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IPR and Blockchain Technology

SHATAKSHI SINGH[1]

ABSTRACT

As novel technologies emerge, the law secures its ownership as an Intellectual Property (IP) resource. At the same time, the law must be flexible enough to accommodate these changes in order to gain further power.

People are becoming more cognizant of their creative rights as a result of the rise in significance of Intellectual Property Rights (IPR). As emerging innovations arise and threats to intellectual property rights increase, the sector is seeing an increase in the demand for technologies to design effective safeguards for intellectual property rights. IP asset administration is as much of a headache as enforcing the rights to intellectual property. Present technology and a new look at current digital work are required to reinforce the entire IP regime.

The system of Blockchain has emerged as a useful tool in maintaining various aspects of a business including storing of different data. Also, due to the increasing use of Blockchain technology in Bitcoin, people throughout the world are curious about the technology's prospective applications. Its advantages over competing technologies include a decentralised networking, secure information, and accountability.

Keywords- Blockchain, Bitcoin, IP, WIPO, internet protocol, etc.

I. INTRODUCTION

As the name suggests, Blockchain is an anonymised, digital database that maintains an increasing archive known as blocks that are connected together using cryptography. Each block comprises a cryptographic hashing of the preceding block, a timestamp as well as transactional information. The Peer-to-Peer Digital Money transaction System was created in 2008 by an anonymous creator using the pseudonym Satoshi Nakamoto.

The concept is simplistic, but the applications are vast and varied, leading some to think that this is an analogous occurrence to the Internet's breakthrough. When it comes to blockchain's practical use, finance is among the most exciting frontiers it's exploring.

Fintech giants like Goldman Sachs and Visa were among the first to apply for a patent on the blockchain technology. A few patent applications have indeed been submitted in India as well,

[1] Author is a Student at IMS Unison University, Dehradun, India.

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using this method. Another area where the technology is advancing is with smart contracts as well as the shared economy, governance and data storage aspects of it. Other areas include the Internet of Things (IoT), identity maintenance and data maintenance, stock trading as well as sectors such as healthcare and life sciences.[2]

II. FUNCTIONING OF BLOCKCHAIN TECHNOLOGY:

The Blockchain has multi-dimensional applicability and thus it can retain any type of data. The information, which is particularly sensitive to cyber assault, can be made nearly unalterable by utilising the blockchain technology.

Usually, the exchange of content between a sender and a receiver is secure because of a key algorithm:

A set of encryption techniques is given to the user, the sender, and the recipients. The recipient receives the encrypted data that was sent by the user. The user-to-recipient activity is broadcasted to all nodes in the decentralised P2P network. The network's prospectors, i.e. those responsible for maintaining and validating the blockchain's track of transactions, create a new marked block as a confirmation of activity. A cryptographic certification is provided to each block when they are introduced to the blockchain, ensuring that records cannot be altered.

Anyone on the network has accessibility to the content. There are basically two types of Blockchain networks: public and private. Unlike a private blockchain, which may only be accessed by individuals who have authorization, a public blockchain is an accessible platform that anybody can join for the purposes of public broadcasts and transactional accountability. Regulatory agencies prefer the private blockchain because it restricts accessibility to only authorized users.[3]

III. IN TERMS OF IPR LAWS, WHAT IS THE SCOPE OF BLOCKCHAIN?

The IP system must be extremely powerful in order to successfully defend intellectual property rights. A sound IP policy necessitates transparency and verification. Third-party multifactor authentication now oversees intellectual property rights. The majority of these verification system are governmental or institutional organisations with locations all over the world. There's a really high chance that the data won't be in synchronization with other data because it's scattered across. Data accuracy suffers as a result of these circumstances. It also becomes

[2] DQ India online, *Blockchain and Intellectual property: The decentralized alliance*, DATAQUEST (17 March 2020), available at: Blockchain and Intellectual Property: The decentralized alliance (dqindia.com), last accessed on 16 October 2021.
[3] *Supra* note 1, at 2.

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difficult to keep the data current. Global IP offices can greatly benefit from using Blockchain innovation to keep track of their IP registrations, as it emerges.

