Metaverse, legal protection, intellectual property rights, legal responsiveness, and other relevant topics, have been collected and utilized as the primary reference materials for this research. Substantively, the research is descriptive in nature, necessitating the gathering of relevant data to depict the phenomena under investigation. The collected data is analyzed using qualitative methods, involving statute and conceptual approaches, as well as comparative analysis. This enables the research to address existing challenges and provide solutions to the identified problems.

C. Discussions

1. Understanding NFT and Metaverse Technology Innovation

Before delving deeper, it's essential to examine NFT in detail. NFTs can be considered tokens containing content created by their creators.¹⁵ These tokens are stored on the blockchain, and they cannot be replicated; only NFT holders have the authority to allow their transfer.¹⁶ On the other hand, tokens can be broadly categorized into fungible and non-fungible tokens (NFTs).¹⁷ Fungible tokens are interchangeable with each other, while NFTs are unique and cannot be exchanged for other tokens.

14 Peter Mahmud Marzuki. *Penelitian Hukum*, (Jakarta : Kencana Prenada Media Group, 2015), 55.

15 Deloitte, "Corporates Using NFTs; How NFTs Might Fit your Business and to Watch for." 2022. <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/audit/us-corporates-using-nfts-how-nfts-might-fit-your-business-pov.pdf>

16 *Ibid.*

17 Jiajing Wu, Kaixin Lin, Dan Lin, Ziyue Zheng, Huawei Huang, and Zibin Zheng. "Financial Crimes in Web3-empowered Metaverse: Taxonomy, Countermeasures, and Opportunities." *IEEE Open Journal of the Computer Society* 4 (2023): 37-49. DOI: 10.1109/OJCS.2023.3245801

The term NFT in Indonesian can be referred to as “token” and is stored in a technology called blockchain,¹⁸ which acts as a public ledger that records all transactions and is stored in a chain of blocks.¹⁹ Blockchain²⁰ offers decentralization, data integrity, anonymity, and auditability. NFT ownership is recorded in the blockchain, enabling the transfer and sale of NFTs. NFTs typically reference digital files such as images, videos, or audio. Each NFT has a unique identifier, as seen in art NFTs.²¹ However, it’s important to note that NFTs differ from cryptocurrencies, which can be directly traded as digital assets. Unlike many other digital items that can be reproduced infinitely, each NFT possesses unique characteristics, and its authenticity and ownership can only be verified through the blockchain where the NFT is stored.

a. Development of NFT and Metaverse

The early development of NFTs can be traced back to a concept that emerged in the early years of 2012. During this time, a paper authored by Meni Rosenfield introduced the idea of “Colored Coins” associated with the Bitcoin blockchain. The concept of colored coins aimed to provide a method for representing and managing real-world assets within the blockchain to prove ownership of those assets. This concept is similar to conventional Bitcoin but incorporates an additional “token” element, offering specific attributes and unique characteristics to each asset, making them distinct from one another.²² Then, on May 3, 2014, digital artist Kevin McCoy minted the first NFT known as “Quantum”²³ using the Namecoin blockchain. Following this event, various experiments and developments were conducted, and several platforms were built on the Bitcoin blockchain to support the growth of NFTs.²⁴

Subsequently, 2017 marked a crucial turning point in the development of NFTs with the adoption of the Ethereum platform. This was supported by the introduction of a set of token standards that allowed developers to create tokens in a more flexible manner.²⁵ These tokens represent digital assets issued on a specific blockchain, such as Ethereum,

18 Michael Angelo and Nyoman Satyayudha Dananjaya. "Perlindungan Non-Fungible Token Art: Inovasi Karya Cipta Perspektif Hak Cipta." *Jurnal Magister Hukum Udayana* 11, no. 3 (2022): 629-642. Doi: <https://doi.org/10.24843/JMHU.2022.v11.i03.p11>.

19 Zibin Zheng, Shaoan Xie, Hong-Ning Dai, Xiangping Chen, and Huaimin Wang. "Blockchain challenges and opportunities: A survey." *International journal of web and grid services* 14, no. 4 (2018): 352-375. <https://doi.org/10.1504/IJWGS.2018.095647>

20 Blockchain technology can operate within a decentralized environment, made possible through the integration of several core technologies such as hash cryptography, digital signatures (based on asymmetric cryptography), and distributed consensus mechanisms. For further explanations, you can refer to Zibin Zheng, Shaoan Xie, Hong-Ning Dai, Xiangping Chen, and Huaimin Wang, *Ibid*.

21 Deloitte, *Op.Cit*.

22 Michael Angelo and Nyoman Satyayudha Dananjaya. *Op.Cit.*, 630.

23 ""Quantum" is an octagonal-shaped digital image featuring color-changing and pulsating effects. The image gives the impression of resembling a marine creature, specifically an octopus, when observed. For more details, read further in Tiana Laurence, *NFTs for Dummies* (Hoboken: John Wiley & Sons, 2022), 12.

