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Intersection between Non-Fungible Token with Geographical Indication and Cultural Heritage on the Internet

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A Non-Fungible Token (NFT) is a digital token without equivalence, so unlike a digital currency, NFT cannot be used as a tool of exchange. Instead, NFT represents an object and certifies the scarcity of the object, verifies the owner of the object, and provides the owner with a specific means to move the object as a digital asset.

Objects which are represented by NFTs can consist of artistic works, signs, and other visual objects on the internet. So, NFT objects can also be the object of Copyrights' artistic works or unique aspects of Geographical Indications and Cultural Heritage.

The problem is, guaranteeing the scarcity of NFT's objects is not exactly the same with guaranteeing the originality of Copyrights' works nor the true origin of Geographical Indications and Cultural Heritage's objects. There are phenomena where the unique appearances of Champagne wine's bottle and India's cultural heritage have been minted as NFTs by individuals other than the collective right holders and being sold at high prices.

In this regard, using case study, juridical analytic and legal comparison methods, this article analyzes the potential problems of the intersection between NFT with Geographical Indications and Cultural Heritage and how the problems could be solved in the further amendments of the related laws.

Keywords: Non-Fungible Token, Geographical Indications, Cultural Heritage, Amendments

Non-Fungible Token (NFT) is a digital token that is stored on a blockchain to represent an object. The object that NFT represents can be a digital object or a digitally transformed version of an offline object. Besides that, an NFT also identifies the owner of the digital object in cyber space.

The NFT is not a digital file, but a token recorded on a blockchain that leads to a file and provide the holder of the NFT with a certificate of ownership. The file itself is stored in other digital storage, such as in a certain network, whereas the certificate of ownership is based on a smart contract.

NFT assures that the represented object is one of a kind and unique. It is important to note that NFT does not certify the originality, but the scarcity of the object. So, it can be inferred as a digital certification of scarcity for the object. The guarantee of scarcity makes the NFT able to be valued highly.

So far, NFTs have significantly raised the prices of some creative and artistic works in auctions. Thus, NFT can be regarded as an extended tool to raise economic values on Intellectual Property objects in e-commerce. Yet, as the certification of scarcity, an NFT does not guarantee the originality of its related object. Neither distinctiveness nor true geographical origin of the object is certified either. So, if the holder of an NFT is different from the Intellectual Property holder/s of the NFT's object, a legal problem would likely arise.

Non-Fungible Token associated with Intellectual Property

In the time ofCovid pandemic where the virtual connections were predominant, NFT became very popular. It was reported that various digital transformations of artistic works, including self-picture, could be sold at remarkable prices. The most Intellectual Property cases dealing with NFT were Copyrights, as Copyrights protect literary and artistic works.

Then, there were several legal cases about NFT associated with Trademarks settled in the United States Courts.[1] However, no cases of NFT that include other Intellectual Property subject matters such as Patent, Industrial Design, Integrated Circuit Lay Out, or Geographical Indication have been reported so far.

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Likewise, neither case dealing with Cultural Heritage has been proceeded.

NFT associated with collective right holders or communal stewardships are still underdeveloped. In this regard, this article discusses the intersection of Non-Fungible Token with Geographical Indication and Cultural Heritage as they are Intellectual and Cultural Intellectual Properties those are held by non-individual right holders or source communities, such as indigenous people, local communities, cultural minorities, or nations.

Geographical Indication protection systems in Asian countries with rich cultural diversity, such as India and Indonesia, has also been used to protect end-products of traditional cultural expressions and being a legal means to preserve traditional knowledge embodied in cultural heritage. So, minting NFT associated with Geographical Indications and/or Cultural Heritage can add significant economic values to the objects. However, the minting activities should be conducted by the true right holders or authorized person of the Geographical Indication and/or the Cultural Heritage.

The History of a Non-Fungible Token

Historically, the first NFT was recorded in Namecoin digital ledger in 2014. Storing in the blockchain was the idea of Anil Dash in a response to the request of Kevin McCoy who had co-created a digital video clip with Jennifer McCoy and aimed to digitally provenanced the video clip as their own. In 2014, Bitcoin was still valued at a very low price, Ethereum had just about to be introduced, and Namecoin was just a simple digital ledger that was formed as a pre-blockchain form. Digital provenance was still unavailable. So, Anil Dash offered to record the digital video clip on the Namecoin as the first invented way to proof the non-fungibility of the video clip, so that the holders of the video clip can also be traced and verified. Yet, they named the technology as a monetized graphic.

In 2015 the Ethereum blockchain was launched and followed by Etheria as the first NFT Project. Since then, a number of fungible and semi fungible digital tokens were launched. Then, in the late of 2017, Ethereum blockchain introduced a blockchain game CryptoKitties as a typical non fungible token standard.

CryptoKitties game was actually based on a non-fungible token in the Ethereum network that was made by the Ethereum Request for Comment (ERC) 721. ERC-721 could create a digital token that was unique because each token of ERC-721 had different identification numbers (tokenId) as well as different metadata. In the Ethereum blockchain, the owner of each ERC-721-based token could also be verified and clearly informed to anybody, so the tokens could also be transferred or sold.

The ERC-721-based tokens, because of its root in the Ethereum standard, could be used in various digital marketplaces, including in OpenSea digital application. In this regard, functions of ERC-721 interface included: digital arts, game's unique items in blockchain, digital tickets, and digital certificates of achievement or ownership.

Prior to the launch of the term Non-Fungible Token (NFT) for the ERC-721-based tokens, stakeholders considered also alternatives terms such as: distinguishable asset, ticket, or title. Then, votes concluded the NFT as the most agreeable term. NFT, as the ERC-721-based token standard became widely known following the popularity of the CryptoKittes game. Since then, OpenSea has become the marketplace and the tool to capitalize various NFTs.

