

Hong Nhung Pham

PhD student

University of Debrecen, Géza Marton Doctoral School of Legal Studies

COPYRIGHTABILITY OF ARTIFICIAL INTELLIGENCE GENERATED WORKS –
INTERNATIONAL ANALYSIS AND PROPOSAL FOR VIETNAM

Debreceni Jogi Műhely, 2024. évi (XXI. évfolyam) 3-4. szám (2025. február 15.)

DOI 10.24169/DJM/2024/3-4/4

Abstract: Since the establishment of artificial intelligence (AI), it has created many novel legal issues, especially in intellectual property law surrounding their generated works. This is a substantial problem for developing countries, one of which is Vietnam – a country prioritizing AI as their top technology advancement plan for the next period. While neighboring countries of Vietnam such as China or South Korea has addressed this issue on a policy level, the country has yet to legislate any regulations regarding this.

Therefore, the paper will provide analysis on two main questions: whether it is possible to copyright AI-generated works and the author of AI-generated works from the perspective of different jurisdictions around the world, at the same time, comparing it with the current legislation of Vietnam in order to provide the country with a suitable proposal for the next period. Doctrinal methods, along with case study and comparative research will be applied to answer the proposed issues. The study revealed that while the law in Vietnam is fairly similar to international law, a few differences in interpretation could possibly lead to unexpected results. Therefore, amending the law and establishing special guiding documents are considered the key factors to a more solid and rigorous IP legal system regarding AI in Vietnam in the near future.

Keywords: artificial intelligence, ai-generated works, intellectual property law, copyright, Vietnam



A mesterséges intelligenciával generált munkák szerzői jogi vonatkozása
– nemzetközi elemzés és javaslat Vietnam számára

Absztrakt: A mesterséges intelligencia (AI) megalakulása óta számos újszerű jogi kérdés merült fel, különösen az AI által generált művekkel kapcsolatos szellemi tulajdonjogban. Ez komoly problémát jelent a fejlődő országok számára, amelyek közül az egyik Vietnam – egy olyan ország, amelyben a mesterséges intelligencia fejlesztése az elkövetkező időszakban a technológiai előretörés egyik sarokpontját jelenti. Míg Vietnam szomszédos országai, mint például Kína vagy Dél-Korea politikai szinten foglalkoztak ezzel a témával, az országban még nem került sor az erre vonatkozó jogszabály megalkotására.

Ezért jelen publikáció két fő kérdésről ad elemző képet: lehetséges-e a mesterséges intelligencia által generált művek és a mesterséges intelligencia által generált művek szerzőjének szerzői jogi védelme a világ különböző joghatóságainak szemszögéből, egyúttal összehasonlítva a jelenlegi vietnami jogszabályokkal, hogy megfelelő javaslatokkal tudjon szolgálni az országnak az elkövetkező időszakra. Jelen publikációban a javasolt kérdések megválaszolásához doktrinális módszereket, esettanulmányokat és összehasonlító kutatásokat alkalmaztam. A tanulmány feltárta, hogy bár a vietnami jog meglehetősen hasonló a nemzetközi joghoz, néhány értelmezésbeli eltérés váratlan eredményekhez vezethet. Ezért egyes jogszabályok módosítása és a speciális irányadó dokumentumok létrehozása kulcsfontosságú tényezőknek tekinthetők a közeljövőben egy szilárdabb és szigorúbb, a mesterséges intelligenciát szabályozni kívánó vietnami jogi rendszer létrehozásához.

Kulcsszavak: mesterséges intelligencia, mesterséges intelligencia által generált művek, szellemi tulajdonjog, szerzői jog, Vietnam

Urheberrecht an durch künstliche Intelligenz erstellten Werken –
Internationale Analyse und Vorschlag für Vietnam

Abstrakt: Seit der Entwicklung künstlicher Intelligenz (KI) sind zahlreiche neuartige Rechtsfragen entstanden, insbesondere im Bereich des Immaterialgüterrechts im Zusammenhang mit KI-generierten Werken. Für Entwicklungsländer stellt dies eine besondere Herausforderung dar, so auch für Vietnam – ein Staat, der KI als zentrales Element seiner technologiepolitischen

Agenda für die kommende Entwicklungsphase definiert hat. Während Nachbarländer wie China und Südkorea bereits politische Maßnahmen zur Bewältigung dieser Problematik ergriffen haben, fehlt es in Vietnam bislang an konkreten gesetzlichen Regelungen.

Der vorliegende Beitrag untersucht zwei zentrale Fragestellungen: Zum einen, ob KI-generierte Werke urheberrechtlich schutzfähig sind, und zum anderen, wer als Urheber solcher Werke gelten kann. Die Analyse erfolgt unter Einbeziehung verschiedener nationaler Rechtsordnungen und wird mit der aktuellen Gesetzeslage in Vietnam verglichen. Ziel ist es, eine fundierte Grundlage für einen geeigneten Regulierungsvorschlag zu schaffen. Methodisch stützt sich die Untersuchung auf eine dogmatische Analyse, ergänzt durch Fallstudien und rechtsvergleichende Ansätze. Die Ergebnisse zeigen, dass das vietnamesische Recht in wesentlichen Aspekten mit internationalen Standards übereinstimmt, jedoch gewisse Unterschiede in der Auslegung potenziell zu unerwarteten Ergebnissen führen können. Eine Reform des Urheberrechts sowie die Ausarbeitung klarstellender Leitlinien erscheinen daher als zentrale Voraussetzungen für die Etablierung eines kohärenten und zukunftsfähigen Rechtssystems im Bereich des geistigen Eigentums im Kontext von KI in Vietnam.