24 Michael Angelo and Nyoman Satyayudha Dananjaya. *Op. Cit.*, 630.

25 Tiana Laurence, *Op. Cit.*, 12.

Bitcoin, or Solana. The purpose of creating these tokens is to identify ownership of the NFT digital artworks, enabling clear identification of the owner. As for 2021, it was a monumental year for NFTs, with a significant explosion in their supply and demand. This surge can be attributed in part to a digital artist named Mike Winkelmann, known as the owner of the “Beeple Everyday” NFT. He achieved a remarkable income of \$69 million from the sale of his NFT art in an auction. Mike Winkelmann’s success in selling his work as NFT became one of the main drivers of NFT popularity and growth that year.²⁶

Meanwhile, in Indonesia, the popularity of NFTs skyrocketed after the owner of the Ghozali Everyday account on one of the largest NFT trading platforms, OpenSea, went viral on social media. This excitement was triggered by the fact that Ghozali Everyday managed to earn an income of 1.7 billion Indonesian Rupiah by selling selfies. A student named Sultan Gustaf Al Ghozali became a sudden billionaire. He achieved this success by selling some of his selfie photos in the form of NFTs, generating an income of approximately 48,000 Rupiah per photo.²⁷ Ghozali’s success garnered attention in the Indonesian NFT scene and inspired many individuals to become involved in NFTs.

As for the Metaverse, it is a concept of a virtual world in the future, also known as Web 3.0, intended to complement or even potentially replace the Web 2.0-based internet we use in our daily lives. The Metaverse provides a virtual space that allows users to engage in various activities, including the purchase of digital assets like virtual land, buildings, and artwork.²⁸

The Metaverse enables individuals to interact in a virtual world using digital technology. However, recent developments have transformed the Metaverse into an investment vehicle for entrepreneurs. Some major tech companies have spent tens of billions of dollars acquiring global gaming brands, while others have invested billions in research and development of Metaverse technology and infrastructure. Additionally, investors and entrepreneurs have spent millions to buy digital land within the Metaverse to create virtual business spaces, where consumers can buy and sell goods, services, host events, and art exhibitions.²⁹

The development of the Metaverse has been a phenomenal breakthrough for NFTs, which serve as digital assets within the Metaverse. One well-known Metaverse project is Decentraland, which was initiated by two individuals from Argentina, Ari Meilich and Esteban Ordano, starting in late 2015.³⁰ As such, the relationship between NFTs and the Metaverse

26 Michael Angelo and Nyoman Satyayudha Dananjaya. *Op.Cit.*, 631.

27 Widiawardana, Pramaseto, and Rianda Dirkareshza. *Op.Cit.*

28 Maya Ruhtiani, Yuris Tri Naili, Hesti Ayu Wahyuni, and Purwono Purwono. "Perlindungan Aset Digital Pada Era Metaverse Dalam Perspektif Hukum Positif Di Indonesia." *Literasi Hukum* 6, no. 2 (2022): 28-39. <https://jurnal.untidar.ac.id/index.php/literasihukum/article/view/6804>, 31

29 Maya Ruhtiani, Yuris Tri Naili, Hesti Ayu Wahyuni, and Purwono Purwono. "Perlindungan Aset Digital Pada Era Metaverse Dalam Perspektif Hukum Positif Di Indonesia." *Literasi Hukum* 6, no. 2 (2022): 28-39. <https://jurnal.untidar.ac.id/index.php/literasihukum/article/view/6804>

30 Alexander Sugiharto, Muhammad Yusuf Musa, and Mochamad James Falahuddin. *NFT & Metaverse: Blockchain, Dunia Virtual & Regulasi*. (Jakarta: Indonesian Legal Study for Crypto Asset and Blockchain,

is closely intertwined. The sustainability of NFTs is also influenced by the Metaverse. An individual who owns NFTs will possess valuable assets in the digital environment, equivalent to owning valuable assets or goods in the physical world. NFTs have a wide range of applications, including collecting and trading digital assets such as art, music, and images, issuing online event tickets, selling items within the Metaverse games, or even serving as proof of ownership for an asset, like a land ownership certificate.³¹

b. The Minting Process for NFTs

The process of transforming a work into an NFT, known as “minting,” is an essential step in translating an object onto the blockchain. In recent developments, various platforms and tutorials have become easily accessible on the internet to assist with the minting process.³² Furthermore, platforms like OpenSea offer a “lazy minting” option,³³ significantly simplifying the conversion of existing works into NFTs. The minting process for NFTs, especially on platforms like OpenSea, is a crucial step in converting digital assets into NFTs.

Here are the steps in the NFT minting process on OpenSea:

- 1) Prepare Digital Asset:** The first step is to prepare the digital asset that you want to convert into an NFT. This can be an image, video, audio, or any other type of digital asset.
- 2) Access Minting Platform:** Visit an NFT platform like OpenSea and create an account if you don't already have one.
- 3) Connect Crypto Wallet:** To perform minting, you'll need to connect your crypto wallet to the platform. This allows you to manage the NFTs you've minted. OpenSea supports several crypto wallets, such as MetaMask.
- 4) Minting the Asset:** Once you're connected, you'll have the option to start the minting process. Select the digital asset you want to turn into an NFT. You'll need to upload this asset to the platform.
- 5) NFT Configuration:** You will be prompted to provide information about the NFT, including a title, description, and other attributes. You can also specify whether the NFT will have a limited edition or not.

2022.), 11.

31 *Ibid.*, 13-17.

