Educational Administration: Theory and Practice
2024, 30(2), 1184-1187
ISSN: 2148-2403
https://kuey.net/

Research Article

Blockchain And Intellectual Property Rights Alliance Is A Way Forward To The Future.

Dr. Ritu Meena[1*], Dr. Devashree Awasthy[2], Aarzoo Bishnoi[3]

[1*]Assistant Professor, JECRC University, Jaipur. ritu.meena90@gmail.com
[2]Assistant Professor, JECRC University, Jaipur. devashree1011@gmail.com
[3]Assistant Professor, JECRC University, Jaipur. aarzoobishnoi94@gmail.com

Citation: Dr. Ritu Meena et al (2024) Blockchain And Intellectual Property Rights Alliance Is A Way Forward To The Future., *Educational Administration: Theory And Practice, 30(2),* 1184-1187, Doi: 10.53555/kuey.v30i2.5971

ARTICLE INFO

ABSTRACT

With the emergence of blockchain there is an explosion which has broaden the spectrum of technology today. As blockchain are an up-and-coming technology and major portion of the application based on them are at nascent stage. Blockchain has proved to be useful in other spheres as well like cryptocurrency, videos, transactions, data files, design documents, etc. It is this nexus of blockchain technology with other domains that this technology is defined by WIPO as one of the frontier Technologies, which potentially will be beneficial for the management of Intellectual Property Rights (herein after IPR) as well. Thus, it is impossible to stay blinded towards the common ground that Intellectual Property Rights share with the blockchain technology. This paper is an attempt to define what Blockchain is? and the significance of blockchain in the arena of Intellectual Property Rights. The paper also studies the interplay between IPR and Blockchain technology. It explores the avenues where blockchain technology can be useful in processing of IP applications, Maintaining IP Records, Licensing and smart contracts, enforcement and management of IP rights.

Keywords: Blockchain, Cryptocurrency, Intellectual Property Rights, India-Chain, Digital Rights Management, India-Stack.

INTRODUCTION:

We live in a world with ever changing technology. Technology is shaping everything that we do today. With this rapid revolution of technology, it would not be wrong to say that today technology is advancing at an unprecedented rate. The Disruptive technologies like Artificial intelligence, cloud computing, virtualization, internet of things, deep learning and others have opened up gates for further technological advancements. To keep up with rapid developments of technology, related IP laws are required. Thus, one has rightly pointed out that such technological advancements and IPR Laws is an alliance made in Crypto-heaven.[1]

WHAT IS BLOCKCHAIN?

The Financial crises of 2007-2008 was one of the major events that left its permanent impact on every sector. The ability financial institutions protected by states to safeguard the interests of the individuals has been called into question due to this crisis. But in case of failure to do so, how can the safety of the private assets be ensured? As an answer to this, a person using the pseudonym Satoshi Nakamoto wrote "Blockchain's white paper", and created Blockchain as a peer-to-peer electronic cash system back in 2008.[2]

"The disruptive technologies like blockchain will have a significant impact on how we live and work. Rapid adaptation to these will be necessary in our workplace."[3]

- *PM Narendra Modi*

Blockchain is characterised as a decentralised, distributed ledger technology that catalogues a digital asset's provenance. It is a system for storing data that is tough to alter, hack, or manipulate. A blockchain is a shared,

[1] Birgit Clark, Baker McKenzie, *"Blockchain and IP Law: A Match made in Crypto Heaven?",* Available at https://www.wipo.int/wipo_magazine/en/2018/01/article_0005.html

[2] Satoshi Nakamoto, "*Bitcoin: A Peer-to-Peer Electronic Cash System*", Available at https://bitcoin.org/bitcoin.pdf

[3] Adapt to disruptive technologies: Modi, Statesman News Service, Hyderabad, Available at https://www.thestatesman.com/india/adapt-disruptive-technologies-modi-1502588437.html