During Covid pandemic and the robust usage of the internet, NFT popularity hit the peak. By the end of the pandemic, in 2021, ArtReview's Power 100 hailed NFT as the "the most art entity in the world" because it had enhanced a new form of creating, valuing, curating and marketing artworks in the cyber space.

Smart Contract

Smart Contract is a digital agreement on specific blockchains, such as: Ethereum, Solana or Polygon blockchains, that plays as a core technology of an NFT. Smart Contract is not written in a language readable by common people, but in a digital code. Because most NFT are minted on Ethereum, so the Smart Contracts associated with the NFTs use Ethereum machine language to operate, that is Solidity.

Solidity makes the smart contract a self-executing agreement. The Smart Contract specifies the rules, proprietor, and actions of an NFT. Minting, purchasing or trading an NFT is conducted in interaction with the Smart Contract itself, as opposed to a person or a legal body. The analogy of the Smart Contract is that it is the artificial brain of the NFT.

Functions of the Smart Contract for the NFT are: to create or to mint a new NFT, to link the NFT to its digital asset as a metadata storage, to assign and record the owner of the NFT, to deliberate a specific transferring rules of the NFT, and to automatically

send a percentage of a price dealt in an NFT transaction to the owner.

Functions of a Non-Fungible Token

There are functions of an NFT that makes the token worth to notice. Firstly, an NFT verifies the origin and the history of its associated object, so the NFT can show the authenticity and the provenance of the object. Secondly, an NFT can be used as a tool of gaining digital as well as real space benefits, just like a membership card or a key for the owner. Thirdly, in the digital space, NFT represents the digital identity of the owner. Fourthly, NFT certifies the scarcity or uniqueness of its associated object. Fifthly, NFT makes its associated object transferable. Last but not least, because the NFT is based on a Smart Contract, it can include a royalty agreement upon the commercialization of the associated object.

Decentralized Autonomous Organizations (DAOs) and NFTs

The intersection of Non-Fungible Tokens (NFTs) and Decentralized Autonomous Organizations (DAOs) complicates the organizational structure of DAOs, and is central to recent debates surrounding digital ownership and governance. An NFT serves as an access or membership token which mediates voting rights in the governance structure of a DAO. Such a decentralized structure seeks to disrupt the ways that creative assets have previously been managed: the community of token holders decide who (i.e., the community, a licensee, etc.) controls the decision-making process (e.g., licensing, treasury allocation, strategic direction of the collective IP) in a way that has now been entirely transferred from a central authority to token holders. This has been described as a move towards "Decentralized Intellectual Property", or De-IP.[2]

The prevailing method of token-weighted voting where voting power is determined by the number of tokens held is under considerable academic scrutiny. A wealth of research reiterates that token-weighted governance steers toward a plutocratic system characterized by the unequal distribution of voting power, often reducing voting power to a few large token holders (often referred to as "whales")[3] and straying from the potential of true decentralization. In addition, low participation among smaller token holders, a concept termed voter apathy, enables a small concentrated minority of holders, or token "whales", to direct outcomes. Ultimately, the imbalance can result in governance capture, a term used to describe that governance decisions are being based on a few participants' financial gain, rather than the long-term sustainability of the protocol/community.

One of the most important unresolved tensions relates to the legal status of DAOs. In the vast majority of jurisdictions, unless DAOs are specific [e.g, DAO LLC], legal recognition is specified, which suggests that DAOs are qualified under pre-existing corporate law frameworks. The most prevalent functional classification in the US (at least based on precedent) without an explicit statutory structure, is that of a general partnership. This legal landscape is particularly perilous as it implies, in the case of working with asset-backed tokens, that all token holders (even passive participants) may be subject to joint and several liabilities for any operational debts or other illegal acts.[4] Dealing with such regulatory uncertainty and formulating legally sound governance models represents one of the greatest challenges to integrating NFTs and DAOs into the formal economy.

Geographical Indications

Nature of a Geographical Indication

Geographical Indications (GI) is a legal term that was firstly introduced by the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) 1994[5] or the TRIPS system. The term of GI was then subsequently accommodated in the World Intellectual Property Organization's Lisbon system, especially, in the Geneva Act of the Lisbon Agreement on Appellations of Origin and Geographical Indications 2015.[6] So, there are two international legal systems dealing with the protection of GI recently: the TRIPS system and the Lisbon system.

Geographical Indication in the TRIPS System

Article 22 (1) of TRIPS Agreement defines:

"Geographical Indications are, for the purposes of this Agreement, indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin."

The legal protection substantiated in the Article 22(1) of TRIPS Agreement applies to all products as the first level protection. In this regard, all members of the TRIPS Agreement shall establish a legal means to prevent any usage of a GI that suggests that a good

is originated in a geographical area other than the true place of its origin. Misleading conduct to the public is prohibited. Furthermore, the obligated legal means shall also prevent any act of unfair competition constituted in the Paris Convention about the Protection of Industrial Property.

The example of the protection of the Geographical Indication's first level protection is the protected Geographical Indication of Cilembu Potatoes from Cilembu Village, Sumedang Regency, West Java Province, Indonesia. Potatoes from Cilembu Village is nationally recognized as the sweetest and smoothest potatoes with the unique honey-like natural caramel melted from the inside whenever baked. The latest research results on the production of this potatoes showed that because of a high demand of the potatoes from the markets, the producers allowed sweet potatoes from Rancakalong in the neighbouring area of the Cilembu Village to be regarded as Cilembu potatoes too. So, they were legally sold as Cilembu potatoes of Rancakalong kind.