32 Tanusree Sharma, Zhixuan Zhou, Yun Huang, and Yang Wang. "It's A Blessing and A Curse": Unpacking Creators' Practices with Non-Fungible Tokens (NFTs) and Their Communities." arXiv preprint arXiv:2201.13233 (2022). <https://doi.org/10.48550/arXiv.2201.13233>

33 "Lazy minting" refers to a feature that allows the creation of NFTs outside of the blockchain or "off-chain," and the NFT will only be generated when there is a sales transaction for that NFT. This means that NFT creators do not need to pay gas fees upfront as compensation for the computational power required for the NFT creation process on the blockchain. In lazy minting mode, the cost of creating the NFT is borne by the buyer along with the purchase price. For further information, read more in Ranti Fauza Mayana, Tisni Santika, Moh Alvi Pratama, and Ayyu Wulandari. "Intellectual Property Development & Komersialisasi Non-Fungible Token (NFT): Peluang, Tantangan dan Problematika Hukum Dalam Praktik." ACTA DIURNAL Jurnal Ilmu Hukum Kenotariatan 5, no. 2 (2022): 202-220. <https://doi.org/10.23920/acta.v5i2.812>

- 6) **Set the Price:** You can set a price for your NFT in cryptocurrency, such as Ethereum (ETH). This is the price that buyers will need to pay if they want to purchase your NFT.
- 7) **Minting Process:** After you've finished configuring the NFT and setting its price, you can start the minting process. This will convert your digital asset into an NFT and record it on the blockchain used by the platform (e.g., the Ethereum blockchain).
- 8) **Upload to Blockchain:** This process may take a moment as your digital asset is uploaded to the blockchain. Once completed, your NFT will be available for sale on the platform.
- 9) **NFT Marketing:** Once your NFT is listed, you can promote it to collectors and potential buyers on the NFT platform and on social media.
- 10) **NFT Transactions:** If there are interested buyers, they can purchase your NFT at the price you've set. This transaction will be recorded on the blockchain, and you will receive payment in cryptocurrency.

The NFT minting process allows artists and content creators to turn their digital works into tradable assets on the NFT market. During this process, NFT metadata is also recorded on the blockchain, capturing information about ownership and transaction history of the NFT. In simple terms, this can be visualized using the flowchart below:

Figure 1. the process of minting NFT on OpenSea



Source: compiled by author

2. The Potential and Threats of NFTs and Metaverse

a. Potential of NFTs and Metaverse

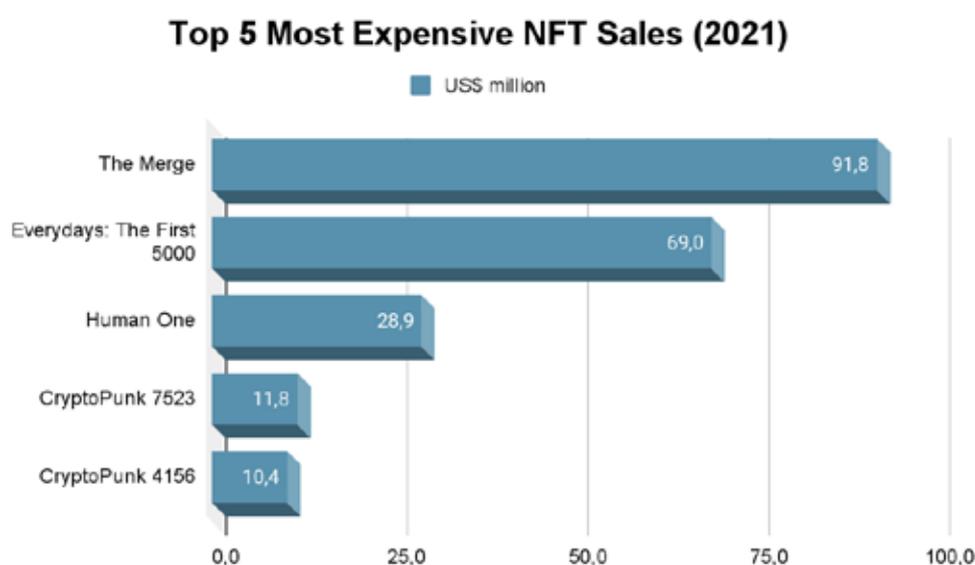
As of the end of 2021, the most valuable NFT in the world was a digital artwork known as “The Merge,” which was valued at approximately \$91.8 million or around IDR 1.3 trillion, based on an exchange rate of IDR 14,280 per US dollar. “The Merge” was created by an anonymous artist known as Pak, and this achievement demonstrated the ability of NFTs to

be traded very quickly in the market. Following “The Merge,” the next highest-priced NFT was “Everydays: The First 5000,” which sold for \$69 million or approximately IDR 985.35 billion. Other NFTs also achieved remarkable sales values, such as “NFT Human One” and “CryptoPunk 7523,” which were traded for \$28.9 million (IDR 412.7 billion) and \$11.75 million (IDR 167.8 billion), respectively. “CryptoPunk 4156” was also sold for a price of \$10.35 million (IDR 147.8 billion).³⁴

The potential of NFTs for local artists is also significant. It enables art groups, including village artists, to benefit from their works through NFTs. Through NFTs, these artworks can be digitally sold and reach potential buyers worldwide. This opens the door for local artists to gain greater international exposure and increase their income potential from their art. Furthermore, NFTs also offer the possibility for artists to maintain control over intellectual property ownership and receive royalties from their works, providing long-term benefits. Therefore, NFTs can empower local artists and art communities in various locations, changing the way they market and generate income from their art in the evolving digital era.³⁵

For a clearer view, you can refer to the graph below:

Figure 2. Top 5 Most Expensive NFT Sales (2021)



Source: Businessinsider

34 <https://www.businessinsider.in/investment/news/15-most-expensive-nfts-of-2021-by-pak-beeple-cryptopunks-and-others/slidelist/88540923.cms#slideid=88541111>, accessed at 27 Agustus 2023, 07.40 WIB.