Resilience, trustworthiness, immutability, productivity, safety, and so on are all critical aspects of Blockchain technology. Intellectual property rights can be employed in these attributes at every stage of their lifespan, from filing to implementation.[4]

Governments or their IP repository agencies typically administer IP rights. As a result of these systems' intrinsic physical constraints, they frequently fall short of protecting individual rights. With the emergence of online sharing tools, copyright piracy has become a big problem. As the market becomes more concentrated and worldwide, the problem will only become worse and necessitate more realistic and dependable solutions. When seen in this light, Blockchain technology opens some previously unimaginable possibilities.

IV. REGISTRATION OF INTERNET PROTOCOL (IP) ADDRESSES

IP registries are either kept on paper or on computers all over the world. These documents are useful in court because they contain evidence of future Intellectual Property Rights (IPR) transactions. Due to the fact that the IP data are being recorded at several IP repositories across the globe, there is a good probability that the data would be out of sync. Periodic database upgrading is a major difficulty in such a setting.

These repositories can use DLT-based technology to provide a comprehensive registry of all IP assets dating back to the date of registration. Copyright authors, in particular, will benefit from this by being able to verify their own claims to authorship. The blockchain technology will be tremendously helpful in trademark law revoking arguments for non-use because it tracks all transactions. This will not only assist in locating the legitimate owner or creator, but it will also make it possible to award royalties on assigning or transfers of copyrights in real time, which will reduce the number of lawsuits in the future.

This approach could be extremely beneficial in a variety of situations, including auditing, assigning and licencing, mergers, and acquisitions.[5]

V. MAINTAINING ANTI-COUNTERFEITING AND LEDGER SECURITY

E-Contracts, also known as Smart Contracts, have emerged as a result of accelerated technical

[4] Namrata Pahwa, *Blockchain and intellectual property*, CHAMBERS OF NAMRATA PAHWA (July 30, 2020) available at: https://www.chambersofnamratapahwa.com/post/blockchain-and-intellectual-property, last accessed on 16 October 2021.

[5] Pryank Khandelwal, Amit Khosh, Shishya Goyal, *Blockchain and IPR- The talk of all the towns*, PHOTON LEGAL (29 FEBRUARY 2020), available at: https://photonlegal.com/2020/02/29/blockchain-and-ipr-the-talk-of-all-the-towns/, last accessed on 16 October 2021.

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innovation, placing an increased responsibility on governments to keep up with the changes and ensure better transaction transparency. When a transaction is recorded, it follows a chain of custody, which presents a possibility for fraud and corruption.

These e-contract transactions can be documented at every point of the chain, thanks to the blockchain, which is useful for custom officials to discover counterfeit commodities and stop them from entering the domestic marketplace.

VI. TRADE SECRET

As the number of small and medium-sized businesses grows, so does the need to safeguard their innovations as trade secrets. Private Blockchain network systems hold trade secrets in encoded format, so the information can be exchanged while being safe from unauthorised access.

VII. INTERNATIONAL ORGANIZATIONS FOR THE PROTECTION OF INTELLECTUAL PROPERTY (WIPO)

With the help of nations and international organisations, WIPO aims to establish and safeguard intellectual property rights around the world by creating a global infrastructure of consistent standards and infrastructure.

Through a fully independent organisation generating a transnational online collaboration, blockchain creates a foundation for sharing platforms where different parties can automatically submit their adherence to the proper authorities, ultimately generating a consistent structure around the world.

WIPO officially manages 26 (twenty-six) treaties dealing with diverse IP concerns, including the Patent Prosecution Highway (PPH) programme, which necessitates collaboration with other IP authorities during the prosecution process. WIPO presently has 193 signatories. Although certain IP asset information is available to the public, gathering and compiling it might be challenging. Blockchain technology eases the process by providing a single broadcast framework, which benefits agencies like the International Searching Authority, the International Preliminary Examination Authority, and the Receiving Office by allowing them to monitor by now enrolled patents, trademarks, and copyright rights.[67]

[6] *Supra* note 1, at 2.
[7] *Supra* note 5, at 5.