Differently, Article 23 of TRIPS Agreement is intended to provide a stronger protection specifically for wines and spirits. In this regard, Article 23 (1) of TRIPS Agreement substantiates that each member of the TRIPS Agreement,

"… shall provide the legal means for interested parties to prevent use of a geographical indication identifying wines for wines not originating in the place indicated … or identifying spirits for spirits not originating in the place indicated …, even where the true origin of the good is indicated or the geographical indication is used in translation or accompanied by expressions such as 'kind', 'type', 'style', 'imitation' or the like."

In regard to the GI second level protection in the TRIPS Agreement, differently with the first level protection, Spanish Champagne, California Champagne, or Champagne-style sparkling wine to indicate a Champagne white sparkling wine from other regions, are prohibited. So, the protection is ultimate. Proving a likely to mislead the public is unnecessary.

In addition, if there are homonymous GIs such as Rioja wine from Spain and Rioja wine from Argentina, provided that both GIs are established in good faith, the co-existence of the two is possible, in condition that efforts are made to distinguish them in the market to make sure that the consumers are not being misled.

According to TRIPS, a GI cannot be protected in other countries if it has not been firstly protected in the country of origin. Likewise, a GI cannot be protected elsewhere it has been disused in its country of origin.

Geographical Indication in the Lisbon System

Lisbon system, that was based on the Lisbon Agreement for the Protection of Appellations of Origin and their International Registration (1958), actually provided rigid and high-level protection for a sign representing geographical origin, that is called Appellations of Origin (AO). To gain the protection of an AO, a product shall have an established link with its geographical origin, including environmental and human factors, which exclusively or essentially influence the quality, reputation or characteristic of the product. Similarly with the second level protection in the Article 23 of TRIPS Agreement for wines and spirits, a registered AO shall be protected against any usurpation or imitation even when the true origin is also indicated, or the description of the AO includes the terms such as: "kind", "style", or "like".

Protection for an AO is initiated in the national level and then being forwarded to the World Intellectual Property Organization (WIPO)'s administration. Member countries of the Lisbon Agreement can address a refusal against the protection within one year, otherwise, it is mandatory for the countries to protect the AO indefinitely in their national levels. This formality is known as "the tacit consent rule" of the Lisbon protection, of which the rigidity makes many countries hesitate to join.

The Geneva Act of the Lisbon Agreement was adopted in 2015 to make the Lisbon system more flexible and more attractive for different countries. Geneva Act rules that member countries should not change their different legal means into a single administration system to be able to protect a sign of a geographical origin.

The most important aspect of the Geneva Act 2015 is the expansion of the subject matters of the Lisbon Agreement, by adding the system of Appellation of Origins with the system of Geographical Indications. Furthermore, Intergovernmental organizations such as the European Union can also become a member of the Agreement. In addition, Geneva Act 2015 also regulates a well-structured fees system and the renewability of the international registration.

Laws on Cultural Heritage

The protection of Cultural Heritage is based on several international legal instruments that aim to safeguard various cultural heritage against damage, demolition, thievery, and illegal trafficking. The scope of the safeguarding includes the tangible and intangible cultural heritage and characterised by the intentions to sustain the objects for the best interest of all human beings.

Historically, the safeguarding of cultural heritage became imminent because of the undeniable enormous destruction during the world wars and armed conflicts. So, the first international law concerning cultural heritage is the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict. After that, the UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property was promulgated in 1970. Later on, the UNIDROIT Convention on Stolen and Illegally Exported Cultural Heritage was adopted in 1995 to specifically guide the restitution of cultural heritage objects between private parties.

Protection of Tangible Cultural Heritage

To preserve and protect natural and cultural heritage which have outstanding universal value for humanity, the World Heritage Convention was adopted in 1972 by UNESCO. This convention is a legal basis for safeguarding the list of well-known cultural properties, including the transboundary ones, such as: the Pyramid Fields from Giza to Dahshur of Egypt, Babylon of Iraq, Petra of Jordan, Taj Mahal of India, Borobudur Temple of Indonesia, the Great Wall of China, the Historic Monuments of Ancient Kyoto, Piazza del Duomo of Italy, the Silk Road, the Great Spa Towns of Europe, Belfries of Belgium and France, etc.

Following the 1972 UNESCO World Heritage Convention, the UNESCO Convention on the Protection of the Underwater Cultural Heritage was adopted in 2001. The main idea of this convention is to protect all trails of human existence which have been found or deliberately placed underwater for at least 100 years. The examples are: underwater ancient city, structural foundation of an ancient harbour, vessel's remains, human-made movable objects for rituals, etc. The most recommended protection emphasised by this convention is the in-situ preservation.

Protection of Intangible Cultural Heritage

To protect the intangible cultural heritage, UNESCO adopted the Convention for the Safeguarding of the Intangible Cultural Heritage in 2003. The intangible cultural heritage means all practices, knowledge, expressions, customary laws and protocols, and local wisdom associated with a tangible cultural heritage which make the ecosystem of the heritage a living culture. So, cultural heritage does not only consist of physical objects such as a collection of cultural objects or artefacts, structures, monuments and buildings, and landscapes, but also the intangible objects such as oral traditions, social practices, traditional knowledge, traditional skills and craftmanship, traditional cultural expressions including traditional arts, rituals, as well as traditional wisdom concerning the universe, the environment, and the existence of all living beings.

Problems

The phenomenon of NFT entails the advantage to certify the scarcity and the uniqueness of the objects of protected Geographical Indications as well as Cultural Heritage in the cyber space.

However, minting an NFT for an object in cyber space does not require meticulous administrative requirements of the true author, right holders, or geographical origin of the object tied to the NFT. So, there is a possibility that a protected Geographical Indication object or a protected Cultural Heritage object can be held by other than the true right holders of the object simply by minting the object as an object tied to an NFT.

