An Overview of BlockChain Technology and its Applications in the Society

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BlockChain was one of the milestones made in Cryptography by a Group of Researchers in 1991, wherein they wanted to document a Timestamp on Documents that disallowed any discrepancy related to back dating them. However, the potency of this Technology remained untapped until it was Adopted by *Satoshi Nakamoto* in 2009 to create a Cryptocurrency popularly Known today as the Bitcoin. Block Chain then became Known as the record-keeping Tech behind the Bitcoin network.

Keywords

- Blockchain
- Data
- Technology
- Content

So how would one describe blockchain?

BlockChain is a distributed, decentralized, public ledger that is open to anyone. The Property of BlockChain is such that once Data is entered into the BlockChain, it becomes very difficult for anyone to Tamper with it. Thus, when we break down the words ``block" and "chain" in this context, we are actually talking about digital information (the "block") stored in a public database (the "chain").

As we dive into the Characteristics of Each Block, we realize it Contains Some Data, Hash and Hash of the Previous Block. The Three components are enumerated below;

1. **Data-** The Data that is Stored in each block depends on the Context in which the Technology is used. For example, in the Bitcoin context, The Block would contain data with regard to Transaction Details, in education Content, the data with regard to certification No, Course Transcripts etc. And a single block on the Bitcoin blockchain can actually store around 1 MB of data of such data

2. **Hash**-. Hashes are cryptographic codes created using special algorithms that act like a Fingerprint. It Identifies the Block and all of its Content with corresponding Hash. Every Change Inside the Block would alter the hash too. Thus, Hashes could be used to Audit, and retrace the changes that occurred in the Block Quite Effectively.

3. **Hash of the Previous Blocks**- The Main Characteristic of Blockchain Technology is that it is Distributed. The Technique that allows it to be Distributed is the Hash of the Previous Block which creates a Chain Of Blocks and this allows the security Element to Sweep In. Thus, if one manipulates with data in Any block, the Hash of the block changes and disrupts the Chain, thus making the further Blocks Invalid.

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Thus, Blockchain is a Potent Technology that has the potential to be used in many spheres of the Value Chain. A Few arenas of life where BlockChain Technology Could be used are illustrated below;

i. **Education** - The Use of BlockChain in the Education Sector is still in its Nascent Stages. BlockChain Technology could be used to create Lifetime Transcripts, Secure digital Publishing, Tokenized Educational Rewards Etc.

ii. **Business**- Cloud Business, Online payments, supply chain and Inventory management Systems could benefit from BlockChain

iii. **Government**- Arenas such Taxes, Citizenship Identity and other Public Records/ Document safekeeping could tap into BlockChain Technology Further

iv. **Medical Records**- Record keeping and Privacy concerns could be kept at bay with inserting this Technology into the Medical Record Management Systems.

v. **Trading-** Equity Trading would benefit from BlockChain as the validation and Settlement of Transactions could Speeded Up further

There are many more applications that would unearth itself as the Technology grows and Matures in the next Decade and unless, another disruption occurs, BlockChain Technology might be here to Stay

Jeena Rachel Cherian is a Second Year Management Student from Great Lakes Institute of management, Chennai, with a Major in Finance and a Minor in Strategy. She is also a part of the Consulting Committee at her Institute, immersed in various events related to Consulting. She is Passionate about Strategy Consulting, Finance and Artificial Intelligence and loves it when the Three of them Immerse into One. Her family is her inspiration and the foundation on which she proudly stands. A Quote that she strives to Lives by is" The Most Personal is the Most Creative"
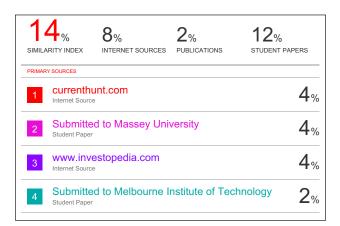
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Annexure I

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Reviewers Comment

Reviewer's Comment 1: Blockchain has introduced a more robust, and fool proof method for online transfers. This technique is now being used in various industries.

Reviewer's Comment 2: The article rightly demonstrates the components of Blockchain. It indeed is a crucial technique in online revolution.

Reviewer's Comment 3: Blockchain is a futuristic tool, but needs to be dealt carefully with; since each block and hash modification is irreversible. Author had clearly noted what blockchain is all about with minimal points which can be further explained in detail. The author even acknowledges the importance of block chain technology on various other streams which help other sectors

Editorial Excerpt

The article has 14 % of plagiarism which is considered percentage for publication for this particular and authour testimonials. The finding related to this manuscript " Block Chain Technology and its Applications in the Society". It is pertinent and known that this decentralized blockchain system is going to change the life from the way one can execute business or administer assets, to the way one use the machines, vote, rent a car, and even prove who they are. Along the way, it will transform banks and other financial institutions, hospitals, companies, and governments among others. The paper in real sense is a case base analysis and further has been earmarked finalized for publication under the category of "**Case Based Study** (CBS)".

Acknowledgement

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