35 Read further at Ni Wayan Mega Sari Apri Yani, I Made Trisna Semara, Putu Eka Wirawan, “NFT Membangun Desa Digital Untuk Kelompok Seni Lukis “Young Artist” Di Desa Wisata Sayan, Kabupaten Gianyar, *E-Amal: Jurnal Pengabdian Kepada Masyarakat* 3, no. 1 (2023): 35-40. <https://doi.org/10.47492/eamal.v3i1.2403> dan tulisan Aryasatya Rafa Prayitno, Luthfi Baihaqi Riziq, Rizqi Vazrin, Caroline Natasha Amartya Wawor, Janaka Isnain Daru, “Peluang Non-Fungible Token Sebagai Media Apresiasi Seniman Lokal Bandung.” *Jurnal Lentera Bisnis* 12, no. 1 (2023): 93-100. DOI:[10.34127/jrlab.v12i1.655](https://doi.org/10.34127/jrlab.v12i1.655)

Meanwhile, the potential of the Metaverse for businesses is significant in terms of adapting business models and enhancing operational capacity. This transformation has a significant impact on various sectors such as marketing, tourism, entertainment, hospitality, citizen-government interactions, healthcare, education, and social networking.³⁶ For individuals choosing to participate in the Metaverse in the future, the seamless transition between the physical and virtual worlds, along with improvements in multi-modal experiences and interactions, opens up seemingly limitless possibilities.³⁷

A significant step taken by the Indonesian government is the official announcement in July 2023 by the Ministry of Trade (Kemendag) and the Commodity Futures Trading Regulatory Agency (Bappebti) regarding the establishment of the first cryptocurrency exchange in Indonesia. The establishment of this crypto exchange was confirmed through Bappebti Head Decision No. 01/BAPPEBTI/SP-BBAK/07/2023 issued on July 17, 2023. This demonstrates the government's recognition of the growing importance of cryptocurrencies and blockchain technology.³⁸

b. Threats and Risks of NFTs and Metaverse

At least there are several threats and risks associated with NFTs and the Metaverse, including but not limited to the following:

1) Intellectual Property Infringement

Threats related to intellectual property can manifest in terms of copyright infringement, trademark violations, and infringements on industrial designs, which can become issues in the Metaverse. This concerns digital assets that are sold and used to create avatars in the Metaverse. Industrial design encompasses various elements such as shape, configuration, line composition, color, and combinations of these elements.

2) Identity Theft and Privacy

Identity theft threats in the Metaverse are severe and can be more destructive than real-world identity theft. Stolen Metaverse user identities can lead to the exploitation of various aspects of their digital lives, including digital assets, avatars, social connections, and online activities. Information regarding users' locations, behaviors, lifestyles, data perceptions, transmission processes, management, and storage can be discerned within the Metaverse. Additionally, the creation of a user's Metaverse avatar relies on facial expressions, eye and hand movements, speech, biometric attributes, and brainwave patterns. These elements can all potentially be susceptible

36 Yogesh K. Dwivedi, Laurie Hughes, Abdullah M. Baabdullah, et al. "Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy." *International Journal of Information Management* 66 (2022): 102542. <https://doi.org/10.1016/j.ijinfomgt.2022.102542>

37 Ellysse Dick. *Public policy for the metaverse: Key takeaways from the 2021 AR/VR policy conference*. Information Technology and Innovation Foundation, 2021.

38 <https://indonesia.go.id/kategori/indonesia-dalam-angka/7312/bursa-kripto-untuk-ekosistem-transaksi-yang-aman?lang=1>, accessed at 29 Agustus 2023.

to hacker attacks, including personal data collected through XR devices like headsets, transmitted through various communication channels, both wired and wireless. Despite encryption, advanced techniques like differential attacks and inference attacks may be used by hackers to trace a user's whereabouts.³⁹

3) Money Laundering

The growth of NFTs can also impact threats to decentralized finance. There is a potential that, with increased awareness and Metaverse adoption, criminals may attempt to use the Metaverse as a channel for laundering money obtained from illegal activities.⁴⁰ These assets can originate from real-world activities or other crypto-based criminal actions, and criminals may try to conceal their origins by converting them into Metaverse-based assets such as virtual land, items for use in the Metaverse, or other crypto assets.⁴¹

3. Legal Responses to the Potential Threats of NFT and Metaverse on Intellectual Property

Change is an inevitability. It occurs due to shifts in the circumstances and conditions, evolving the past into the present, often accompanied by advancements. This reality extends not only to technology but also demands a transformation in the legal domain to effectively respond to these changes.

a. Regulation of Intellectual Property

The concept of intellectual property rights originates from Anglo-Saxon legal traditions, rooted in strong moral principles that connect creators to their work. These morals are based on the close relationship between the creator and their creative output. Intellectual property hinges on the creative abilities and ingenuity of the creators. Consequently, appropriating someone's creative work without fair compensation is considered unethical and irresponsible.⁴²

This moral foundation is known as the philosophical basis of natural law in legal theory. This principle prohibits the unlawful acquisition of what rightfully belongs to others. In the context of intellectual property rights, this means that copyrights, patents, and other forms of intellectual property are granted to creators as a reward for their creative efforts, and to incentivize them to keep creating. By acknowledging intellectual property rights, the legal