distributed, encrypted, chronological, irreversible, and incorruptible database with a permissioned or permissionless consensus mechanism that provides value by allowing direct interactions amongst users.[4] Basically, blockchain technology allows any digital information to be disseminated over a network as long as it is time-stamped, immutable, un-hackable, tamper-proof and transparent to all network participants.[5] This is considered as a robust approach of storing digital records in a way suggesting that there is no central authority having access to this system's workings.[6] It is a protocol that ensures that every node has the correct data by using cryptographic operations across a distributed network. Blockchain is regarded as a type of data structure that creates an append-only database, where all nodes share the database's records.[7] This protocol uses a consensus mechanism[8] to compel the validation of the data stored on each node. In actuality, only a portion of the network needs to verify the operation. The data provided by the two parties is verified by a set of skilled users known as miners. They won't be added to the block or have their action carried out until the cryptographed code has been confirmed. Therefore, proof-of-work refers to the requirement that miners complete a cryptographic puzzle in order to validate an operation. As a result, for the operation to be verified, blockchain community governance is required. This accepted code is referred to as "the algorithm consensus".[9] Thus, the key features of Blockchain can be summarized as decentralisation, distributed ledgers, consensus mechanisms, immutability of records and encryption and also tokenization, smart contracts, automation and Self Sovereign Identity (SSI).[10] This system offers a number of benefits. The fact that every node has a copy of the blockchain can be coined as the first benefit. Due to this, the server will always have a copy of the data if the data is stored in different nodes rather than a single location.[11] The data will always be protected, even in the event of a cyberattack or the destruction of the storage facilities. This system's inability to be corrupted is its second benefit. This characteristic is related to the fact that it depends entirely on a network rather than a single central authority. [12]

Blockchain technology's innovative nature and future applications may open up new business prospects. Therefore, blockchain may be used to a variety of industries, including banking, insurance, and, more shockingly, intellectual property (IP) rights.

STRENGTHENING INTELLECTUAL PROPERTY REGIME VIA BLOCKCHAIN

Anything that can conceive of as a supply chain, blockchain can vastly improve its efficiency- it doesn't matter if its people, numbers, data, money.

-Ginni Rometty, CEO IBM

The massive explosion in the field of technology has given way to open the flood gates for newer methods of creation and it ultimately also have increased the means of infringement as well. In this respect, Blockchain can be an aiding tool for resolving such issues. Blockchain may be utilised to strengthen IP rights at every stage of their existence, from creation to enforcement. For a good functioning of the IP Regime, what is required is that the records are traceable and verifiable at its best. By this we mean, that it must strongly address the proof of ownership of IP rights. To have a system conforming to these characteristics it is important that data is synced at all times.[13] In, India this data is stored at respective IP offices which becomes a problem as the

---

[4] WIPO Standards Workshop on Blockchain, 29 – 30 April 2019 / Geneva, Dr. Thomas Struck, *Blockchain technology- Why does it matter?*, Available at https://www.wipo.int/edocs/mdocs/classifications/en/wipo_ip_cws_bc_ge_19/wipo_ip_cws_bc_keynote_1_struck.pdf

[5] Sumit Prasad, "*The Future of Blockchain in Intellectual Property Rights"*, Available at https://www.automation.com/en-us/articles/january-2021/the-future-of-blockchain-in-intellectual-property

[6] *Blockchain and Intellectual Property Rights Protection Technology*, Originstamp, Available at https://originstamp.com/blog/blockchain-and-intellectual-property-rights-protection-technology/

[7] Shatakshi Singh, "*IPR and Blockchain Technology"*, International Journal of Law, Management and Humanities, Vol. 5, Pp. 692.

[8] Supra note 1.

[9] Karim Sultan, Umar Ruhi and Rubina Lakhani, *'Conceptualizing blockchains: characteristics & applications'*, Available at https://arxiv.org/ftp/arxiv/papers/1806/1806.03693.pdf

[10] WIPO Blockchain Whitepaper for IP Ecosystems, Available at https://www.wipo.int/edocs/mdocs/cws/en/wipo_webinar_standards_2021_19/wipo_webinar_standards_2021_19_presentation_yun.pdf

[11] Jatin Trivedi, *"Dawn of Blockchain Technology in the Indian Patent Regime",* Available at https://www.aipla.org/list/innovate-articles/dawn-of-blockchain-technology-in-the-indian-patent-regime

[12] F. Loriaux, *"Is the use of blockchain in intellectual property a desirable development?"* (Master Thesis) (Faculty of law and criminology, Universite Catholique de Louvain, 2019) Available at https://dial.uclouvain.be/memoire/ucl/fr/object/thesis%3A20191

[13] Narender Kumar, *"Cryptocurrency, Intellectual Property Rights and Competition Law- Challenges and implications"*, NLUA Journal of Intellectual Property Rights, Vol. 1, July 2022, pp. 48-63, Available at https://nluassam.ac.in/docs/Journals/IPR/vol1-issue-1/3.pdf

chances of data likely to be out of synchronization is high. A significant Problem in this circumstance is maintaining the accuracy of data and updating the same from time to time.
Following are the vertical and horizontal usages that blockchain technology has in Intellectual Property Protection:

- As mentioned above as well, the record keeping, maintaining the ledger and data verification are few significant usages of Blockchain technology in Intellectual property regime. Whereas, traditionally the Intellectual property registers were wither maintained in paper or in electronic form due to their evidentiary value. Blockchain will be helpful in ascertaining the accuracy of data and its latest up-dation.
- Intellectual property extends protection to the rights of the creator of the work. In the instances of infringement of such rights creator of the work can move the court to stop exploitation, unauthorised distribution and usage of their work. It is important to note that registration in some of the Intellectual Property Protection mechanism is not mandatory. So, it becomes even more difficult to protect the rights of the owner when the work is not registered. Blockchain can help as evidence to the ownership of a certain creation. It may help in indicating the inventorship with respect to a certain work which identifies the rightful ownership in that work. It ultimately helps in minimizing the litigation as well.
- Blockchain can even help in the registration process if Intellectual Property Rights as well. If the data is maintained with the help of Blockchain then it would become more efficient to determine the person who has filed first specially in first to file system. Block chain technology has the potential to speed up, simplify and reduce the cost of Intellectual Property registration process.[14]
- Blockchain smart contracts with the terms directly provided into codes can aid the process of registration and also will be cost efficient and less time consuming.[15]
- It is possible to synchronise both the internal and external search databases using blockchain technology. By offering a single, consolidated platform for available patent literature, will assist patent examiners in looking for anticipation in the invention in the prior art. Such consolidated databases can help in accessing the application at the admissibility stage for registration without submitting the application. Blockchain can make international partnerships between IP offices possible. When the information, tracking, monitoring and identifying Intellectual Property Rights Violations such as counterfeit products, fake goods, parallel imports, proof of authenticity, proof of origin would make be simpler. Also, as Blockchain is tamper-proof it would be difficult to tamper with the database.
- Another significant usage of the Blockchain is in respect of smart contract. These contracts can help in ensuring the establishment and enforcement of the Intellectual Property Contracts. We may also stock Intellectual Property as an encrypted document and denote it by a digital authenticity certificate by utilising blockchain as an Intellectual Property Registry. This may even help in Digital Rights Management as well.[16]
- Blockchain can even benefit the Micro, Small and Medium Enterprises (MSME's), by making the data regarding the lapsed and active Intellectual Property rights available to them so that they don't waste their resources on technologies with lapsed Intellectual Property Rights. Also, this may help them to stay alert from possible infringement.

THE IMPACT OF BLOCKCHAIN ON THE ENFORCEMENT OF INTELLECTUAL PROPERTY RIGHTS

- Automated Royalty Payments and Licensing- The blockchain technology by way of smart contracts can be of good help to automate the royalty payments and the licensing of agreements. Furthermore, such contracts could be of great help when there is a question of automatically executing the transactions based on conditions as agreed by the creators of the work which in a way ensures that they receive fair compensation for the exploitation and usage of their intellectual property that they have created.
- Enforcement and Monitoring- By the utilization of the blockchain technology it again becomes possible that the property assets can be utilised in time. It can also help in the detection of unauthorised usage of the intellectual property by integration of identifiers into the content and also tracing the transactions on the blockchain.

'INDIACHAIN': A GOVERNMENT INTIATIVE ON BLOCKCHAIN

Government of India has worked on transforming the economy full-fledged digitalised. Government has taken initiatives towards updating and adopting to these new disruptive technologies. NITI Aayog, a government of India Institution, is working on bringing the largest Blockchain network for the country and coined it as 'India-

[14] Gonencc Gurkaynak and others, *"Intellectual Property law and practice in the blockchain realm"*, Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3285287
[15] Nick Szabo, "*Smart Contracts: Building Blocks for Digital Markets"*, 1996, Available at https://www.fon.hum.uva.nl/rob/Courses/InformationInSpeech/CDROM/Literature/LOTwinterschool2006/szabo.best.vwh.net/smart_contracts_2.html
[16] Nick Szabo, "*Formalising and Securing Relationships on Public Networks"*, Available at https://firstmonday.org/ojs/index.php/fm/article/view/548/469

Chain'. Also, Other government Databases like 'India-Stack'[17] will be connected to India-Chain. India-Stack, a collection of code created around the Aadhaar unique identification project in India, aids programmers in creating goods and services that use the nation's digital infrastructure. When it is fully operationalized, India's blockchain application in governance will likely be carried out at the broadest scale possible.[18]

