



BLOCKCHAIN TECHNOLOGIES AS AN INTELLECTUAL RIGHTS PROTECTION MECHANISM IN DATA SHARING

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ABSTRACT

The development of information and communication technologies creates opportunities for the process of information exchange and, of course, for working in various cooperation projects. However, as the process of data sharing becomes easier, the protection of intellectual rights of individuals is also becoming more complicated. In order to address these problems, solutions are being sought from modern technological tools, and blockchain technologies are one of these solutions.

Introduction.

In contemporary society, the most powerful weapon is no longer military or economic means but the information. This reality becomes increasingly evident as the possession of specific information or data offers individuals and entities opportunities comparable to those provided by other resources. For instance, the volume of common data in the European Union, which amounted to 33 zettabytes in 2018, is projected to reach 175 zettabytes by 2025. (1) This exponential growth underscores the escalating difficulty of owning information and the intensifying struggle for its control. Consequently, the protection of intellectual property (IP) rights is becoming increasingly complex and crucial, paralleling the significance of safeguarding other material rights of individuals.

The advent of information technologies has facilitated widespread data sharing through collaborative efforts, significantly impacting various business, educational, and governmental projects. However, this practice introduces a myriad of challenges, particularly concerning the protection of intellectual property rights during data exchange processes. Addressing these challenges necessitates both legal and technical solutions.

This article explores blockchain technology as a viable solution to the problem of protecting intellectual property rights in the context of data sharing. Blockchain, with its inherent characteristics of transparency, immutability, and decentralization, presents a robust framework for safeguarding intellectual property. By examining the potential applications of blockchain in various sectors, this article aims to elucidate how this technology can offer a secure and efficient means of managing and protecting intellectual property rights in an increasingly information-driven world.

Methodology.

Several scientific research methods were used in the article, including observation, historical analysis, comparative analysis and other methods of knowledge.

Results.

The application of blockchain technology in intellectual property management systems has demonstrated substantial improvements in the protection and enforcement of intellectual rights. The inherent features of blockchain, such as immutability, transparency, and decentralization, have led to a more secure and trustworthy environment for data exchange. These characteristics not only ensure the integrity of intellectual property records but also facilitate the automation of rights management processes. As a result, the risk of unauthorized use and infringement of intellectual property has been significantly mitigated. The study's findings underscore the potential of blockchain technology to revolutionize intellectual property management by enhancing security measures and streamlining administrative tasks.

Discussion.

As the modern world rapidly develops, new innovations continue to emerge in the realm of technology. These advancements not only enhance people's lives and expand opportunities for interaction but also introduce new technological trends globally. They accelerate and simplify the process of data exchange and facilitate the use of intellectual property (IP) objects. However, they simultaneously complicate the protection of these types of objects.

Consequently, the intersection of law and technology has given rise to a pressing need for solutions that ensure the protection of intellectual property. One such promising solution is blockchain technology. Blockchain's inherent characteristics—transparency, immutability, and decentralization—make it a robust framework for safeguarding IP rights in this increasingly complex digital landscape.

The term "blockchain" originates from the English words "block" and "chain" literally meaning "chain of blocks". This technology can be described as an advanced database mechanism that facilitates transparent information sharing within business networks. Blockchain technology stores data in blocks that are interconnected, forming a chain. Because this information is stored in chronological order, it cannot be deleted or altered without the mutual agreement of the relevant parties, thereby ensuring data integrity and security.

One notable example of blockchain's application can be seen in Estonia, a state recognized as a global leader in e-government. In 2007 (4), Estonia encountered a significant challenge on its path to digitalization: a series of severe cyber attacks targeted the country's databases. In response to these attacks, Estonia began to focus intensely on enhancing cybersecurity within its e-government infrastructure. By 2008, Estonian cryptographers had adopted blockchain technology to store critical information in the national registry, thereby leveraging its robust security features to protect against future cyber threats. This strategic move underscored the potential of blockchain technology in safeguarding sensitive data and maintaining the integrity of digital records.

In addition to its active use in financial transactions and the secure management of critical state information, blockchain technology has introduced several innovations in the protection of intellectual property (IP) rights. This development is particularly significant in an era where the Internet has vastly expanded opportunities for information exchange among individuals, organizations, institutions, and even nations.