Schlagworte: Künstliche Intelligenz, KI-generierte Werke, Immaterialgüterrecht, Urheberrecht, Vietnam

Introduction

Artificial Intelligence (AI) has become a controversial issue since it has created many legal implications surrounding its generated works. One of the branches of law which was affected the most from the birth of generative AI is intellectual property (IP) law, in which AI-generated works have broken many rules and at the same time, raised various questions about its legal eligibility. There has been a number of cases on this matter in developed countries such as the United States (USA), the European Union (EU), China, etc. focusing on two main questions: whether AI-generated works are protected by copyright and the person who would be the legal author of AI-generated works.

On the other hand, in South East Asia, Vietnam is a developing country which is also widely affected by the development of AI. The country is also expected to

rise as one of the biggest AI markets in Asia in the near future. Generally, in Vietnam, AI is being controlled by the high technology policies regulated in Decision No. 127/QĐ-TTg on the National policy on researching, developing and applying AI until 2030. This decision with the High Technology Law 2008 has become the legal basis for developing AI in the country. However, there are currently no available laws or legal documents in Vietnam addressing the issue with generative AI and its relationship with IP law. Therefore, to quickly facilitate this, regulations and laws must be developed and improved in order to provide an open legal corridor that meets the needs of fostering AI research, development, and application in real life, meeting the requirements of the plan of country.

The first chapter of the paper would give a brief introduction on AI-generated works and the legal problems surrounding it. Afterwards, the research would provide current law on this issue around the world and in Vietnam, addressing the need to establish provisions in the country to make way for the recommendations in the final part of the paper.

This study will apply doctrinal methods to analyze the IP law in copyright from many countries to address the problem of AI-generated works. The legal sources include international documents such as the Berne Convention; national laws and cases along with its guiding documents. Moreover, literature would also be examined, in both English and Vietnamese.

1. Current problems regarding AI-generated works

1.1. Generative Artificial Intelligence (AI) and AI-generated works

The definition of Artificial Intelligence was first invented in 1955 by John McCarthy at the second Dartmouth conference. It stated that AI means science and technology to create intelligent machines, especially computer programs (Sutton, 2020, p. 66). Currently, there are many definitions of AI but there is not yet an official one for this issue. Kop (2019) believed that AI is “an entity, a system or a science”, an intelligent machine that “possesses cognitive functions and skills such as learning and reasoning”.

Vu (2020, p. 47) on the other hand, examined AI as machines which simulated the intelligence of human, programmed to think and imitate human and its

actions. However, the most used definition until today is from Russel and Norvig (2016) which described AI as research on agents accepted by environment and perform actions. In conclusion, it is generally understood that AI is a software which can learn and incorporate with hardware, under the control of human.

In the beginning, AI was mostly expressed through robots playing sports such as chess, eventually defeating a number of world top players (BBC Science Focus, 2023). Afterwards, AI was branched into other fields, from simple tasks such as searching information, chatbot to more complex jobs like face recognition, voice activated such as Siri and Alexa, or automatic driving, which was recently experimented by Google's Waymo One in the USA (The Times, 2023). AI is being incorporated more and more into daily lives, gradually closing the gap between human and machine. After a period of development, AI has reached a new height when finally, being able to generate content by itself – earning the name generative AI.

Generative AI is a new model of AI which is capable of creating things independently, including text, image, sound, etc. The main difference between generative AI and traditional AI is that generative AI is mostly used to generate new data, based on the volumes data it has been trained on using “deep learning”, while traditional AI uses the data to analyze and make predictions according to it (Nguyen, 2023).

Nowadays, due to the advanced coding techniques, generative AI can create their own products. In 2016, an AI from Hakodate University in Japan created a novel titled “The Day a Computer Writes a Novel” which ultimately, passed the preliminary round of the Nikkei Hoshi Shinichi Literature Award (Sato, 2016). Recently, a painting titled “Portrait of Edmond de Belamy” generated by a GAN algorithm was sold for \$432,500 at an auction (Medium, 2024). One of the most well-known generative AI is a chatbot called ChatGPT, which was popularized in 2021 by being able to answer most of the questions and creating new content such as song lyrics or literature when requested. Therefore, AI-generated works can be defined as the works or products created by AI, whether independently or in collaboration with a human. The creation by AI is potentially a subject to Intellectual Property Law.

1.2. The problems regarding AI-generated works and copyright

Recently, generative AI is on the rise and becoming valuable products in many fields, for example: entertainment, IT, banking, etc. If the works by AI are not protected by copyright, it would be a significant deficit for AI companies and enterprises, leading to decrease in motivation in this area. Therefore, the time and cost-saving purpose of AI will not be utilized to the fullest. Moreover, lack of adequate law to protect the rights of citizens will reflect badly on the government.

The appearance of legal implications is inevitable in the rapid development of technology. More and more people in different fields are collaborating generative AI into their job. In addition to the examples above, in 2017, a Youtube singer called Taryn Southern and an AI – Amper joint forces in creating an album titled “I am AI” in a matter of seconds (Futurism, 2017). These songs were assessed that they were identical to pop songs, and normal people could not tell the differences if not being told that they were AI-generated. Moreover, according to Futurism, the work by Amper is purely made by itself, without the interpretation of human. In 2018, Stephen Thaler also filed for copyright for an artwork titled “A Recent Entrance to Paradise” made by a Creativity Machine system in the USA. In 2022, the District Court for the District of Columbia upheld the decision by the USA Copyright Office that a machine cannot be the author of copyright in the case *Thaler v. Perlmutter* (2023). The spread of generative AI leads to the ambiguous margin between human generated and AI-generated works, causing many novel problems if the law of copyright only follows the traditional method of protecting the human.

