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Blockchain Technology

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Abstract - Business transactions take place every second of every day orders, payments, account tracking and much more. Often, each participant has his or her own ledger and, thus, a version of the truth that may differ from other participants. These multiple ledgers can be a recipe for error, fraud and inefficiency. But because members on a blockchain share a common view of the truth, it's now possible to see all details of a transaction end-to-end, reducing those vulnerabilities. The blockchain is an undeniably ingenious invention – the brainchild of a person or group of people known by the pseudonym, Satoshi Nakamoto. By allowing digital information to be distributed but not copied, blockchain technology created the backbone of a new type of internet.

Key Words: Proof of work, consensus, hyper ledger, cryptography, decentralized.

1. INTRODUCTION

The blockchain is an undeniably ingenious invention – the brainchild of a person or group of people known by the pseudonym, Satoshi Nakamoto. But since then, it has evolved into something greater, and the main question every single person is asking is: What is Blockchain? By allowing digital information to be distributed but not copied, blockchain technology created the backbone of a new type of internet. Originally devised for the digital currency, Bitcoin, (Buy Bitcoin) the tech community has now found other potential uses for the technology.

2. What is Blockchain?

A blockchain carries no transaction cost. (An infrastructure cost yes, but no transaction cost.) The blockchain is a simple yet ingenious way of passing information from A to B in a fully automated and safe manner. One party to a transaction initiates the process by creating a block. This block is verified by thousands, perhaps millions of computers distributed around the net. The verified block is added to a chain, which is stored across the net, creating not just a unique record, but a unique record with a unique history. Falsifying a single record would mean falsifying the entire chain in millions of instances. That is virtually impossible. Bitcoin uses this model for monetary transactions, but it can be deployed in many others ways.

But the key here is this: it's free. Not only can the blockchain transfer and store money, but it can also replace all processes and business models which rely on charging a small fee for a transaction. Or any other transaction between two parties.

Here is another example. The gig economy hub Fivver charges 0.5 dollars on a 5 transaction between individuals buying and selling services. Using blockchain technology the transaction is free. Ergo, Fivver will cease to exist. So will auction houses and any other business entity based on the market-maker principle. Blockchain may make selling recorded music profitable again for artists by cutting out music companies and distributors like Apple or Spotify. The music you buy could even be encoded in the blockchain itself, making it a cloud archive for any song purchased. Because the amounts charged can be so small, subscription and streaming services will become irrelevant.

In the financial world the applications are more obvious and the revolutionary changes more imminent. Blockchains will change the way stock exchanges work, loans are bundled, and insurances contracted. They will eliminate bank accounts and practically all services offered by banks. Almost every financial institution will go bankrupt or be forced to change fundamentally, once the advantages of a safe ledger without transaction fees is widely understood and implemented. After all, the financial system is built on taking a small cut of your money for the privilege of facilitating a transaction. Bankers will become mere advisers, not gatekeepers of money. Stockbrokers will no longer be able to earn commissions and the buy/sell spread will disappear.

3. How Blockchain works?

Picture a spreadsheet that is duplicated thousands of times across a network of computers. Then imagine that this network is designed to regularly update this spreadsheet and you have a basic understanding of the blockchain.

Information held on a blockchain exists as a shared and continually reconciled database. This is a way of using the network that has obvious benefits. The blockchain database isn't stored in any single location, meaning the records it keeps are truly public and easily verifiable. No centralized version of this information exists for a hacker to corrupt. Hosted by millions of computers simultaneously, its data is accessible to anyone on the internet.

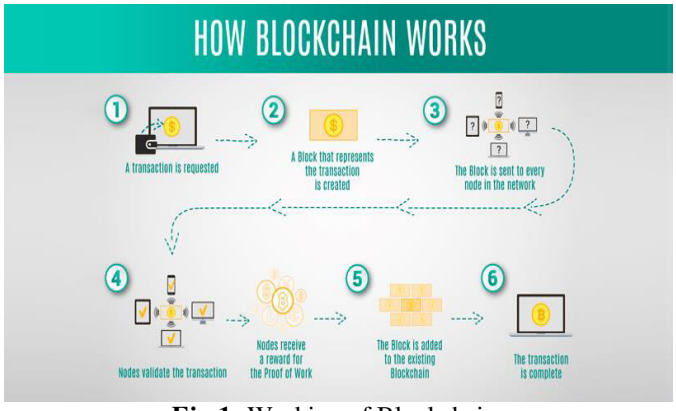

Fig-1: Working of Blockchain

4. The Three Pillars

The three main properties of Blockchain Technology which has helped it gain widespread acclaim are as follows:

A. Decentralization
Before Bitcoin and BitTorrent came along, we were more used to centralized services. The idea is very simple. You have a centralized entity which stored all the data and you'd have to interact solely with this entity to get whatever information you required.