In this regard, it is necessary to regulate the NFT minting activities of Geographical Indication as well as Cultural Heritage objects to assure that the ownership of the NFT is the same or in line with the authorized right holders and the origin of the Geographical Indication and Cultural Heritage in question. The results of this article will be addressed as a proposal on the recent process of amendment of laws on Geographical Indication and Cultural Heritage in Indonesia.

Question to be answered by this article is: what is the core idea to be accommodated in the amendment of the national legal system to assure that the minting of an NFT does not offend the stewardship of Geographical Indication and/or Cultural Heritage's objects?

Methods

Methods used for the research of this article are juridical analytic, case studies, legal comparison and legal futuristic methods. Juridical analytic was used to analyse the existing legal systems that closely related to the NFT objects. Case studies were conducted on two social cases with legal problems. Legal comparison was used to compare the legal system in the international level and in the national levels, particularly in Indonesia and India. Legal futuristic method was used to arrange the recommendations for the amendments of the related laws, which could be better used to deal with the intersectional problems between the phenomenon of NFT with the Geographical Indication as well as Cultural Heritage protection systems.

Non-Fungible Tokens Associated with Geographical Indications and Cultural Heritage

Champagne Geographical Indication

Champagne is a well-known Geographical Indication/Protected Designation of Origin of white sparkling wine produced in Champagne region of France. Champagne is also known as one of the most respected GIs in the world due to its historical and cultural roots, strength of protection,and landmark cross border cases related to the use of the wording Champagne, such as California Champagne case and Spanish Champagne case.

The primary body that enforces the protection of Champagne is the Comité Interprofessionnel du Vin de Champagne (CIVC) or the Champagne Committee. This body is known for its enduring efforts to protect Champagne against any misuse worldwide, including against the use that can be interpreted by the public as to evoke the name of Champagne from its true geographical origin.

Meanwhile, E-World Company, Inc. has declared the plan to tokenize wines using NFTs to enable traceability, transfer of ownerships, and connecting NFTs to wines as assets.[7] Block Bar has also been initiating a digital market place for tokenized wines and spirits as well as trading the wines and spirits in NFT market places.[8] Cellar Verse has been acting as a platform that selling wines and spirits using NFT too.[9] Moreover, there is a platform called Wine Chain where NFTs are minted in pair with physical bottles of fine wine in the material world, so the NFTs become the representations of the wines in the digital market and enchant collectors.[10] In short, minting NFT associated with luxurious wines have become a trend in e-commerce because of its promising economic values.

There are two possibilities of associating an NFT with Champagne wines. Firstly, the NFT is a token that is connected to winery's aspects, such as tokens for artistic works related to Champagne, French gastronomy involving Champagne, white sparkling wine tasting club memberships, etc. Secondly, the NFT is a token that is tied to the physical bottle of Champagne, so it represents the wine and authorize the holder of the NFT to claim compensation upon any misuse made by other parties.

The intersection between the protected indication of geographical origin and NFT is still underdeveloped as there is no landmark litigation case reported so far. However, being a body with sharp observance and fierce legal agility, it is very likely the Champagne Committee would also challenge straightforwardly against any minting using the name of Champagne by unjustified users. So, it is understandable that there are several mentions about the term Champagne in Open Sea, but not as a token. The Committee could have taken preventive or procedural measures to avoid an NFT to be falsely associated with Champagne before it reaches the court.

Interestingly, the most expensive Champagne wine has ever been sold is an NFT Champagne in 2022. The NFT was associated with a bottle of Champagne as its underlying asset. It means that the Champagne was sold virtually using an NFT and paid by Eth digital currency and not in the physical cellar door sales or auction using traditional currency payment like USD or EUR.

Champagne Avenue Foch Magnum 2.5 NFT

Champagne Avenue Foch Magnum 2.5 is a project that minting NFTs with the well-known Champagne white sparkling wine. The project was listed on Open Sea digital market using the name of Champagne Avenue Foch Magnum 2.5 in the form of Ethereum Request for Comment (ERC)[11]-1155.[12] In this project, there were 5 (five) different NFTs minted, including the NFT of a Champagne bottle depicting Bored Ape Yacht Club and Sneaky Vampire Syndicate as popular NFT collections.

The latest digitally available information reported that the Champagne Avenue Foch Magnum 2.5 NFT had been sold for USD 2.5 million (2,500 ETH in Open Sea) in a private sale in July 2022, marking it as the most expensive bottle of Champagne ever sold so

far.The purchasers were cryptocurrency investors Giovanni and Piero Buono from Italia, who regarded the NFT as their long-term investment.[13] The phenomenon shows pairing an NFT with a high reputation wine like Champagne can be very successful (Fig. 1).

Champagne Avenue Foch Magnum 2.5 is a unique release of a single magnum bottle of Champagne (Fig. 2). It contains Premier Cru[16] grapes harvested in 2017[17] from the Allouchery Estate, commune of Chamery, department of Marne, region of Champagne, France. The vineyards are situated within the Montagne de Reims Natural Regional Park. The Premier Cru grapes consist of 60% of Pinot Noir, 20% of Meunier, and 20% of Chardonnay.

According to the Open Sea listing, the Champagne Avenue Foch Magnum 2.5's Eth smart contract address is <0x495f947276749ce646f68ac8c2484 20045cb7b5e> and theTokenIDis <31888219884822 119428184435718093100999762748249081048522051201440124575416321>.