There exist two separate systems of copyright, one being the European method, focusing mostly on the moral and economic rights of the author, the other is the United Kingdom (UK)-United States (US) way of thinking, putting the right to copy as the centre of copyright (Moritz and Mohr, 2019). In this modern economy, the moral right only plays a secondary role to the economical right, since the work would become a trading item when entering the market (Vu, 2020, p. 50). Even though some scholars consider AI should not be granted since it is not human (Sapi, 2024, p. 150), economic right of the author should still be ensured for the investors and the creators of the AI. Thus, copyright regulations surrounding generative AI and its work need to be in place in order to protect the relevant subjects in the process.

2. The legal issues surrounding copyright on AI-generated works in Vietnam

In Asia, the first country to officially address this issue on a policy level was South Korea with its decision to draft a guiding document regarding AI and copyright. Afterwards, a landmark decision also appeared in China in the case *Li v Liu* (2023) by Beijing Internet Court which granted the copyrightability to AI-generated works while denying the author being AI.

Despite the movement in the region, in Vietnam, there is currently no official law or cases regarding AI and its generated works. Moreover, to consider whether to establish IP rights for AI or not, there are legal basis that should be carefully reviewed. The recently published draft of the Digital Technology Industry Law partly addressed AI but did not involve deep IP analysis. There are two main questions surrounding this issue: the copyrightability of the work and the copyright owner of the work generated by the machine.

2.1. Copyrightability of AI – generated works

Article 2 of the Berne Convention provided a list of copyrightable work:

“The expression “literary and artistic works” shall include every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression, such as books, pamphlets and other writings; lectures, addresses, sermons and other works of the same nature; dramatic or dramaticomusical works; choreographic works and entertainments in dumb show; musical compositions with or without words; cinematographic works to which are assimilated works expressed by a process analogous to cinematography; works of drawing, painting, architecture, sculpture, engraving and lithography; photographic works to which are assimilated works expressed by a process analogous to photography; works of applied art; illustrations, maps, plans, sketches and three-dimensional works relative to geography, topography, architecture or science.”

These products should be copyrightable regardless of the expression and the method of expression. Based on this, the legislation of parties to this convention often only protects the works which satisfy the requirement of originality.

The European Union also accepted the view of the Berne Convention in the Directive 2006/116/EC by declaring that:

“The rights of an author of a literary or artistic work within the meaning of Article 2 of the Berne Convention shall run for the life of the author and for 70 years after his death, irrespective of the date when the work is lawfully made available to the public.”

Republic of Korea is not different in interpretation when it is written in their Copyright Act in Clause 1 of Article 2 that a work means *“a creative production that expresses human thoughts and emotions”*. This definition clearly explains that the work has to (1) be creative and (2) express the thoughts and emotions of a human individual, declaring the presence of a human in the process.

On the matter of copyright, Clause 7 Article 4 of the IP Law of Vietnam stated that: *“A work means a creation of the mind in the literary, artistic or scientific domain, whatever may be the mode or form of its expression”*.

Under this law, works created by AI can be copyrighted, as long as it is in a material form. Moreover, it is written in Clause 3, Article 14 of IP Law of Vietnam that the works must be *“must be created personally by authors through their intellectual labour without copying others’ works”*. Therefore, the law of Vietnam also requires that the work needs to be original in order to be copyrighted.

Overall, many countries around the world apply the perspective of the Berne Convention despite the difference in interpretation and require that the works need to meet 03 criteria in order to be copyrightable:

Firstly, the work has to be presented in a form of expression. The result of creativity has to be visible and tangible to be copyrighted. If the work only existed in the form of an idea inside the author’s mind, and cannot be recognized by other individuals, that work is not considered to be copyrightable. Moreover, in the case of literature or music, etc., the creation will not be a meaningful contribution if it cannot reach the audience (Vu, 2020, p. 47). This was further recognized in Clause 1, Article 14 of the latest Vietnamese IP Law.

Secondly, the work must be the result of creative labor of the author. This requires the author, not any other person, to generate the work by themselves, as the work will be the result of their effort, knowledge and creativity. Furthermore, as the authors will be the only individuals to enjoy their right, they should be the ones to contribute.

Thirdly, the work has to be original. According to EU copyright law, through the case of *Infopaq International A/S v Danske Dagblades Forening* (2012) (*Infopaq case*), the work would be considered as “original” if it is an intellectual creation of the author. In the case *Eva-Maria Painer v Standard Verlags GmbH and Others* (2009) (*Painer case*), it is stated that this relationship would be created if the work has the author’s “free and creative choices” which left their “personal touch”. Originality is fundamentally tied to human intellectual capacity and AI-generated works are likely to fail this test with the absence of the human element (Mezei, 2020, p. 13). On the other hand, a few scholars, such as Guadamuz (2020, p. 24) questioned if this perspective was still valid in light of AI. Nonetheless, in Vietnam, there is no requirement for personal imprint, thus does not require fully that the author has to be human.

Therefore, under the Vietnamese law, there exists an opportunity for AI-generated works to be copyrighted as long as it meets the requirements above. In *Li v Liu* (2023), Beijing Internet Court also did not deny the possibility of AI-generated works being copyrighted by highlighting that this issue must be decided on a case-by-case basis.