B. Transparency
One of the most interesting and misunderstood concepts in blockchain technology is "transparency." Some people say that blockchain gives you privacy while some say that it is transparent.

C. Immutability
Immutability, in the context of the blockchain, means that once something has been entered into the blockchain, it cannot be tampered with.

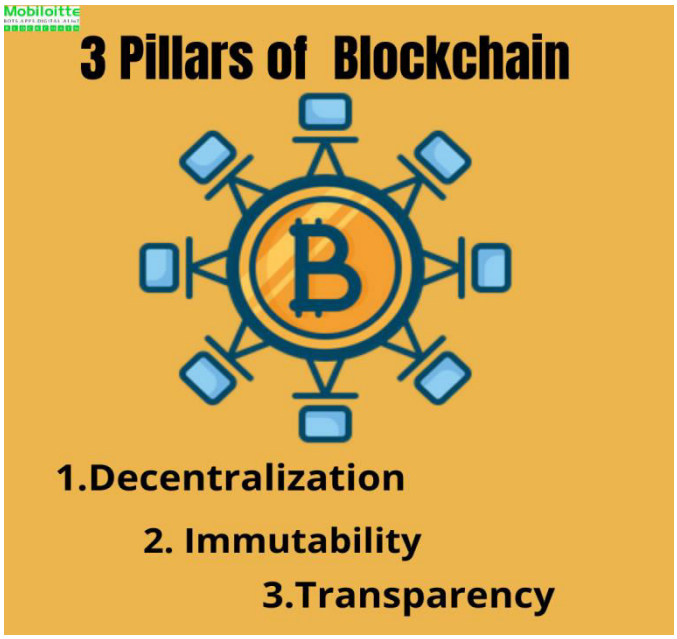

Fig-2: The Three Pillars of Blockchain

5. Applications

The blockchain gives internet users the ability to create value and authenticates digital information. The following are the applications of the blockchain:

- Smart contracts
- The Sharing Economy
- Crowdfunding
- Supply Chain Auditing
- Identity management
- Data management
- Stock trading and many more

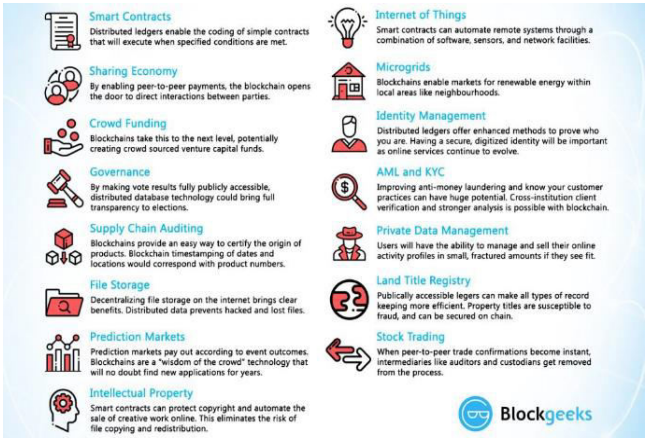

Fig-3: Advantages of Blockchain Technology

6. CONCLUSIONS

While we still have a long way to go and many details to work out, we can see the broad form of tomorrow's blockchain. Thus, blockchain is a new developing technology that is tremendously flourishing. Rapid Improvement in the field can be achieved by using the features of superposition, entanglement, interference and fault-tolerance. The Bitcoin is the first successful implementation of blockchain. Today, the world has found applications of blockchain technology in several industries, where the trust without the involvement of a centralized authority is desired. So welcome to the world of Blockchain.

REFERENCES

[1]http://blockgeeks.com/guides/what-is-blockchain-technology
[2]https://www.ibm.com/in-en/blockchain/what-is-blockchain
[3]https://www.tutorialspoint.com/blockchain/blockchain_conclusion.html