39 Maya Ruhtiani, Yuris Tri Naili, Hesti Ayu Wahyuni, and Purwono Purwono. *Op.Cit.*, 32.

40 Read more about the potential financial crimes in Jiajing Wu, Kaixin Lin, Dan Lin, Ziyi Zheng, Huawei Huang, and Zibin Zheng. "Financial Crimes in Web3-empowered Metaverse: Taxonomy, Countermeasures, and Opportunities." *IEEE Open Journal of the Computer Society* 4 (2023): 37-49. DOI: 10.1109/OJCS.2023.3245801

41 Tara Anison, "The Future of Financial Crime in the Metaverse." (2022). Accessed from www.elliptic.co/hubfs/Crime%20in%20the%20Metaverse%202022%20final.pdf

42 Nita Triana, "Menggagas Hak Kekayaan Intelektual Perspektif Hukum Islam ke dalam Hukum Nasional." *Al-Manahij: Jurnal Kajian Hukum Islam* 12, no. 2 (2018): 177-192. DOI: <https://doi.org/10.24090/mnh.v12i2.1747>, 179.

system safeguards the moral rights of creators and provides a legal framework for fair use and compensation for these creations.⁴³

The scope of protected creative work encompasses various forms, including literary, artistic, and scientific creations.⁴⁴ These creations originate from an individual's thoughts, imagination, skills, agility, and expertise, which are then manifested in a perceivable, audible, or tangible form. Thus, creative works can be collectively enjoyed as the products of one's ingenuity.⁴⁵

Intellectual property rights play a significant role in protecting the rights of creators and innovators, promoting innovation and creativity, and facilitating international trade. Organizations such as the World Trade Organization (WTO) play a part in promoting and safeguarding intellectual property rights globally to ensure that creators and innovators receive recognition and fair compensation for their works. The importance of intellectual property rights cannot be separated from the context of global trade globalization, reflected in international conventions and the establishment of global trade organizations such as the WTO. The concept of intellectual property rights includes several crucial aspects:⁴⁶

1) **Ownership Rights**

These rights are related to the ownership of intellectual creations. They are inherent to their owners, permanent, and exclusive, meaning that only the owners possess exclusive rights over the work.

2) **Rights Granted to Others with Owner's Permission**

In addition to ownership rights, the concept of intellectual property rights also encompasses rights granted to others with the owner's permission. These rights are temporary and include the right to disclose, reproduce, exploit specific products, or produce certain goods. Rights holders can grant permission to others to use or exploit their works within the framework of agreements or licenses.

Globally, intellectual property rights can be categorized into two main domains:⁴⁷

1) **Industrial Rights**, This domain includes various types of rights related to industry and innovation. It comprises:

a) **Patents**, Providing the owner with exclusive rights to produce, use, and sell an innovation or invention for a specific period.

b) **Trade Secrets**, Referring to valuable and secret information held by a company or entity, such as concealed chemical formulas or secret production techniques.

43 *Ibid.*

44 Ni Nyoman Dianita Pramesti and I Ketut Westra, "Perlindungan Karakter Anime Berdasarkan Undang-Undang Hak Cipta," *Jurnal Magister Hukum Udayana* 10, no. 1 (2021): 79-90, <https://doi.org/10.24843/jmhu.2021.v10.i01.p7>.

45 Michael Angelo and Nyoman Satyayudha Dananjaya. *Op.Cit.*, 633.

46 Sulasi Rongiyati, "Hak Kekayaan Intelektual Atas Pengetahuan Tradisional." *Negara Hukum: Membangun Hukum untuk Keadilan dan Kesejahteraan* 2, no. 2 (2016): 213-238, DOI: 0.22212/jnh.v2i2.214

47 *Ibid.*

- c) **Trademark**, Protecting the brand identity or logo of a product or service, ensuring that others cannot use a similar brand to deceive consumers.
- d) **Industrial Design**, Involves protecting aspects of a product's design that provide commercial or aesthetic advantages.
- e) **Plant Variety Protection**, Granting plant breeders the rights to control the use and distribution of plant varieties they have developed.
- f) **Integrated Circuit Layout Design**, Protecting the physical design of integrated circuits (ICs) or electronic chips.
- g) **Geographical Indications**, Safeguarding products originating from specific geographical regions with distinctive qualities, reputation, or characteristics.
- h) **Indications of Origin**, Identifying products from a particular country or region.

2) Copyright

Copyright is a domain that involves the protection of creative and intellectual works, including literature, music, art, film, software, and other works. Copyright grants creators exclusive rights to control the reproduction, distribution, utilization, and adaptation of their works.

Both industrial rights and copyright are essential instruments for protecting intellectual property rights and fostering innovation in various industries. In the Indonesian context, regulations regarding intellectual property rights are significantly influenced by the ratification of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). This ratification represents a crucial step taken by Indonesia to comply with WTO-related agreements, including rules related to intellectual property rights.