2.2. *The legal copyright author of AI-generated works*

2.2.1. The author of the copyright is AI

In the EU, the works need to have the author’s “personal touch”, therefore, it has to reflect the intellectual creativity of a human. The creation needs to express the brainstorming process, emotions or beliefs of a human being, which cannot be done by a machine.

This notion has also been widely agreed by scholars in the world, as the human-centric authorship is integral to the concept of the author in copyright. Ginsburg (2020, p. 82) stated that authorship was tied to the human lifespan and moral rights was the foundation to copyright law by reflecting the connection between the author and the work. This was emphasized in many international law instruments, such as the Berne Convention or decisions by the CJEU or the Copyright Office of the USA. Mezei (2021, p. 9) also believed that the conception of human-authorship should be retained and the scope of copyright should not be extended unless there were convincing evidences on the need to accommodate

new technology. This was reflected in many recent cases regarding AI using copyrighted work to generate new products such as *Andersen v Stability AI* (2023), *Getty Images v Stability AI* (2023), etc. in the USA or *Kneschke v LAION e.V.* (2024) in Germany or *ANI v OpenAI* in India, in which the judges all allowed the cases to proceed proved that the work of human would be prioritized before the use of AI, demonstrating that ultimately, copyright is yet to be overthrown by new technology. China even went a step further by confirming that the AI company, indeed, committed copyright infringement in a similar case, confirming their stance on this matter (Forbes, 2024).

Moreover, AI cannot utilize moral right and economical right of the author like a human. Moral right was designed especially for human, as it is closely related to their personality and reputation. A machine in this case clearly lacks emotion, personal trait and reputational interest, therefore, cannot meaningfully exploit this special right (Mezei, 2020, p. 17). Furthermore, granting AI moral right is also believed to dilute the human-centric concept of copyright and challenge the philosophical foundation of moral right (Miernicki and Ng, 2020, p. 323). Regarding economical right, as discussed in the last paragraph of part 1, this is the fundamental right of authors in the current era and is used to award the author with relevant amount of monetary benefit for their creativity (WIPO, 2016). A product of technology such as AI has no ability in managing these funds, and also posing a serious threat to the market by monopolistic scenarios by AI-owning companies.

Article 2 of the Copyright Act of Republic of Korea defined the author as “*a person who creates a work*”, therefore stating clearly that the owner of the copyright had to be a person.

According to Clause 2 Article 4 of the IP law of Vietnam which stated that “*Copyright means rights of organizations and individuals to works they have created or own.*” and Clause 1 Article 13 which mentioned “*Organizations and individuals that have works covered by copyright include persons who personally create such works and copyright holders defined in Articles 37 through 42 of this Law.*”, it is believed that copyright holders must be organizations or individuals, here as human. Therefore, the law did not demonstrate in any circumstances that an AI could be considered an author. Moreover, article 19 and 20 of the IP Law of Vietnam added that the holders of copyright possessed both moral rights and economic rights which was regulated to be “*exclusively exercised by authors or copyright holders, or granted by authors*

or copyright holders to other persons for exercise under the provisions of this Law.” As a result, an AI currently does not have the ability to exercise IP rights if they are not recognized as the holder.

2.2.2. The author of the copyright is human

In the case of *Infopaq*, the court of Justice of the EU (CJEU) had recognized the copyright of works which human did not create directly, but only decided the output. The court ruled that originality was achieved by the action of choosing and collaborating the words by the author, despite they were not written by him at first. In the United Kingdom, it is regulated in Article 9(3) of the Copyright, Design and Patent Act that:

“In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken”.

Therefore, it is possible that the human who participated in the process of generating the work can be credited as the author.

In Vietnam, clause 1, Article 4 of the amended version of IP Law 2022 regulated that: *“The author is the person who directly creates the work”*. This has overruled the regulation in Clause 3 Article 6 of the Decree 22/2018/ND-CP of the Government stating that: *“The author is the person who creates part or the whole work”*. This new provision removed the barrier which the author needed to participate in the process of generating the work, instead regulated the level of collaboration from the person, which is “directly”. Therefore, using generative AI to work can be considered as not “direct” participation and creates difficulty in granting the person creating or using the AI as the author.

Nevertheless, the opinion of giving the authorship to the owner, developer or user of the generative AI is receiving positive feedbacks around the world and can be the way to move forward in this field. Although there still exists a debate on which human out of the three should be the legal owner, some expected that this discussion would not be a big drawback since the AI owner already owned the patent of the AI and would be receiving appropriate compensation (Nguyen, 2018, p. 9). At the same time, Ginsburg and Budiardjo (2018) provided a more detailed insight that only the designer of the machine should have the copyright to the output of “fully generative machines” and the user would be the author if

the machine was only an “ordinary tool” such as camera, while stating that both of the designer and user could have joint authorship in the case of the work of “partially generative machines”.

2.2.3. Authorless works

Nowadays, there are many works which were produced solely by the AI itself, without the help of human. In Europe, Quentis – a programme developed in Russia was able to generate documents up to 400 words in length, making anyone who used the content of its generated text would violate its copyright as long as it was given the right as the author (Techdirt, 2014). If the explanation of the CJEU in the Painer case that the work needs to express the ability of the author through “freedom and creativity” was applied, Quentis – a machine using brute-force technique will not meet this requirement and cannot be the owner of the copyright.