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VIII. RECENT LEGAL DEVELOPMENTS AND THEIR CONSEQUENCES

1. Global

Authorities such as the police, customs, and excise or societies can settle various IP conflicts using the unique property of essentially unalterable information.

France is the first jurisdiction to regulate the use of blockchain technology for documenting and transacting in equities. The French administration authorised legislation on "mini-bonds" in April 2016. A common digital storage medium or a digital documentation system that allows for accreditation was specified for the first time in the order.

Blockchain-based proof was first recognised in 2018 by a Chinese court in Hangzhou (China). In 2019, the Apex court of China affirmed that evidence recorded on blockchain systems can be used.

2. India

As far as the author know, there is no specific rule or guideline in India that oversees blockchain utilization and functioning. The administration has taken a proactive commitment to technological deployment as its use grows over time.

There are provisions to prevent unauthorised and criminal computer system use under the Indian Information Technology Act, 2000, which recognises and protects digital communication activities. Since the Indian Evidence Act was amended by 65A, the legal relevance of e-contracts or smart contracts has increased, making them admissible as evidence in court.

With regard to promoting the digital economy, former Finance Minister Arun Jaitley stated in his 2018 Union Budget Speech that India will vigorously investigate constructive usage of blockchain technologies. Indian think-tank NITIE has already come up with several innovative ideas and solutions to achieve this goal, along with an indigenous blockchain project called INDIACHAIN. According to the NITI Aayog, an execution strategy for a decentralised data marketplace built on blockchain innovation was indeed printed in a discussion paper!

Aside from the administration's efforts to improve Blockchain technology, a number of private sector entities are also attempting to do the same. Associations like NASSCOM and FICCI are good examples.[8]

[8] *Supra* note 1, at 2.

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IX. BLOCKCHAIN-IP RELATIONSHIP CROSSROADS

When it comes to Blockchain and Intellectual Property Rights, there is a symbiotic connection. One foot, Blockchain is protected by Intellectual Property Rights, but on the other, Blockchain can be used to enhance the IP Rights regime.

When used as a technology-based IP registry, the blockchain can allow IP proprietors to store encoded electronic credentials of their IP and utilise the network to collect royalties from people who use their work.

Patent authorities, as well as other regulatory authorities, frequently have lengthy approval processes. Many industries, where incumbents must act quickly to safeguard their inventions and remain competitive, could be jeopardised if this happens. Decentralized registration platforms will make it easy to enrol new IP, revise filings, and exchange title at any time by substituting centralised certification systems. Regulating organizations will be equipped to accomplish more with limited resources if they use blockchain technology.[9]

Copyrights do not need to be registered; they automatically exist. Authors frequently lack access to suitable tools for cataloguing their own work. It can be difficult to establish who owns the copyright to something. Third parties using a work may find it difficult to determine from whom a licence should be obtained, and authors may find it difficult to see who is utilising their work. In many cases, authors are unable to curb infringements or properly monetise their works. There isn't a clear way to define who possesses IP because of the lengthy approval procedure and the variety of countries' IP legislation. Copyright ownership can be proven incontrovertibly by registering works on a blockchain. An immutable blockchain transaction ensures that once a piece of data has been entered into a blockchain, it can't be lost or altered in any way. This means that anyone could look up a work's ownership history using a blockchain. This would include information like licences, sublicenses, and assigns.

1. Trademarks and Blockchain:

Anonymity, or rather, pseudo anonymity, is at the heart of the Blockchain. However, trademark law states that the objective of trademarks is to differentiate one person's goods or services from those of another. The Public Blockchain is based on a decentralised system, which means that the Blockchain does not have a single owner. Permissioned Blockchains grow in popularity as more people join in. Similarly, no single entity owns the trademark rights for registering the Blockchain under its name. Furthermore, the use of crypto currencies, one of the most

[9] *Supra* note 4, at 4.