Special benefits gained by the owners of the NFTs include the ownership of the embedded NFTs (Bored Ape Yacht Club, Sneaky Vampire Syndicate) and the material bottle of Champagne tied to the NFT. If other party would like to claim the bottle, burning[18]the NFT is obligatory.[19]

Fig. 1— Champagne Avenue Foch Magnum 2.5 Project depicting the sparkling wine + NFTcombo[14]

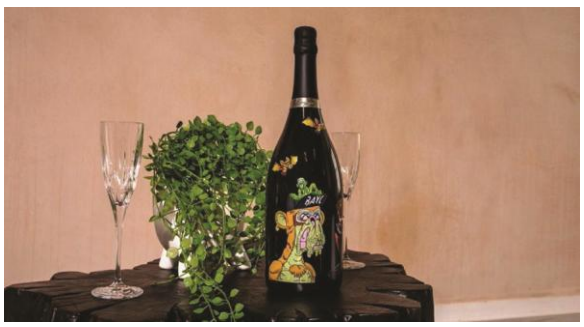

Fig. 2 — The physical bottle of Champagne Avenue Foch Magnum 2.5[15]

The important point to note is that the NFT entangles with the well-known protected Geographical Indication, that is Champagne. Legally, Champagne is held collectively or communally by the listed producers in the Champagne's Product Specification who live and produce in the Champagne region. Logically, minting an NFT associated with the Champagne, should have been done by the community of producers or their representative rather than an individual. In the case of Champagne Avenue Foch Magnum 2.5, the minter was a producer from Allouchery Estate of the Champagne region and not the representative of all producers from the whole Champagne region. So, it could become a problem about how the benefit sharing should be conducted or justified from the successful selling of the NFT to all members of the Champagne producer association.

However, since the minter is originated from the Champagne region, the misleading conduct of the consumers as to the geographical origin of the wine is unlikely to happen. Based on the absence of the legal proceeding about this matter, it is very likely that, even though it was a friction between the members of the Champagne producer association about the sharing of benefit from the selling of the NFT, it would have been solved internally without litigation procedure.

However, if the minter were different from the holders of Champagne from the Champagne region of France, but for example, they were originated from the Champagne area in Switzerland, or the minter were the member of the producer association but acting without permission from the right holders nor sharing the benefits justly to the other members of the association according to the Product Specification, the NFT and GI pairing project like this would become a legal issue. The legal issues would entail the unjustified ownership of the NFT, misleading conducts to the consumers, and unfair competition of business practices.

Taj Mahal NFT

Taj Mahal is a marble mausoleum situated on the bank of Yamuna river, Agra, Uttar Pradesh, India. It was built by the Mughal Emperor named Shah Jahan in 1631 as the remembrance of his beloved wife Mumtaz Mahal who had passed away after giving a birth to their son.[20] The complex of Taj Mahal covers 17-hectare area that includes a mosque, a guest house,

and a garden landscape. It took 22 years to be fully completed by the more than 20.000 labours and artisans, led by the Mughal architect Ustad Ahmad Lahori.[21]

In 1983, Taj Mahal was inscripted as a UNESCO World Heritage Site. The splendour of the Taj Mahal's architecture makes it also hailed as "the illuminated tomb"[22], "the symbol of God's throne on earth"[23], and "the new wonder of the world".[24]

NFT titled "Taj Mahal NFT" in the collection of 7 Wonders NFT and a digital art titled "Taj Mahal NFT 2023" created by Fernanda Carvalho are several examples of the listed NFT associated with Taj Mahal of India.

Article 1 of the 1972 UNESCO Convention on the World Natural and Cultural Heritage regulates that, for the purpose of the Convention," … the following shall be considered as cultural heritage:

(i) monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;
(ii) groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;
(iii) sites: works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view."

Based on article 1 of 1972 UNESCO Convention, Taj Mahal can be regarded as a cultural heritage. In addition, Article 4 of the Convention also assures that:

"… the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 … and situated on the member State's territory, belongs primarily to that State."

In this regard, the State should be able to execute its functions according to its own resources, with any international assistance and cooperation possible, including in matters of financial, artistic, scientific and technical ones.

Cultural Heritage like Taj Mahal that possesses Outstanding Universal Value (OUV) can also be inscripted in the UNESCO World List. OUV requires that a site has a global significance and:[25]

(i) Is so exceptional that it transcends national boundaries,
(ii) Is valuable for all humanity, present and future,
(iii) Meets at least one of UNESCO's 10 selection criteria[26],
(iv) Has integrity and/or authenticity, and
(v) Has adequate protection and management systems.

From Intellectual and Cultural Property Rights' perspective, being inscripted as an Intangible Cultural Heritage of the UNESCO system means that the cultural heritage object has been entering public domain for the benefit of mankind. So, everybody can use or replicate it freely. However, any usage, reproduction or development of a cultural heritage should be intended to enhance cultural sustainability and cultural appreciation.

So far, there is no litigation case about cultural appropriation nor misrepresentation on Taj Mahal in the cyberspace, including NFT associated with it, even though the creator is still recognised and having living descendants. India has not yet had a specific law dealing with the protection of traditional cultural expression associated with cultural heritage. So, reproducing Taj Mahal in other countries and minting NFT associated with Taj Mahal has not become a legal issue.

Differently, if it were happening in Indonesia, where the sui generis system for Communal Intellectual Property that includes Traditional Knowledge, Traditional Cultural Expression and Geographical Indication Potentials is enforceable, the story would likely to be different.

NFT Associated with Intangible Cultural Heritage in Borobudur Temple

Borobudur is an ancient Buddhist temple in Indonesia. Sir Thomas Stanford Raffles discovered Borobudur in 1814 when Indonesia was still the colony of Dutch. According to the Indonesian linguist Purbacaraka, Borobudur means a Buddhist monastery on the top of a hill in ancient local language. It is situated in Borobudur Village, Muntilan sub regency, Magelang, Java Island, Indonesia, with the size of 123 X 123 X 42 metres.[27] Based on the reliefs, WangsaSyailendra established Borobudur in 750 - 842 AD.