Indonesia formally ratified the Agreement Establishing the World Trade Organization in 1994 through Law No. 7 of 1994. This official act bound Indonesia to the obligations outlined in TRIPS. By ratifying TRIPS, Indonesia adheres to international standards governing the protection of intellectual property rights, including patents, copyrights, trademarks, and other aspects related to trade and economics. This step is crucial for facilitating international trade, protecting the rights of creators and innovators, and ensuring that Indonesia complies with global standards regarding intellectual property rights.⁴⁸

Indonesia has taken several important steps to regulate and protect intellectual property rights. Various regulations have been established to govern specific aspects of intellectual property in the country. Here are some of the relevant regulations:⁴⁹

48 Hari Sutra Disemadi and Cindy Kang. "Tantangan Penegakan Hukum Hak Kekayaan Intelektual dalam Pengembangan Ekonomi Kreatif di Era Revolusi Industri 4.0." *Jurnal Komunikasi Hukum (JKH)* 7, no. 1 (2021): 54-71. DOI: <https://doi.org/10.23887/jkh.v7i1.31457>, 60.

49 Agung Dwi Prabowo, "Aktualisasi Hak Asasi Budaya Dalam Pelindungan Hukum Dan Pelestarian Kekayaan Intelektual Komunal Dikaitkan Dengan Upaya Pemajuan Kebudayaan (Studi Kasus Ekspresi Budaya Tradisional Masyarakat Jawa Timur)." Tesis, Universitas Gadjah Mada, 2020.

- 1) **Law of the Republic of Indonesia Number 29 of 2000 on Plant Variety Protection:** This law regulates the protection of plant varieties and the rights of plant breeders.
- 2) **Law of the Republic of Indonesia Number 30 of 2000 on Trade Secrets:** This law governs the protection of trade secrets and confidential business information.
- 3) **Law of the Republic of Indonesia Number 32 of 2000 on Integrated Circuit Layout Design:** This law regulates the protection of integrated circuit layout designs.
- 4) **Law Number 28 of 2014 on Copyright:** This law governs copyright, including the rights of creators over intellectual works such as books, music, and art.
- 5) **Law of the Republic of Indonesia Number 13 of 2016 on Patents:** This law governs patent rights, protecting technological inventions and innovations.
- 6) **Law of the Republic of Indonesia Number 20 of 2016 on Trademarks and Geographical Indications:** This law governs trademarks and geographical indications, involving the protection of product brands and the identification of geographical origins of products.

b. Efforts to Address the Potential Threats of NFT and Metaverse

NFTs are digital assets that represent real-world objects, such as artworks, paintings, animations, photos, videos, music, signatures, tickets, and various other creative works. Their connection to digital assets in the form of NFTs is closely linked to the protection of intellectual property rights, including copyrights, trademarks, and industrial designs, which can be accessed online and enjoyed by the public.⁵⁰ Challenges arise when this access is misused for activities that infringe upon intellectual property rights.

Conceptually, NFTs are seen as tools that provide artists with greater control over their creative works. However, in practice, various cases have emerged where NFTs have facilitated the actions of irresponsible parties selling other people's artwork. When examining intellectual property implications related to NFTs, it's essential to distinguish between ownership of the NFT itself and ownership of the intellectual property rights underlying the artwork. The rights granted by NFT sellers depend on the rights transferred through licenses, and these rights can vary from one NFT to another.

Therefore, the efforts should focus on developing a comprehensive and coordinated protection infrastructure across all sectors, encompassing both legal and technological aspects. Particularly in the context of art and NFT technology, it is crucial for the government and relevant stakeholders to establish legal alignment concerning NFTs and the Metaverse. Legal responses are imperative to address NFTs and the Metaverse effectively. This can be accomplished through legal protection of the intellectual works found within NFTs and the Metaverse. As identified by Phillipus M. Hadjon, legal protection can be either repressive

50 Maya Ruhtiani, Yuris Tri Naili, Hesti Ayu Wahyuni, and Purwono Purwono. "Perlindungan Aset Digital Pada Era Metaverse Dalam Perspektif Hukum Positif Di Indonesia." *Literasi Hukum* 6, no. 2 (2022): 28-39. <https://jurnal.untidar.ac.id/index.php/literasihukum/article/view/6804>, 34.

or preventive.⁵¹ In the context of NFTs, a proactive approach is considered most suitable. A preventive approach involves efforts to avert conflicts or rights violations before they occur. In this regard, preventive legal protection can include measures such as regulations governing the rights and responsibilities of NFT users, copyright provisions, trademarks, and other clearly defined intellectual property rights.

Legal uncertainty related to Non-Fungible Tokens (NFTs) in Indonesia is a serious challenge in efforts to protect intellectual works. Although supervision efforts are carried out by the Ministry of Communication and Information Technology (KOMINFO) through PRESS RELEASE NO.9/HM/KOMINFO/01/2022, the lack of specific and comprehensive regulations is still a major problem. Existing laws and regulations can indeed be used as a legal umbrella to protect intellectual works, but in the absence of regulations specific to NFTs, legal risks remain. This void may lead to ambiguity in the legal handling of NFT transactions, leaving industry players, both sellers and buyers, in a situation of uncertainty.

KOMINFO's press release so far only provides general oversight of NFT transactions without providing a detailed legal framework. Detailed regulations are urgently needed to address various legal aspects relating to NFTs, including copyright, ownership, and consumer protection. The government's next steps should consider drafting adequate regulations to protect copyright owners, encourage the growth of the NFT ecosystem, and provide legal certainty for all parties involved. As the technology evolves and the adoption of NFTs becomes more widespread, efforts to fill this legal void are becoming increasingly urgent.