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prominent applications of Blockchain technology, is prohibited in numerous nations. Nevertheless, even though the RBI's broad prohibition on virtual currencies has been repealed by India's Supreme Court, the RBI has now been given the green light to develop stricter laws while conceding it will have the right to control crypto currencies. Due to the aforementioned difficulties, registering decentralised Blockchain technology is challenging. Although the source of centralised Blockchain can be recognised, the trademark can be filed as a trademark. It's important to know that the Indian Trademark Registration process has trademarked the phrases "Blockchain" and "Bitcoin.".[10]

2. Patent and Blockchain:

Software system encompasses both patents and blockchain technologies. Section 3(k) of the Patents Act, 1970 states that computer programmes cannot be protected by a patent in India. High Court of Delhi ruled that "any invention which includes a technological impact or has a mechanical effect and is not essentially a computer programme per se is patentable" in the context of Telefonaktiebolaget LM Ericsson V. Intex Technologies. For this reason, the Delhi High Court upheld this view in Ferid Allani V. Union of India & Ors. and observed that "Even if the innovation is founded on a software programme of computer, it is eligible for being protected through patent if it shows a "technical benefit" or a "technical application." As a result, Blockchain technology can be patentable if it has a functional effect or application.[11]

X. CONS OF USING BLOCKCHAIN TECHNOLOGY

Even though it holds enormous potential for elevating the IP and other ecosystems, it also has drawbacks to consider. There will still be a demand for IP experts because to the technology's reliance on enormous processing power and its restricted transactions per hour.

While blockchain evidence is accepted in some jurisdictional courts, it is still a long way from being fully adopted in the legal system as a whole. As a result of the enormous power consumption required to run all "Nodes," a cooling system would be required for continuous operation, and this uses even more electricity. As a result, Blockchains are among the most costly and premium databases available.[12]

The system's intrinsic physical limits function as a bottleneck. Cracks are already appearing in this system. Since internet sharing tactics have propelled copyright infringement to new

[10] *Supra* note 2, at 3.
[11] *Supra* note 4, at 4.
[12] *Blockchain and IPR: Disruption & Amelioration*, INTERNATIONAL JOURNAL OF ADVANCED LEGAL RESEARCH (18 March 2021), available at: https://www.ijalr.in/2021/03/blockchain-and-ipr-disruption.html, last accessed on 16 October 2021.

heights, finding a more realistic and dependable solution will become increasingly important as the market becomes more global and digitally intertwined.

Concerns with IPRs, on the other hand, are not exclusive to enforcement issues. Proper IP asset management is proving to be a difficult task as well. So in the contemporary digital context, IPRs, along with bigger contractual duties, need to be re-examined.

Since many large corporations now operate a significant amount of their industrial framework online, physical and geographical boundaries are becoming less important for these firms to operate within. Blockchain is therefore being seriously examined as the 'Physical System's successor.

'In this new Digital Age, the 'classic-physical' methodology of IP rights enforcement is proving inadequate.'[13]

XI. Conclusion

Good intellectual property (IP) management calls for well-maintained, unchanging, and verifiable records of intellectual property (IP) rights. As the globe becomes increasingly interconnected, thanks to the internet, the necessity to enhance the IP regulation only grows. The blockchain is one such revolutionary technology that can help safeguard intellectual property rights. According to the findings of the aforementioned research, blockchain technology has enormous potential to meet the current needs of IP offices all over the world.[14] It would help with prosecution and enforcement of IP rights, as well as reducing IP disputes, if the technology ensured speedier search results as well as tamper-proof record keeping.

Due to various constraints, blockchain technology cannot be fully implemented in an ordinary functioning system despite its immense promise. These flaws can be improved over time with fresh technological advancement, but that shouldn't stop revolutionary technology from being applied. This has been discussed. These issues must be effectively handled if unrecognised advantages of the blockchain technologies are to be obtained.[15]

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[13] Amilegals, *Blockchain and IP*, MONDAQ (27 December 2018), available at: https://www.mondaq.com/india/fin-tech/767898/blockchain-ip, last accessed at 16 October 2021.
[14] *Id.*
[15] *Supra* note 1, at 2.

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