In the case *Naruto v Slater (2010) (The monkey selfie case)*, during Slater’s trip to take pictures of the macaque monkey in Indonesia, a monkey accidentally pressed the button and took a photo of itself. The monkey was called Naruto. This photo was denied copyright by the Court of North California to both Slater and Naruto, saying due to the fact that it was not created by a human, therefore did not illustrate the “intellectual labor” of the author.

This approach has a big advantage by not derange the current legal system, on the other hand, supplementing more information to the public knowledge. However, this is not the optimal solution since this would also result in the decrease in motivation in creativity, as researchers and creators are likely to not receive their right both morally and economically. These “authorless” works are also likely to fall outside the scope of copyright without a valid author, as decided the in *Thaler v Permuter (2023)* case in the USA or in the “Guidance for Generative AI and copyright” document from the Copyright Office of South Korea, going against the regulation in the Berne Convention. However, Mezei (2020, p. 18) believed that these works should be left in the public domain and copyright should not be extended to cover this type of work as it would disrupt the balance between promoting creativity and cultural enrichment, as well as it might undermine the originality requirement. On the other hand, Ginsburg and Budiardjo (2018, pp. 440-442) suggested to visit other doctrines, such as joint authorship in order to offer more protection.

3. Reasons for regulating copyright on AI-generated works in Vietnam

3.1. The development of AI-generated works around the world and in Vietnam

In this generation, Generative AI are developing rapidly around the world. A number of generative AIs have become an inseparable part of daily work for many people. ChatGPT is currently the most used generative AI in the world, standing at 180 million users (Duarte, 2023). This website is one of the fastest websites to reach one million users in the world, taking only five days.

In less than a year, the amount of people who visited the website had risen almost seven times. As of September 2023, if each visit initiated at least one answer on the platform, ChatGPT was expected to have generated at least 1.5 billion works in a month. This illustrates the enormous interest it is receiving as the most popular generative AI, leading the way for many other generative AI to develop in the near future.

However, ChatGPT is not a website which can be accessed from around the world. A number of countries has forbidden access to this AI to protect data privacy and political stability (Yu, 2023). Vietnam is among the nations which has only recently allowed ChatGPT within the connection of their internet. Therefore, many companies in Vietnam tried to provide their alternative solutions, for example, VinBigData (part of VinGroup – one of the biggest corporations in Vietnam), has created the first generative AI platform in Vietnam called VinBase, which are providing services such as chatbots or virtual assistant (VOV, 2023).

Along with the rapid development around the world, Vietnam is also one of the fastest growing countries in Asia in the field of AI. In 2024, Vietnam was placed at number 51 out of 193 countries in the report of “Government AI Readiness Index” by Oxford Insights (Oxford Insights, 2024), rising by 8 steps, and at number 5 in Southeast Asia in particular, scoring 61,42 points, surpassing East Asia region average at 57,95 points. This sharp advancement in ranking has proved that the country is going in the correct direction and the “National Plan on researching, developing and applying AI until 2030” is affecting the country effectively. The ranking also highly appraised the country’s recent collaboration with NVIDIA to boost the R&D quality of AI. In the “Global Innovation Index”, Vietnam is still placed number 2 in the lower-upper income group, maintaining rank number 44 overall (WIPO, 2024).

Various technology corporates in Vietnam are also in the race for building Centers for research and development of AI along with the founding of many startups in the country are enhancing the market of AI with their new and creative products. At the AI Summit 2022, FPT corporate (one of the biggest telecom and technology companies in Vietnam) has stated that AI was one of the components of the company and the company was also aiming to create the AI platform FPT.AI with all digital agents to assist in examining fake identification papers (Pham, 2019). Viettel (the biggest telecom company in Vietnam) also found the biggest green data center in the country for AI, elaborated that the corporate had applied AI in the medical field, especially in endoscopies diagnosis through imaging (Viettel, 2024). The country planned to found a fund called “Global Fund” aiming to train high quality human resources; connecting 18 international funds and committed to invest 425 million USD from 2020 to 2023 in startups (Ho and Hoang, 2020). Throughout the country, AI is integrated widely into almost every area, from chatbots in finance and retail, to AI in the government to assist with technical aspects. Generative AI’s market in Vietnam is expected to reach 100 million USD in 2023, and to more than 500 million USD in 2030, which is the last year of the plan on AI in Vietnam, with the growth rate of 27,13%, currently putting Vietnam at number 6 in South East Asia (Statista, 2024). The table below demonstrates the growth of the market of generative AI in Vietnam for the last four years:

Table 1. Generative AI market in Vietnam over the year 2020 - 2024

Year	Market size (million USD)	Growth percentage (compared to the previous year)
2020	10.53	-
2021	22.59	214%
2022	46.53	205%
2023	100.2	215%
2024	250	250%

Source: Statista (2024)

The market for generative AI in Vietnam is developing at a skyrocketing speed and would definitely increase at a higher rate in 2025 with the completion of first period of the Digital Transformation Plan. Forbes also assessed that Vietnam had ambitious plans for AI and would be among the top four countries in Asia in AI development (Forbes, 2023).

A website titled itviec.com conducted a survey on 144 IT professionals in different companies in Vietnam on their frequency of using generative AI. The results of the survey provided that 69,6% of participants had applied generative AI in their job, and 51,7% used it on a daily basis, 42,5% applied this technology 1-3 times per week (Itviec, 2023). Consequently, it is evident that generative AI now plays an essential role in developing technology in the IT sector of Vietnam. Therefore, AI in general and generative AI in particular, is considered to be the core technology in the Fourth Industrial Revolution in Vietnam, expected to raise the overall development of technology, and help build a strong tech-community throughout the country with research institutions, universities and companies.