In addition, further protection is needed with regulations specifically governing NFTs and Metaverse, there may be a need for specific regulations regarding NFTs and the Metaverse. Since NFTs involve the creative process in minting, they can be categorized as "Creations" under the definition of Article 1, paragraph (3) of Law Number 28 of 2014 concerning Copyright. Article 1, paragraph (3) of the aforementioned law defines Creations as "any result of work in the fields of science, art, and literature produced by inspiration, ability, thought, imagination, cleverness, skill, or expertise expressed in tangible form." Thus, NFTs, which are digital creative works, can be considered as Creations subject to copyright protection. This indicates that NFT creators have certain rights related to their works, including the right to control reproduction, distribution, and use of their creations. Furthermore, Article 118 of the Copyright Law states that any person who intentionally and without permission infringes on economic rights for commercial use can be subject to sanctions. This highlights that copyright law provides protection for economic rights related to creative works, and violators can be prosecuted under the law.

The protection of trademarks within the Metaverse can be essential to prevent counterfeiting and brand theft, both in the Metaverse and the physical world. Trademark

51 Philipus, M. Hadjon. *Perlindungan Hukum Bagi Rakyat Indonesia*. (Surabaya: Bina Ilmu, 1987).

protection in the Metaverse can be carried out in accordance with the provisions of Law Number 20 of 2016 concerning Trademarks and Geographical Indications.⁵² Companies need to adopt a proactive approach to protect their trademarks in the Metaverse, which should be part of their future business and product strategies. This is necessary because as the Metaverse continues to evolve, the risk of brand theft and counterfeiting may increase. Therefore, companies need to continuously monitor and update their trademark protection strategies in line with technological developments and trends in the Metaverse.

Violations of industrial designs can also be an issue in the Metaverse, particularly concerning the sale and use of industrial designs to create avatars in the Metaverse. Industrial designs encompass various elements like shape, configuration, line composition, color, and combinations of these elements. These designs can be in three or two dimensions and aim to provide an aesthetic impression used to produce various products or goods. In the context of the Metaverse, the protection of industrial designs may also need to be considered and may require appropriate legal protection. Most industrial designs in the Metaverse are digital representations of physical designs but still hold significant economic value. Therefore, industrial design owners need to ensure their rights are adequately protected in the Metaverse, which may involve aspects of intellectual property as governed by relevant laws.

Legal protection for digital assets in the era of the Metaverse is equivalent to legal protection for assets in the physical world. This is because digital assets have economic value, and their violation can harm others, particularly in the context of legitimate digital assets owned by individuals with valid ownership evidence, such as the use of private digital keys. This protection is applied specifically within the Metaverse itself and is supported by blockchain technology, which provides a high level of security that is difficult to breach and not easily misused.⁵³

Therefore, some steps that can be taken in terms of intellectual property rights (IPR) ownership can be done by making regulations governing digital IPR monitoring services that can help detect illegal use of works and provide reports to owners. In addition, cooperation with NFT platforms is very important. IPR owners can collaborate with such platforms to report infringements and discuss resolution measures, including the withdrawal or removal of illegal works. Many NFT platforms have specialised procedures and teams to handle IPR infringement claims. If infringement claims cannot be resolved amicably, IPR owners may choose to involve the courts or dispute resolution bodies. These are legal avenues that can be taken to claim damages or resolve disputes.

Meanwhile, it is necessary for the government to encourage NFT and Metaverse platforms to establish regulations within community guidelines and to remove NFTs

52 Maya Ruhtiani, Yuris Tri Naili, Hesti Ayu Wahyuni, and Purwono Purwono. *Op.Cit.*

53 *Ibid.*

containing elements of plagiarism. This is a positive step to prevent copyright violations within the NFT ecosystem. Community guidelines can provide guidance to users on expected behavior and remind them to respect the copyrights and intellectual property of others. Regarding the mechanism for removing NFTs and recording their history on the blockchain in cases of copyright infringement, this reflects an approach similar to social media platforms like YouTube, which allows users to report content that contains copyright violations or plagiarism. The purpose of this removal mechanism is to maintain the integrity of copyright and provide users who believe their copyright has been violated with the opportunity to file claims. Because NFT certification does not function as a mechanism to prevent duplication and online distribution of works, it merely confirms the existence of specific copies and preserves the duplication characteristics of the work.⁵⁴ Therefore, it is important to consider the potential of NFTs to store additional information such as the work's title, author's identity, copyright status, and other relevant elements for the future.⁵⁵

To address other threats and risks such as personal data theft and privacy concerns, the Personal Data Protection Act Number 27 of 2022 can be referenced. This law provides solutions to address personal data protection issues in Indonesia. The law's Article 2, paragraph (1) clearly states that anyone, public bodies, and international organizations that perform legal actions as regulated by this law within the jurisdiction of the Republic of Indonesia. It also applies to anyone, public bodies, and international organizations performing legal actions as regulated by this law outside the jurisdiction of the Republic of Indonesia if those actions have legal consequences within the jurisdiction of the Republic of Indonesia.⁵⁶ This means that the law has extraterritorial jurisdiction, which implies that actions conducted outside Indonesia but affecting Indonesian citizens or the Indonesian jurisdiction are subject to the provisions of the law.

