

The legal settings of the future copyright in response to technological evolution such as Artificial Intelligence.

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1. Introduction

Technological evolution brought about many changes not only in the way people live their lives but also affected in a more positive way, the perceptions, and their creativity. Nowadays, the biggest industries and firms have invested in technology in order to increase productivity and creativity. This resulted into unprecedented changes that eased life. This evolution enabled humans to simulate human intelligence in machines that are programmed, enabled to think like humans and mimic their actions. This capability enabled machines to learn and acquire problem-solving. This is what known as “Artificial Intelligence”.¹ This technology that enabled humans to use machines as if they are humans. Technological devices such as computers are now capable of producing artistic and innovative works.

The evolution that enabled machines to create artistic and innovative works that were otherwise made by humans in persons, such works, creation of which results into entitlements conferred to the holder exclusive control, use and adapt embodied in the concept of copyright² left an issue of knowing the extent to which such rights would be described in a world with creations resulting from artificial intelligence.

The purpose of this paper is to describe the legal settings of copyright in future, in response to technological evolution. Some aspects of technological evolutions and surrounding legal issues will be under spotlight and we will attempt to craft possible answers from a legislative perspective.

¹ Investopedia, “*Artificial Intelligence (AI)*”, retrieved at < [Artificial Intelligence \(AI\) Definition \(investopedia.com\)](https://www.investopedia.com/terms/a/artificial-intelligence/) > last accessed on 26 April 2021.

² E. Levenstein & R. Tucker, “*South Africa: Introduction to the Copyright*”, retrieved at < [Introduction To The Law Of Copyright - Intellectual Property - South Africa \(mondaq.com\)](https://www.mondaq.com/south-africa/copyright-intellectual-property) > last accessed on 26 April 2021.

2. Understanding technological evolution and surrounding legal issues affecting enforcement of copyright

The introduction of technology in the world seeking to protect intellectual property rights materialized the spread of intellectual property. It also facilitated the copy, transfer, manipulation and made the access to such more affordable than before. Affordability of creative works through technology has posed the problem of enforcement of intellectual property rights and tackling potential infringements.

Basically, the issues arising from technological evolution can be summarized into three: the first is the vulnerability of efforts to enforce intellectual property rights as opposed to the traditional means of enforcement; the second is private initiatives of IP rights holders to protect their interests and thirdly, public attitudes towards the enforcement of intellectual property laws, the attitude undermining the intended protection.³

3. Difficult Enforcement: Computers, Radio, Television and other media

It is an absolute observation that the use of computers in handling information storage prevails traditional means. This has also hardened the enforcement of copyright holders. Since computers brought options for the users to make copies for reproduction purposes, they directly posed a major threat to the enforcement of copyright proprietors.⁴ This has been possible for the simple reason the reproduction of digital information proved to be time and cost effective, without the necessity of printing, sending and storing while keeping the maximum quality of the information transmitted whether in whole or in part.

The set of the above-mentioned functioning and characteristics of novel technology explains the vulnerability of enforcement of copyrights. The recipients of transmitted works end up transmitting the same without even ascertaining whether what is transmitted is original or counterfeits. Further to that, the proprietors of copyrights are not in a position to control the spread of their works.⁵

Further to the above, there are analysts that advance another challenge which seems to worsen the vulnerability of the copyright enforcement: “price and capability” which hinders people from accessing the works from the proprietor. This and the aforementioned reasons, are expected to last for longer without a concrete and practical solution.

³ Intellectual Property Rights in an Age of Electronics and Information, “*Impact of Technology on Enforcement of Intellectual Property Rights*”, retrieved at < [Intellectual Property Rights in an Age of Electronics and Information \(Part 7 of 14\) \(princeton.edu\)](#) > last accessed on 27 April 2021, p.97.

⁴ *Idem*.

⁵ *Idem*, p. 105.

In addition to the computers, the radio broadcasting has also posed problems in enforcing the copyrights. For instance, before the advent of computers and internet, artists used to have performance and this was later broadcasted by the radios and televisions. This contributed to the increase of difficulties in the enforcement especially in terms of the collection of royalties.⁶

Some authors argue that because innovation is rapid and unpredictable, the adaptation of copyright law lags far behind the introduction of new technological advancements.⁷

To close this challenge, it should be noted that the initial ambiguity as to the potential social and economic implications of a novel technology also contributes the enforcement of copyright. Often, the implications of novel uses of copyrighted content only materialize in the minds of copyright owners once the use has already become widespread and visible.⁸

The advance in technology resulted into the facilitated the transmission of works protected under copyright laws and this made the existing protection embodied in legal texts less effective in curbing the infringement of copyrights.

4. Some works are difficult to be certainly defined as subject to copyright

There is a number of authors who are divided on the issue of whether every work can be subjected to copyright and this debate becomes more intense when it comes to know whether Artificial Intelligence, for instance is subject to copyright production bearing in mind that personal intellectual creation is a precedence condition for the protection of a work. G. Spindler asserts that Artificial Intelligence is not “intelligent” in legal sense. He further advances that AI cannot set its own goals and preferences and it is still the author who makes use of Artificial Intelligence and defines the framework within which the specific work must be created.⁹ In other words, he advances that despite the technology and works that may be done by AI, for its work to be protected, it must have a certain level of independence in setting the goals of what to be done, preferences and be able to materialize them, thus a conclusion on his side that Artificial Intelligence does not constitute a subject of intellectual property’s concept of copyright.