However, in the study conducted by itviec.com, “Controversial Intellectual Property” placed third in the top five concerns, and was the biggest concern in legal matters of IT professionals in Vietnam on AI. This issue prevented employees working in this area from being more innovative in their jobs and possibly lowered the quality of production in the competitive technology field. Moreover, as the country is currently one of the main producers of Asia in general and Southeast Asia in particular, regulating laws on this issue will put the country ahead of its direct competitors in the area such as the Philippines, Thailand or Indonesia by attracting foreign investment in technology. Quick and suitable solutions to this debate would also enhance the country’s position as one of the fastest growing industries in Asia, proving Vietnam as among the most updated and trusted nations for investment of the new generation.

In the Fourth Industrial Revolution of Vietnam, AI is considered to be the main priority and is regarded as the primary means for the success of the revolution. Therefore, drafting laws and regulations regarding this would be a necessary step for every country, including Vietnam in order to prepare for the development of technology.

3.2. The requirement to regulate AI-generated works on a policy level in Vietnam

The economics incentive rationales stated that intellectual property rights are essential in generating the incentives to invent, be creative and innovate (Andersen, 2003). As AI is becoming a top priority in the next development stage of Vietnam, the clear distinction in the owner of its creation is extremely important in order to encourage the technology companies to continue innovating and inventing in the field. Even though some people believed that this was not the only way to promote creativity, this should be the most economical method and it would award the minds with the most mental powers. Furthermore, if AI-created invention and its right is regulated as a policy, this will attract an amount of investment from both domestic and international investors. Therefore, it would provide Vietnam with a substantial growth in technology, which would benefit the country greatly in the process of the new digital transformation era.

Publishing a policy on AI and IP rights would also have a positive effect on competition. Awarding AI or the people who are behind it the copyright will protect the idea against new market entry and support the development of the industry (Kitch, 1977). As a result, others will have to present novel inventions which would enhance competition and creativity.

Finally, a policy on AI and IP rights would enhance uniformity within the field (Andersen, 2003). A law on the matter would at the same time, increase the government's efficiency in managing the problem and controlling the growth of science and technology. Thus, it would bring a developing country such as Vietnam to gradually reach the continuously updated international standard.

4. Proposal for Vietnam

It is proven that there is a gap in the law of Vietnam, pinpointing an urgent demand to supplement the law. Therefore, these following recommendations should be considered for the next reform of IP law in Vietnam:

Firstly, according to the current law, it would be extremely difficult for AI to gain right as copyright holders. As a result, it is suggested that Vietnam follow the decision of countries such as the UK, USA, EU, etc. for future arising issues. This would ensure the compliance of the country law to the trend of the world,

and to other members of international treaties which the country is a party of. The human-centric nature of copyright should be preserved over stretching the scope of copyright law to accommodate new technology. Moreover, it is more suitable for the economic situation of Vietnam to follow the existing decisions than to establish new laws for this matter.

In order to regulate this matter more concisely, it is recommended that Vietnam amend the following issues:

Foremost, Vietnam should supplement the requirement on copyrightable works. So as to comply with the Berne Convention, it is suggested that the country adds the condition of “personal imprint” to better regulate the requirement of originality. The perspective of Vietnam is leaning towards giving the copyright to the human, but the requirement of “intellectual labor” is currently not sufficient to ensure the originality of the works, in comparison with the law of more developed countries.

Moreover, it would be more suitable in the digital era to amend the definition of author. As stated above, the new amended IP law stated that the author is the one who directly created the work. In the case of AI-generated works, if the human produced the work through AI then they would not be considered as “directly” make the product. Therefore, when the country does not give the copyright to the AI, the law cannot grant the ownership to the human either, making it either “authorless” or not copyrightable.

Secondly, it is recommended that Vietnam take into consideration the example of South Korea and China. Since these Asian countries are all civil law nations, direct clarification in the law would be too complicated and not necessary. In addition, case law is often not a relevant source of law of Vietnam. Therefore, it is proposed that Vietnam follow the footstep of South Korea and China to issue a guidance document in IP law for the field of generative AI (Koreatimes, 2023). South Korea has become the first country in Asia to officially address this problem by publicly announcing their new guideline on copyright of AI-generated content in December 2023 titled “Guidance for Generative AI and copyright” by the Ministry of Cultures, Sports and Tourism and the Copyright Office. This provision addressed copyright for business, the authors and pinpointed that AI-generated works could not be registered without the involvement of a human. In 2024, China also established their own draft regulation titled “Cybersecurity Technology – Basic Security Requirements for

Generative Artificial Intelligence (AI) Service” in which the use of copyrighted material for AI training was forbidden (China Briefing, 2024). Transparent law on this matter has made the market of AI in these Asian technology giants extremely easier to navigate for domestic investors and more attractive towards foreign ones.

Conclusion

Overall, despite having some differences to the regulations of other countries, in Vietnam, AI-generated works are still believed to be copyrightable and the legal author shall be best decided through negotiation to avoid any foreseeable conflicts.

The draft new High Technology law partly has addressed the solution to the generative AI problem. However, in Vietnam, there is yet to be a clear legal document to determine this issue like guiding document in South Korea or the draft regulation in China. It is an urgent need for the country to deal with this on a policy level to increase uniformity in the technology field. This law, if possible, needs to be carefully studied and experimented in order to not disrupt the development of the nation. To summarize, even though it is essential for Vietnam to provide new law, it is not required for the country to make decisions against the current trend of the world. Simultaneously, this is also a great opportunity for the country to reconsider the IP law system in this new era (Grimmelmann, 2016, p. 26).