Prumpung is the main village where replicas of Borobudur have been manually produced. It is situated in Muntilan, about 13 km north-east of the temple.[28] In WangsaSyailendra era, Prumpung was a transit place where the builders carved the stones that had been dragged by elephants for the temple.Since then, Prumpung has been known as the origin of the finest stone carves, sculptures, and hand-made replicas of Borodubur Temple.

Problems of Borobudur Replica

Regarding the activities of making carvings, sculptures, replicas, and other handicrafts that are inspired by Borobudur Temple and reliefs, research conducted in 2005-2007 showed that, there were dissatisfactions expressed by Buddha Prabha Monastery young members concerning the management of the temple that had been conducted by the people who only treated the temple as an object of tourism (Fig. 3). Furthermore, the productions of the replicas and the way people sold them were without any formal consent from the Buddhist community. So, the results sometimes were offensive to their ethics. For example, attaching Borobudur replicas as ornaments of ashtrays, and selling the Buddha statues in forms of half-body shapes, were contrary to the innate value of the Buddha statue as a symbol of wholeness. Head-only replicas of the Buddha also reminded them to vandalisms against the original statues.

Fig. 3 — Vandalisms in Borobudur Temple (2005)

Yet, they agreed that making Borobudur replicas assisted the economy of the local sculptors. So, they proposed that the replicas had to be produced with a clear permission and in accordance with the Buddhist spiritual values (Fig. 4).[29]

NFT of Maitribala

Maitribala is an NFT of a digital art that is minted based on the story of Maitribala reliefs on the wall of Borobudur Temple created by Lukman Fauzi. It was firstly announced in August 2022 and intended to fund the establishment of "DesaMeta" or a digital smart village of Borobudur.[30] The reliefs depict the story of Prince Maitribala, who was known for his pure heart and divine compassion.

The name of Maitribala itself means the power of loving-kindness. In Buddhist tradition, Maitribala is believed as the Buddha's past life in the reincarnation cycles before Siddharta Gautama was born and became the Buddha. Maitribala utmost compassion was when he offered his own body and blood for the Demons in the exchange of his people to be left alive. The Demons agreed and drank Maitribala's blood, touched by the sweetness of the blood, and surrendered their brutality forever. The act of sacrificing his own body is regarded as the perfect love and compassion of the Buddha. The heroic sacrifice of Maitribala was then composed as an Indonesian traditional dance repertoire, fixated as a digital picture, and minted as an NFT of Maitribala.[31]

Fig. 4 — Replicas of parts of Borobudur Temple sold in physical markets

Besides that, in December 2022, an event called Borobudur Banon Run 7K in the Borobudur area also endowed the participants with a virtual medal in addition to the physical medal via n NFT.[32] There was also a program titled "Borobudur SmartVillage" that announced an NFT featuring artists from the region that included a village digital community that benefited the NFT holders with special facilities to access Borobudur Temple as tourism area.[33] It was also an NFT that was minted specialized for celebrating a Valentine Day titled "Tri Suaka-Nabila Maharani NFT" in the Borobudur Smart Village, which can be used to get certain discounts and attending a meet-and-greet events in Borobudur area.[34]

The aforementioned NFTs do not intend to provide the NFTs' holders with an exclusive right to trade parts of Borobudur Temple, nor to access the certain undisclosed parts of the temple, but to give the holders a right to own and enjoy some imageries of Borobudur Temple, as well as experiences to virtually or physically access the temple. So, they are still in line with the objective of the UNESCO inscription of the Borobudur Temple as the UNESCO World Heritage to be valuable for the cultural and social developments.

However, as referred to the sacred values of Borobudur Temple mentioned by the Buddha Prabha Monastery members in Yogyakarta, minting NFT associated with Borobudur may trigger cultural sensitivities, especially if it relates to the function or the shape of the Buddha that is created without proper consents from the Buddhist communities.

Discussing the Intersection of NFT with Geographical Indications and Cultural Heritage

Intersection between NFT with Geographical Indications and Cultural Heritage is still underdeveloped compared with the intersections between NFT with Copyrights or Trademarks. However, as has been described above, potential legal problems can also happen to objects of Geographical Indications as well as Cultural Heritage. For countries with rich Intellectual and Cultural Property objects held by communities like Indonesia and India, the risks of possible legal problems related to NFTs minting Geographical Indication and Cultural Heritage's objects would be higher. If actually happened, the problems would be counterproductive to the governments' efforts to enhance the protections and commercialization of such objects for the most benefit of their people as well as all human beings. In addition, especially for Indonesia, the momentum of amendments of the protections for Geographical Indication and Cultural Heritage have been in place. So, scientific discussion between NFT with Geographical Indications and Cultural Heritage is important.

It is uneasy to answer whether NFTs would undermine the current Intellectual Property systems. However, it is reasonable to argue that until recently, NFT development is limited by three factors. Firstly, NFT is a digital token that utterly relies on the internet sistem. So, any transaction using non digital token in the real world is not going to be influenced by NFT. Furthermore, the transactions of NFT so far use digital currencies, especially Ethereum. Recently, the currencies are only used by high class proprietors who are able to purchase digital currencies and continuously in charge in the digital world. So, from the users' perspective, NFT would not undermine the current Intellectual Property system because the users are still limited. Last but not least, NFT capability to raise the economic values of the related objects tremendously is because the value is obtained from auctions. Auctions, whether they are conducted online or offline, are only attended to reach potential consumers who have capabilities to pay the highest price possible on an object. It means that the market of the NFT is still limited and will not significantly affect the regular market where the Intellectual Properties' objects are mostly sold. In short, NFT would not be undermining but extending the Intellectual Property systems, especially in e-commerce. In this regard, NFT would provide significant additional transactional value for some Geographical Indication and Cultural Heritage of which the overall reputations of the products have been prominent.