Regarding the threat of money laundering, compliance screening processes can be implemented for accounts involved in transactions to identify potential money laundering risks. These actions will ensure that any attempts to use concealment techniques will be detected, and other money laundering risks can be identified. This means that everything is recorded. Therefore, blockchain analytics solutions can be used to understand the origin and purpose of funds involved in transactions. In efforts to address financial crime threats in the Metaverse environment, the development of norms that can help reduce risks for participants in the Metaverse is necessary. Additionally, collaboration among government agencies such as the Corruption Eradication Commission, Financial Transaction Reports

54 Salomé Cuesta Valera, Paula Fernández Valdés and Salvador Muñoz Viñas, "NFT and digital art: New possibilities for the consumption, dissemination and preservation of contemporary works of art." *Artnodes*, 28, 1-10. <https://doi.org/10.7238/artnodes.v0i28.386317>.

55 Andreas Guadamuz, (2021). The treachery of images: non-fungible tokens and copyright. *Journal Of Intellectual Property Law and Practice*, 16(12), 1367-1385. <https://doi.org/10.1093/jiplp/jpab152>

56 Pasal 2 ayat (1) Undang-undang (UU) Nomor 27 Tahun 2022 tentang Pelindungan Data Pribadi.

and Analysis Center, Ministry of Communication and Information Technology, Financial Services Authority, Indonesia Crypto Exchange, and others is needed. Through this collaborative effort, more effective norms and regulations are expected to be developed to maintain integrity and security in the Metaverse, especially regarding financial aspects and the use of cryptocurrencies and NFTs. This can help protect participants in the Metaverse from potential financial crime risks and losses caused by corrupt individuals.

Moreover, in the context of money laundering regulations, in particular, agencies such as the Financial Transaction Reports and Analysis Centre (PPATK) could have a crucial role. They can have access to blockchain technology to conduct investigations regarding suspicious transactions and activities. However, this access must be done in accordance with legal provisions and privacy policies, involving co-operation with blockchain platform providers. It is important to note that collaboration and coordination between interested parties, authorities, and NFT platforms are key in protecting IPR and preventing misuse of this technology. These joint efforts will form a strong foundation for IPR protection and transaction integrity within the NFT and Metaverse ecosystems.

As a comparison, in the European Union, cryptocurrencies are regulated by the Fifth Anti-Money Laundering Directive (5AMLD), reintroduced in 2020. The 5AMLD grants financial intelligence units the power to identify virtual currency owners. It also proposes that cryptocurrency exchanges and wallet providers must be registered with relevant domestic authorities, even though this may conflict with cryptocurrency anonymity.⁵⁷ In the United States, President Biden signed a presidential order to ensure responsible development of digital assets, pushing regulators to monitor risks posed by digital assets and develop policies to address vulnerabilities while supporting technological advancements to ensure digital asset security. The country has the Anti-Money Laundering Act of 2020, where virtual assets and digital asset service providers are included under the Bank Secrecy Act regulations.⁵⁸ In neighboring Indonesia, specifically Singapore, cryptocurrency assets are considered “digital payment tokens,” and cryptocurrency service providers are referred to as “digital payment token services” regulated by the Payment Services Act. Cryptocurrency asset companies located in Singapore but providing services outside Singapore are regulated under this legislation. Additionally, this law introduces significant licensing requirements and grants the Monetary Authority of Singapore new powers. These comparisons can serve as considerations for the Indonesian government in regulating NFT and Metaverse transactions.

D. Closing

The rapid technological advancements in recent years have brought significant innovation to various aspects of our lives, including the realm of intellectual property. The

57 Jiajing Wu, Kaixin Lin, Dan Lin, Ziyi Zheng, Huawei Huang, and Zibin Zheng. *Op.Cit.*

58 *Ibid.*

emergence of Non-Fungible Tokens (NFTs) and the virtual world of the Metaverse has provided creators of intellectual works with new opportunities but has also introduced potential threats that need to be addressed. This research has outlined how appropriate regulations can respond to these innovations. Thus far, we have observed that NFTs and the Metaverse pose potential threats to intellectual property rights, with increasingly complex cases of intellectual property violations, detrimental identity theft, and other infringements. It is essential to continue developing a responsive legal framework, particularly in the face of rapid technological advancements.

Furthermore, the potential use of the Metaverse as a channel for illegal money laundering is also a serious concern. In addressing this challenge, existing regulations must be adapted and updated to reflect this new reality. However, legal changes alone are not sufficient. Legal protection should be combined with the implementation of strict community guidelines by NFT and Metaverse platforms. Active collaboration among creators, platforms, government entities, and other stakeholders is also required to address these threats. Therefore, as technology continues to evolve, it is essential to prioritize the interests of creators of intellectual works and maintain a balance between innovation and legal protection. With the right framework, NFTs and the Metaverse have the potential to become safe and sustainable creative spaces in the ever-developing digital era.

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Annisa Hafizhah has established herself as an accomplished legal writer since 2018. In 2019, she co-founded the Forum for Islamic Scientific Studies (Forum Studi Ilmiah Islam), catering to the academic needs of law students at the Faculty of Law, Universitas Sumatera Utara. Currently serving as a lecturer at the Faculty of Law, USU, Annisa Hafizhah is pursuing her Ph.D. in Law, specializing in her field of expertise. Her scholarly pursuits and dedication to legal research exemplify her commitment to academic excellence and intellectual growth.

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Aisha Radha Wahyuda is currently pursuing a master's degree in law at the Islamic University of Indonesia. She earned her Bachelor of Laws from the Law Studies Program at UIN Sunan Kalijaga Yogyakarta. Hailing from Kalimantan, she has a strong passion for working in the legal domain.

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