References

Law and Legal Documents

Berne Convention for the protection of Literary and Artistic Works (as amended on September 28, 1979)

Intellectual Property Law of Vietnam 2005 (amended 2022)

Copyright Act of Republic of Korea 1957

Copyright, Patent and Design Act 1988 of the United Kingdom

European Copyright Directive number 2006/11/EC of 12 December 2006 on the term of copyright and related rights

Guidance for Generative Artificial Intelligence and Copyright of South Korea

Legal cases

Eva-Maria Painer v Standard Verlags GmbH and Others (2012): European Court (Third Chamber), Case C-145. *EUR-Lex*. <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A62010CJ0145> (Accessed 11 November 2023)

Infopaq International A/S v Danske Dagblades Forening (2009): European Court (Fourth Chamber), case ECR I-6569. *EUR-Lex*. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62008CJ0005> (Accessed 11 November 2023)

Li v Liu (2023): Beijing Internet Court, case Jing 0491 Min Chu No. 11279. *Beijing Internet Court*. https://english.bjinternetcourt.gov.cn/2023-12/28/c_688.htm (Accessed 06 August 2024).

Naruto v. Slater (2018): District Court of Northern California, case 16-15469. *Justia*. <https://law.justia.com/cases/federal/appellate-courts/ca9/16-15469/16-15469-2018-04-23.html> (Accessed 26 November 2023).

Thaler v. Perlmutter (2023), U.S. District Court for the District of Columbia, case No. 1:22-cv-01564. *WIPO Lex*. <https://www.wipo.int/wipolex/en/judgments/details/1840> (Accessed April 11 2024).

Book

Russell SJ and Norvig P (2009) *Artificial Intelligence: A Modern Approach*. 3rd edn. London: Pearson.

Journal Article

Dang L.P.U. (2023): Problem in identifying AI as a new subject of law, *Procuracy Journal* 11. <https://kiemsat.vn/van-de-ve-xac-dinh-tri-tue-nhan-tao-la-chu-the-moi-cua-quan-he-phap-luat-66017.html> (Accessed: 26 October 2024).

Ginsburg, J.C. (2020): People not machines, *Across Intellectual Property*, pp. 79-91. <https://doi.org/10.1017/9781108750066.009>

- Ginsburg, J.C. and Budiardjo, L.A. (2018): Authors and machines, *SSRN Electronic Journal* [Preprint]. <https://doi.org/10.2139/ssrn.3233885>
- Grimmelmann J (2016): Copyright for Literate Robots, *101 Iowa Law Review*. <https://doi.org/10.31228/osf.io/z38qm>
- Guadamuz, A. (2021): Do androids dream of electric copyright?, *Artificial Intelligence and Intellectual Property*, pp. 147-176. <https://doi.org/10.1093/oso/9780198870944.003.0008>
- Ho D.L. and Huynh C.D. (2020): Developing AI in Vietnam: Reality and Solutions, *Science and Technology Journal of Vietnam*, 1+2(1), pp. 27-31. <https://vjst.vn/vn/tin-tuc/2677/phat-trien-tri-tue-nhan-tao-tai-viet-nam--thuc-trang-va-giai-phap.aspx> (Accessed: 10 October 2024).
- Kitch E.W. (1977): The Nature and Function of the Patent System, 20 265, pp. 265-290. <https://doi.org/10.1086/466903>
- Kop M. (2019): AI & Intellectual Property: Towards an Articulated Public Domain, *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3409715>
- Mezei P. (2020): From Leonardo to the Next Rembrandt – The Need for AI-Pessimism in the Age of Algorithms, *UFITA*, 84 (2). pp. 390-429. <https://doi.org/10.5771/2568-9185-2020-2-390>
- Mezei, P. (2021): "You Ain't seen Nothing Yet" – Arguments against the protectability of AI-generated outputs by copyright law, *SSRN Electronic Journal* [Preprint]. <https://doi.org/10.2139/ssrn.3890051>
- Miernicki, M. and Ng, I. (2020): Artificial Intelligence and moral rights, *AI & SOCIETY*, 36(1), pp. 319-329. <https://doi.org/10.1007/s00146-020-01027-6>
- Monett, D. *et al.* (2020): Special issue "on defining artificial intelligence"—commentaries and author's response, *Journal of Artificial General Intelligence*, 11(2), pp. 1-100. <https://doi.org/10.2478/jagi-2020-0003>
- Nguyen S.L. (2018): Copyright And AI-Generated Works' *Law and Practice Journal*. <https://vjol.info.vn/index.php/pltt/article/view/38229/30960> (Accessed: 11 October 2024).
- Nguyen X.L. (2023): AI creates lives and opportunities for Vietnam, *The World & Vietnam Report*. <https://www.vietnam.vn/en/ai-tao-sinh-va-co-hoi-cho-viet>

nam/ (Accessed: 27 October 2024).

Pham T.T.H. (2019): Development of AI in Vietnam: Reality, international experience and developing trends, *People's Police Academy of Vietnam*. <http://hvcsnd.edu.vn/nghien-cuu-trao-doi/dai-hoc-40/phat-trien-tri-tue-nhan-tao-ai-tai-viet-nam-thuc-trang-kinh-nghiem-quoc-te-va-xu-huong-phat-trien-5675> (Accessed: 09 October 2024).