Risks of minting an NFT associated with Geographical Indications or Cultural Heritage are similar with the risks of minting an NFT associated with artistic works of Copyrights or symbolistic patterns of Trademarks. It is because so far, as digital objects, they are virtually shaped as two-dimensional objects on the screens. So, all of them can become objects of unauthorized digital right holders who mints the associated NFT without permission or in bad faith. In this regard, even though the requirements of Trademarks, Geographical Indications and Cultural

Heritage are different subject matters in the physical space, the basic ratio to decide a particular legal case related to one subject matter may be used as the basis to determine a possible case related to other subject matters in the future.

NFT Associated with Trademark: Hermes International* v *Rothschild Case (2023)

Hermes International versus Rothschild[36] is a landmark case about NFT associated with Trademarks. However, the ratio decidendi of the decision can also be used to decide other Intellectual Property case related to NFT, provided that the objects are digitalized and dealing with unauthorized minter.

The well-known fashion Trademark Hermes designed and released the Birkin handbag. Then, Mason Rothschild made a digital collection of bags titled "MetaBirkin" using the digital image of the Birkin bags using an NFT to record and issue a digital ownership. Hermes sued Mason Rothschild for several allegations, including Trademark infringement. However, Mason Rothschild defended his digital creation as legal based on the freedom of speech principle of the first Amendment of the United States Constitution.

On February 2, 2023, the Judge of the United States District Court for the Southern District of New York held that the court denied the allegation of Trademark infringement because the Rothschild's MetaBirkin "could constitute a form of artistic expression". In this respect, a special test should be conducted to provide the freedom of speech principle with stronger protection, that is the Rogers Test, rather than the Trademarks Requirements Test regulated by the US Trademark Act of 1946 (Lanham Act), 15 U.S.C. § 1125(a) concerning the trademark infringement.

Rogers Test in Rogers*v*Grimaldi Case (1989)

The United States Court of Appeals invented a legal standard for balancing the Trademark rights against the right of freedom of expression in the United States First Amendment of the Constitution in the *Rogers* v *Grimaldi (1989) Case*[37], that is called the Rogers Test.

The Rogers Test consists of two-prong test. An expressive work that uses a Trademark does not violate a Trademark provisions in the U.S. Lanham Act unless both of the following facts are true:

- No artistic relevance to the underlying work.
- Explicitly misleading the public as to the source or the endorsement of the Trademark.

Accordingly, if a digital creation embodying aspects of a Trademark is going to be justified as being not a violation against the Trademark provisions in the U.S. Lanham Act, the digital creation shall be somehow having an artistic relevance to the NFT minted for it, although the artistic relevance is minimal. In addition, the digital creation's visual appearance shall also not explicitly mislead or confuse the consumers into thinking that the Trademark holder creates or gives a permission to mint the NFT associated with the artistic creation.

In applying the Roger Test to an NFT against Trademark case, the two-prong of Rogers Test may be used to examine whether the use of the Trademark in the NFT's underlying object is shield by the protection of the freedom of expression or should be regarded as an infringement of Trademarks legal provisions. In this regard, the artistic relevance prong requires that the NFT's minter shall show some artistic relevance of the underlying object to the minted NFT so that the object is not only functioned as a source of identifier.[38]

Limit of the Rogers Test: Jack Daniel's Properties* v*VIP Product LLC Case (2023)

The Court's ruling in the *Jack Daniel's Properties* v *VIP Product LLC Case* (2023)[39]clarified the limit of using the Rogers Test on a legal case. In this case, the U.S. Supreme Court ascertained that the Rogers Test does not apply to the use of a Mark that is functioned merely as a source identifier. Consequently, if the use of aspects of a Trademark in an NFT's digital object is simply to identify the minter or the producer of the NFT, the Rogers Test cannot be applied.

Furthermore, because the source identifier can also mean identifying a geographical source of origin of the NFT's digital object, using the Rogers Test for NFT associated with Geographical Indication of which the indication is simply used to point out a source of geographical origin of the object is inappropriate either.

However, in the case of NFT associated with Cultural Heritage, the Rogers Test may be simpler to be applied, because most aspects of Cultural Heritage that are minted as NFTs depict inherent traditional cultural expressions, whether they are based on tangible or intangible aspects of the heritage. So, the artistic relevance of a Cultural Heritage to the NFT is very likely to be established. Furthermore, as the Cultural Heritage that has been inscripted by UNESCO is aimed to be beneficial for all people, it

can be regarded as a common property in the public domain context. Consequently, using a part of the Cultural Heritage without permission, whether it is directly, indirectly, and/or digitally, may not become an issue.

Yet, the cultural or religious' sensitivity of the Cultural Heritage, especially the sacred Cultural Heritage such as Borobudur Temple, will instil potential problems, especially if the related NFT is minted for purely economic reason, such as to accumulate economic benefits or to attract tourists. Even for the less sacred but highly regarded Cultural Heritage such as Taj Mahal mausoleum, the cultural appreciation is necessary, as the mausoleum is still personally sacred or having a profound meaning for the builders as well as the living society surrounding the heritage. So, obtaining a clear permission in using the parts of a Cultural Heritage, especially the sacred ones, for economic purposes, is important to be considered.

The second prong of the Rogers Test, to ascertain that there is no explicit confusion of the public as to the true right holder, endorser, or sponsor of the NFT, is a strong tool that can be applied both for NFT associated with Geographical Indications as well as Cultural Heritages. In the Geographical Indication system, the main objective of the protection is to assure the true geographical origin and unwavering linkage between the source of origin and the protected product is protected. Similarly, it is a moral obligation to ensure that the geographical roots as well as the stewardship of the Cultural Heritage are acknowledged; these are actually the basic reasons of the UNESCO inscription. So, applying the second prong of the Rogers Test for NFT associated with Trademark has a strong relevance to the possible conflict of NFT associated with Geographical Indication or Cultural Heritage in the future.