CONCLUSION

Blockchain technology clearly has a huge potential to meet the demands of IP offices all over the world. The earlier IP offices incorporate this technology into their daily operations, the better the outcomes will be in terms of quick inspection, dependable record maintenance, clever licencing, and contractual agreements. The technology will be beneficial for enhanced prosecution as well as for the enforcement of IP rights and the resolution of IP infringement cases. Despite the great promise that blockchain technology provides, there are several limitations in terms of security, network size, speed, growth rates, and transaction rates. Concerns have frequently been expressed concerning the possibility of the blockchain system choking in the event of a large number of transactions in a short period of time. For the blockchain technology to be as successful as possible, these issues must be adequately resolved.

REFERENCES

1. Birgit Clark, Baker McKenzie, *"Blockchain and IP Law: A Match made in Crypto Heaven?",* Available at https://www.wipo.int/wipo_magazine/en/2018/01/article_0005.html
2. Satoshi Nakamoto, "*Bitcoin: A Peer-to-Peer Electronic Cash System*", Available at https://bitcoin.org/bitcoin.pdf
3. Adapt to disruptive technologies: Modi, Statesman News Service, Hyderabad, Available at https://www.thestatesman.com/india/adapt-disruptive-technologies-modi-1502588437.html
4. WIPO Standards Workshop on Blockchain, 29 – 30 April 2019 / Geneva, Dr. Thomas Struck, *Blockchain technology- Why does it matter?*, Available at https://www.wipo.int/edocs/mdocs/classifications/en/wipo_ip_cws_bc_ge_19/wipo_ip_cws_bc_keynote_1_struck.pdf
5. Sumit Prasad, "*The Future of Blockchain in Intellectual Property Rights"*, Available at https://www.automation.com/en-us/articles/january-2021/the-future-of-blockchain-in-intellectual-property
6. *Blockchain and Intellectual Property Rights Protection Technology*, Originstamp, Available at https://originstamp.com/blog/blockchain-and-intellectual-property-rights-protection-technology/
7. Shatakshi Singh, "*IPR and Blockchain Technology"*, International Journal of Law, Management and Humanities, Vol. 5, Pp. 692.
8. Karim Sultan, Umar Ruhi and Rubina Lakhani, *"Conceptualizing blockchains: characteristics & applications"*, Available at https://arxiv.org/ftp/arxiv/papers/1806/1806.03693.pdf
9. WIPO Blockchain Whitepaper for IP Ecosystems, Available at https://www.wipo.int/edocs/mdocs/cws/en/wipo_webinar_standards_2021_19/wipo_webinar_standards_2021_19_presentation_yun.pdf
10. Jatin Trivedi, *"Dawn of Blockchain Technology in the Indian Patent Regime",* Available at https://www.aipla.org/list/innovate-articles/dawn-of-blockchain-technology-in-the-indian-patent-regime
11. F. Loriaux, *"Is the use of blockchain in intellectual property a desirable development?"* (Master Thesis) (Faculty of law and criminology, Universite Catholique de Louvain, 2019) Available at https://dial.uclouvain.be/memoire/ucl/fr/object/thesis%3A20191
12. Narender Kumar, *"Cryptocurrency, Intellectual Property Rights and Competition Law- Challenges and implications"*, NLUA Journal of Intellectual Property Rights, Vol. 1, July 2022, pp. 48-63, Available at https://nluassam.ac.in/docs/Journals/IPR/vol1-issue-1/3.pdf
13. Gonencc Gurkaynak and others, *"Intellectual Property law and practice in the blockchain realm"*, Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3285287
14. Nick Szabo, "*Smart Contracts: Building Blocks for Digital Markets"*, 1996, Available at https://www.fon.hum.uva.nl/rob/Courses/InformationInSpeech/CDROM/Literature/LOTwinterschool2006/szabo.best.vwh.net/smart_contracts_2.html
15. Nick Szabo, "*Formalising and Securing Relationships on Public Networks"*, Available at https://firstmonday.org/ojs/index.php/fm/article/view/548/469
16. Sunny Sen, *"India Chain: Niti Aayog starts on India Stack-linked, large-scale Blockchain projects"*, Available at https://factordaily.com/indiachain-indiastack-blockchain/

[17] Sunny Sen, *"India Chain: Niti Aayog starts on India Stack-linked, large-scale Blockchain projects"*, Available at https://factordaily.com/indiachain-indiastack-blockchain/

[18] Ibid.