Sápi, E. (2024): Authors' moral rights in the digital environment, *Journal of Digital Technologies and Law*, 2(1), pp. 141-162. <https://doi.org/10.21202/jdtl.2024.8>

Sato S. (2016): A Challenge to the Third Hoshi Shinichi Award, *Proceedings of the INLG 2016 Workshop on Computational Creativity and Natural Language Generation*. <https://doi.org/10.18653/v1/W16-5505>

Tiller E. and Cross F.B. (2005): What is Legal Doctrine, *Northwestern University School of Law Public Law and Legal Theory Papers* 41. <https://law.bepress.com/nwwps-plltp/art41/> (Accessed: 10 January 2025).

Vu T.H.Y. (2020): Protecting Copyright Of AI-Generated Works, *State and Law Journal* 3. <https://sti.vista.gov.vn/tw/Lists/TaiLieuKHCN/Attachments/279901/CVv225S32020045.pdf> (Accessed: 10 October 2024).

WIPO (2016): Understanding Copyright and Related Rights, https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf (Accessed: 10 January 2025).

Yu H. (2023): Reflection on whether Chat GPT should be banned by academia from the perspective of education and teaching, *Secondary Education Psychology* 14. <https://doi.org/10.3389/fpsyg.2023.1181712>

Website

Andersen B (2003): *The Rationales for Intellectual Property Rights: The Twenty-First Century Controversies*. https://www.researchgate.net/publication/228871485_The_Rationales_for_Intellectual_Property_Rights_The_Twenty-First_Century_Controversies (Accessed: 12 October 2024).

- Costigan, J. (2024): *China rules AI firm committed copyright infringement*, *Forbes*. <https://www.forbes.com/sites/johannacostigan/2024/02/29/china-rules-ai-firm-committed-copyright-infringement/> (Accessed: 09 January 2025).
- Cushing T. (2014): *New 'Company' Claims It Uses Algorithms To Create Content Faster Than Creators Can, Making All Future Creations 'Infringing'*, *Techdirt*. <https://www.techdirt.com/2014/09/29/new-company-claims-it-uses-algorithms-to-create-content-faster-than-creators-can-making-all-future-creations-infringing/> (Accessed: 10 January 2025).
- Duarte F (2023): *Number of ChatGPT users*. <https://explodingtopics.com/blog/chatgpt-users> (Accessed: 16 November 2024).
- Forbes (2023): *Vietnam's AI leadership status is blossoming*. <https://www.forbes.com/sites/cindygordon/2023/02/22/vietnams-ai-leadership-status-is-blossoming> (Accessed: 15 November 2024).
- Futurism (2017): *The World's First Album Composed and Produced by an AI has been Unveiled*. <https://futurism.com/the-worlds-first-album-composed-and-produced-by-an-ai-has-been-unveiled> (Accessed: 16 November 2024).
- Interesse, G. (2024): *China releases New Draft Regulations for generative AI, China Briefing News*. <https://www.china-briefing.com/news/china-releases-new-draft-regulations-on-generative-ai/> (Accessed: 08 January 2025).
- Itviec (2023): *Vietnamese IT professionals view on generative AI: A mini survey*. <https://itviec.com/blog/generative-ai/> (Accessed: 15 November 2024).
- Koreatimes (2023): *Seoul AI legislations can be game changer*. https://www.koreatimes.co.kr/www/tech/2023/10/129_354273.html (Accessed: 14 November, 2024).
- Medium (2024): *The Future of Creativity: how Generative AI is Revolutionizing Art and Design*. <https://medium.com/@rickspair/the-future-of-creativity-how-generative-ai-is-revolutionizing-art-and-design-art-generativeai-166edb1d0267> (Accessed: 06 August 2024).
- Mickle, T., Lu, Y. and Isaac, M. (2023): *This experience may feel futuristic: Three rides in Waymo Robot taxis, The New York Times*. <https://www.nytimes.com/2023/08/21/technology/waymo-driverless-cars-san-francisco.html> (Accessed: 10 January 2025).

Moritz F and Mohr D (2019): *What Are the Differences between European Copyright and US Copyright?* <https://www.copytrack.com/blog/urheberrecht/european-us-copyright-difference> (Accessed: 16 November 2024).

Oxford Insights (2024): *Government AI Readiness Index 2024*. <https://staging2.oxfordinsights.com/ai-readiness/ai-readiness-index/> (Accessed: 11 January 2025).

Statista (2024): *Generative AI – Vietnam*. <https://www.statista.com/outlook/tmo/artificial-intelligence/generative-ai/vietnam> (Accessed: 11 January 2025).

Turing A.M (1950): *Computing Machinery and Intelligence*. <https://redirect.cs.umbc.edu/courses/471/papers/turing.pdf> (Accessed: 09 October, 2024).

Viettel (2024): *Viettel launches Vietnam's largest green data center, ready for AI development*, *Viettel.com.vn*. <https://viettel.com.vn/en/news-events/news/viettel-launches-vietnams-largest-green-data-center-ready-for-ai-development/> (Accessed: 09 January 2025).

VOV (2023): *VinBigData successfully created generative AI*. <https://vov.vn/doanh-nghiep/vinbigdata-phat-trien-thanh-cong-cong-nghe-ai-tao-sinh-post1040774.vov> (Accessed: 09 December 2024).

WIPO (2024): *Global Innovation Index 2024*. <https://www.wipo.int/web-publications/global-innovation-index-2024/en/> (Accessed: 11 January 2025).