NFT in the Amendments of the Indonesian Laws concerning Geographical Indications and Cultural Heritage

Indonesia has a digital agenda impliedly regulated in the Indonesian National Legislation Programs 2025-2029 that obligates digital transformation in all sectors of public service, including legal services provided by Ministries.

As a Civil Law country, Indonesian legal system does not mainly rely on jurisprudence, but a solid hierarchy of laws starting from the 1945 Constitution, laws and the layers of implementing regulations, regulating the central governments down to the provincial andlocal governments. In this regard, if a norm or a necessity is intended to be legally enforced, the plans of amendments and regulations shall take place in the first place, before it can be effectively implemented in the courts. Precedent from a judge-made law does not bind the further judge to decide a similar case, but the literal provisions of the related laws or regulations do. Yet, in the law-making process by the legislative body, the ratio decidendi of landmark cases, both in national as well as international levels, are usually considered, especially to compose provisions regarding the possible cases in the future. So, once endorsed, the law will not only act as a curative or repressive measure, but also a pre-emptive measure to anticipate a legal problem or threat before it happens.

In the aforementioned regard, the amendments of Indonesian Copyrights Law, Trademarks and Geographical Indications Law, and Cultural Heritage Law, have been decided as parts of the Indonesian Legislative Programs 2025 to 2029. The amendment of the Copyright Law even has been listed as the priority list in the program. Accordingly, the amendments should also include the pre-emptive provisions dealing with aspects of digital transformation in legal service.

As has been previously mentioned, taking into account that the cases of NFT associated with Intellectual Property subject matters which have been decided overseas can also be learnt and accommodated to enrich the amendments of Indonesian national laws because of the extra-territorial jurisdiction of the laws in the cyber space[40], the existing of landmark cases related to the NFT associated with Trademarks in the United States can be used to solve legal problems in the future for NFT associated with Geographical Indication and/or Intangible Cultural Heritage that entail Indonesian right holders as well as geographical origins.

In this regard, it is wiser to add pre-emptive provisions dealing with the possible cases of NFT associated with Geographical Indications and Intangible Cultural Heritage in the ongoing amendments of the Indonesian Trademark and Geographical Indications 2016 as well as the Cultural Heritage Law 2010. It is because based on the previous research and observation, the potential unauthorized minting of an NFT associated with Geographical Indication or potential cultural insensitive minting of an NFT associated with

Cultural Heritage have chances to happen in the future. Without clear provision on laws and regulations in place, especially in the Indonesian legal system, it would become uneasy and conflicting situations in the future.

Conclusion

NFT associated with Intellectual Property, especially Geographical Indication and Cultural Heritage, is recommended to be accommodated as new provisions in the amendment of Intellectual Property Laws in Indonesia and India.

In Indonesia, the recommended change is in the amendment of the Law Number 20 Year 2016 about Trademarks and Geographical Indications and the amendment of the Law Number 10 Year 2010 about Cultural Heritage which have been planned to be amended in the National Regulations Plans 2025 – 2029 of Indonesia. In this regard, amending the laws and regulations about Information Technology, E-Commerce, and other Intellectual Property subject matters such as Copyright Law, is also recommended, especially because the digital transformation in all public service sectors is already mandatory. In India, if the Geographical Indications of Goods Act 1999 is still sufficient, public policy regarding the Information Technology that includes NFT associated with Intellectual and Cultural Property is recommended.

Rogers Test can also be considered to be regulated in the new provisions about NFT associated with Intellectual Property and Cultural Heritage. Accordingly, regarding the NFT associated with Geographical Indication and particularly Cultural Heritage, the two prong of Rogers Test that has been established in the United States' Case Law can also be added with the third prong for the Indonesia and India's contexts.

The third proposed prong is whether the NFT associated with Geographical Indications and/or Cultural Heritage is offensive to the existing values of the communal right holders or stewardship of the object. If it is not offensive, the implied or silent consent can have presumably been obtained.

Amendments of laws in Indonesia and India have different procedures. In the core, as a Civil Law system's country, Indonesia requires every legal amendment to be firstly accommodated in the National Legislation Program in accordance with the Indonesian National Long-Term Development Plan (20-year period) and National Medium-Term Development Plan (5-year period). Furthermore, the law Amendments shall always be in line with the existing layers of laws and regulations in the overall Indonesian legal structure.

Differently, as a Common Law system's country, India does not require a legal amendment to be conducted based on a planned national legislation program, but in accordance with the politic of laws of India, such as: updating the content of the law in accordance with modernization, enhancing legal efficiency, protecting human rights, and assuring the balance of powers between states as well as the legislative, executive, and judicial branches of the governments' power. The amendments of laws and regulations in India can also be conducted independently as long as they are not contrary to the Constitution, including by the judge-made-laws in the India's jurisprudence system. So, amendments in the Indonesia's legal system can take longer and less flexible process than the amendments in India.

However, in the context of Indonesia, since the amendments of the Law on Trademarks and Geographical Indications and the Law on Cultural Heritage have been accommodated in the Indonesian National Legislation Program, adding even one or two provisions about the prevention of minting an NFT that jeopardies the protected Geographical Indication and/or safeguarded Cultural Heritage would make a deep impact to all related provisions in the Indonesian laws and implementing regulations system. They will then lay down the new bases for the court decisions.

In the context of India, amendments can be added in the related laws, regulations and legal guidelines in more flexible ways. Alternatively, court can also accommodate the two prongs of Roger Test or the three prongs of the extended Roger Test in the rationales of the relevant cases. In this regard, the actual change would be more like a perpetuate step-by-step alteration approach to the legal system but directly would affect the interested parties.

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