⁶ *Idem. P. 105*

⁷ Ben Depoorter, “*Technology and Uncertainty The Shaping Effect on Copyright Law*”, 157 *University of Pennsylvania Law Review* 1831 (2009). retrieved at < https://repository.uchastings.edu/faculty_scholarship/1020 > last accessed on 27 April 2021, at 1840.

⁸ R. Anthony Reese, *Innocent Infringement in US. Copyright Law: A History*, 30 *COLUM.J.L. & ARTS* 133 (2007). In Ben Depoorter, *Supra* 7.

⁹ Spindler, G. *Copyright Law and Artificial Intelligence*. *IIC* 50, 1049–1051 (2019). <https://doi.org/10.1007/s40319-019-00879-w>

5. Possible solutions to infringement of copyright

To tackle the challenges that are posed by the issues of enforcement of copyright in the new world of technology and internet, which accelerated the vulnerability of copyright holders, the Internet Service Providers should be considered as the main basis of the solution. Some authors suggest that they take seriously the threat of being shut down. Thus, many take steps to safeguard their service through their terms of use and copyright policies.¹⁰

There commentators who advance the opinion that courts are crucial to saving copyrights. They explain that courts have exhibited sympathy toward both sides of the copyright balance, making the decisions highly fact specific.¹¹ They however criticize the courts to be slow, unpredictable, and not uniform, especially from an international point of view. The result is that the ever changing technology brings issues of first impression before the court in record numbers. The court decisions do not fix the problem because copycat software or modified software constantly spring up. In cases where temporary restraining orders were granted against allegedly pirating sites, the sites disappeared. Since the internet has that capacity of reaching the global community, and without uniform international standards, the problem may reach the protecting country through another country.¹²

6. The issue of global enforcement mechanisms

The majority of countries are not in position to have a one single system of laws in place for the purposes of protecting copyright. It is also important to note that each country enacts its laws that reflect the culture and social attitudes of the people governed by the same laws. The dilemma that arises from this is whether the laws must get adapted to the universal legal standards or whether the standards should be adapted to the laws of the nations enacting them.¹³ There is a suggestion that that the inequalities in domestic legislation could not only make enforcement of these treaties difficult, but also stifle the growth of the Internet as a means of commerce.¹⁴

It is further agreeable that there is an impossibility for one global standard to content the culture of a vast number of nations. International treaties and conventions serve to set standards. However, the

¹⁰ IND. INTL & COMP. L. REV, "Global Solutions To Prevent Copyright Infringement Of Music Over The Internet: The Need To Supplement The Wipo Internet Treaties With Self-Imposed Mandates", retrieved at < [Global Solutions to Prevent Copyright Infringement of Music Over the Internet: The Need to Supplement the WIPO Internet Treaties with Self-Imposed Mandates \(iu.edu\)](http://www.iu.edu/~indintl/comp/rev/10/10138.html) > last accessed on 28 April 2021, 138.

¹¹ *Idem*, p. 141.

¹² *Idem*

¹³ *Idem*, p.147.

¹⁴ Susan A. Mort, Article, The WTO, WIPO, & the Internet: Confounding the Borders of copyright and Neighboring Rights, 8 Fordham Intellectual Property, Media & Ent. L.J. 173, 175 (1997) in IND. INTL & COMP. L. REV, *Supra* 10, at 148.

individual nations should enact laws that are efficient to uphold the cultural needs while still complying with a minimum standard of protection for copyright holders. Although international treaties like the WIPO Internet Treaties are useful to set standards for countries to reach up to and to bring awareness to international concerns, other means are needed to fight copyright infringement over the Internet.¹⁵

Enforcement of copyright laws under the WIPO Internet Treaties is left to the national laws of each country. With ratification of the WIPO Internet Treaties by different nations, global enforcement mechanisms are expected to be implemented. One solution that has been suggested to make enforcement effective is to implement the TRIPS Agreement enforcement mechanisms into the WIPO Internet Treaties.¹⁶

7. Rights Management Technology as the new feature in legal settings for the future of Copyrights

While the legal tools have proved to be less efficient, the introduction of rights management tools consisting of technologies enabling the work protected under copyright to be protected despite the aforementioned challenges posed by the technology and resulting into vulnerability of copyright enforcement. This technology serves to limit unauthorized transmission of the work that is protected and ensure that the transmission is done with a certain level of control by the right proprietor.

8. Conclusion

In a nutshell, the right under copyright has been made vulnerable by the recent technology that enabled users to have a freedom to transmit. As demonstrated, the protection after publication seems to be inefficient, it is therefore obvious that the only remaining protection should be made way before publication and an introduction of a technology countering the infringement of rights.

¹⁵ *Idem.*

¹⁶ *Idem.*

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