Modern society increasingly relies on the exchange of data and information across various domains, including science, technology, business, and other fields. Information sharing can accelerate innovation, enhance the quality of products and services, and facilitate research and development. Despite these clear benefits, the process of data sharing often gives rise to intellectual property disputes.

The principal aim of intellectual property rights is to support the creation of various intellectual goods. (2) To achieve this, the law grants individuals and entrepreneurs property rights over the information and goods they create, typically for a limited duration. Blockchain technology, with its transparent and immutable nature, offers a robust framework for managing these rights, helping to prevent disputes and ensure that creators receive proper recognition and compensation for their work. This is especially critical as the ease of information exchange continues to grow, highlighting the need for reliable mechanisms to protect intellectual property in the digital age. These rights enable economic incentives and profits for their creations. Such economic incentives are crucial factors contributing to the technological development of countries, which depend on the support of innovation and the strengthening of protections for innovators. The ability to create new inventions, profit from them, and manage their rights in alignment with personal interests reshapes societal attitudes towards creativity and encourages further innovation. Intellectual property protection thus holds significant importance in today's globalized, human capital-driven economy.

One of the most prevalent disputes in the data-sharing process pertains to copyright infringement. For instance, the dissemination of scientific articles, software, or multimedia materials often raises legal questions regarding the legitimacy of using and distributing these works. Copyright infringement typically occurs when an entity utilizes copyrighted material without obtaining the requisite permission from the copyright holder. Copyright law safeguards original creations in literature, music, art, and various other domains, granting authors exclusive rights to utilize and distribute their works.

In this context, blockchain technology emerges as a particularly advantageous tool. Its decentralized, transparent, and tamper-resistant platform provides an optimal mechanism for recording and verifying ownership of intellectual property. (3) Utilizing its decentralized database, blockchain can maintain an unalterable history of changes and transfers in intellectual property ownership, ensuring that each file is associated with a unique digital fingerprint. This immutable ledger of events throughout the lifecycle of registered intellectual property can substantially enhance the evidentiary value of such records in intellectual property disputes.

By ensuring a permanent and verifiable trail of ownership and modifications, blockchain technology offers a robust framework for protecting intellectual property rights. This framework not only reinforces the credibility of ownership claims but also facilitates a more transparent and reliable system for tracking intellectual property, thus potentially mitigating the incidence of unauthorized use and distribution. The most significant advantage of blockchain technology is its ability to meticulously record each process associated with the stored information, including details such as user access and modifications made, from the moment of creation. Additionally, blockchain technology facilitates the preservation of the original version of images or other works, along with metadata indicating the specific time

and user responsible for posting the content. This capability is crucial for establishing and verifying ownership of intellectual property rights.

By maintaining an immutable ledger of all interactions and changes, blockchain ensures that the provenance of intellectual property can be accurately traced. This comprehensive documentation provides robust evidence for the authorship and ownership of works, significantly enhancing the protection of intellectual property rights. Furthermore, the transparency and security inherent in blockchain technology help prevent unauthorized use and alterations, ensuring that the integrity of the intellectual property remains intact. Consequently, the deployment of blockchain technology in intellectual property management represents a significant advancement in safeguarding creators' rights and resolving disputes related to ownership and usage.

Conclusion.

By concluding all the discussions, it can be said that blockchain technologies offer a potent tool for protecting intellectual rights in data exchange. They provide immutability, transparency, automation, and decentralization of processes, significantly enhancing security and trust. The implementation of blockchain in intellectual property management systems can streamline rights management and reduce the risk of unauthorized use of information.

References:

1. Access to data: the European solution for text and data mining and the development of Artificial Intelligence. Luisa Gatti. 2019/2020 Retrieved from www.itcilo.org
2. Gaikwad A. and Dhokare S. A Study of Intellectual Property Rights and its Significance for Business. Article, Journal of Computational Acoustics, September 2020.
3. Blockchain Technology and Its Impact on Intellectual Property. 27/03/2024 <https://www.abounaja.com/blogs/blockchain-technology-and-intellectual-property#:~:text=Through%20its%20decentralized%20database%2C%20blockchain,evidence%20of%20use%20in%20disputes.>
4. Carroll M.W. Sharing Research Data and Intellectual Property Law: A Primer 2015 Aug; 13(8): e1002235 Plos Biology. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4551669/>
5. E-Estonia history. <https://e-estonia.com/story/>