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Benefits of applications of the Blockchain Technology

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ABSTRACT
The blockchain technology is an emerging technology with a great scope. This research deals with the benefits of applying Blockchain Technology in various aspects**.** It has various benefits and applications which range from better security, enhanced transparency and fast traceability. It can also provide speedy efficient services with automation.

Keywords - Automation, Blockchain, Distributed ledger technology, Smart contracts, Traceability data

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I. INTRODUCTION

The blockchain technology is a new technology, developed only in 2008[1]. The blockchain technology involves a system of keeping logs of the information in a manner which is secure, immutable, unchangeable and which is almost impossible to hack. It is a record of the transactions whose copies are distributed across the whole blockchain network.

It is used to make decentralized money which is called cryptocurrencies. This is because there is no one owner of the system but it is owned by multiple participants in a method known as distributed ledger technology (DLT)[2]. Application of this technology has many benefits such as, security enhancement, transparency, traceability, efficiency, speed etc.

II. ADVANTAGES OF BLOCKCHAIN TECHNOLOGY

The blockchain technology has several advantages which are mentioned below (Fig 1.0).

2.1 SECURITY ENHANCEMENT

The blockchain technology is known for the enhanced security that it provides. The data corresponding to transactions are not stored on a single server but is distributed across several computers making it difficult for hackers to view data. Blockchain places importance on data thereby allowing various options as to how the data is viewed. Every record in the blockchain system is unalterable with the added security of end-to-end encryption[3].

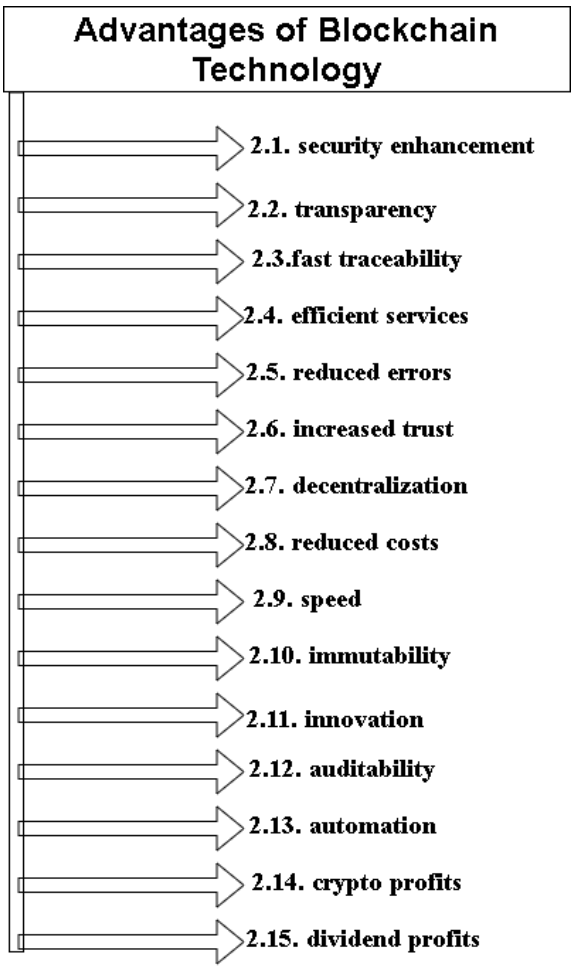

Fig 1.0 : Listing the advantages of Blockchain Technology

2.2 TRANSPARENCY

In the current scenario, all companies keep their databases separate. Using the blockchain

technology, data can be stored in the blockchain server which uses distributed storage across various nodes. The transactions in a blockchain system are all recorded in one place and all authorized users can see the same information at the same instant. All transactions are recorded uniquely and are time-stamped as well as date-stamped. This provides for complete transparency.

2.3 FAST TRACEABILITY

The blockchain system provides for traceability of data. It can track the audit trail created by the document in its entire journey. Using this, the consumers concerned about human rights violation or environmental impacts can have a view of the entire life cycle of the product.

This provides a mechanism of regulation even in the industries which are prone to fraud and false practices. The traceability data[3] empowers the consumers to even know the lapses or flaws in the supply chain causing delays and other issues.

2.4 EFFICIENT SERVICES

A majority of the contracts between various parties is currently paper-based. The advent of the blockchain technology will pave ways for paperless contracts. Such digital contracts can be stored in one place and accessed easily as and when required as opposed to the paper-based contracts which are time- consuming and have an environmental impact.

2.5 REDUCED ERRORS

Smart contracts[4] are an interesting feature of the blockchain technology. These provide for automated transactions. Such automation reduces human-interaction and human-error.

The Digital, or smart contracts are a transaction protocol which can execute automatically and can control the relevant legal steps of action which are based on the terms and conditions of the contract.

Blockchain usage also minimizes the involvement of third-party services. The terms of the contracts can be automatically verified. An example would be in case of a house loan. The policies of the loan contract can be matched with the details provided with the customer and if all requirements are met, the loan can be disbursed automatically.

2.6 INCREASED TRUST

Blockchain creates Trustworthy environment for transactions. As a result, the partners are willing to deal with business dealings and share their data to other organizations they do not trust or know. People from different organisations work and involve data sharing activities that would otherwise involve third parties to look into.

Due to third party handling the prices and cost of doing business would also increase. This condition is very easily handled with the trust factor that Blockchain technology has to offer. Bitcoin and other cryptocurrencies are dealing with partners who don't directly know each other, but can be sure of the trust because of the blockchain technology environment.

2.7 DECENTRALIZATION

Blockchain involves a decentralized structure. In the Blockchain decentralized structure, no one person is in charge of all the data.

Blockchain involves sharing of data among partners or entities who do not exactly know each other, but via an ecosystem all of them can trust. For example, in case of buyers and manufacturers in the entire supply chain, people need the data from one another, but no one person is in charge of the entire data. This Decentralized structure fosters more trust and allows for easy adoption of blockchain technology.

2.8 REDUCED COSTS TO ORGANIZATIONS

Blockchain, by its nature can be used to reduce the cost or for cost cutting in business applications. It is very efficient in processing the transactions and reduces a lot of manual work, which cuts the costs involved in such book. Moreover, initially third third parties were used for dealing with two business entities.

But now blockchain can be used to replace the third party. Hence cost-cutting is there as well. We can also say that blockchain eliminates middlemen.

2.9 SPEED

Blockchain technology is a speedy service because it removes the intermediary, middle men and manual processes. Hence all the work is finished at a lesser time than it could have been done otherwise.

For example, Walmart used to trace sliced mangoes within seconds, using blockchain process, which earlier took them seven days to find out [5].

2.10 IMMUTABILITY

Immutability is a very beneficial feature of blockchain. The transactions once recorded cannot be altered, removed or deleted. That is the process of immutability. This is an added trust as no one can fiddle with data and go unnoticed. All the transactions are recorded and logs for each transaction is maintained. All the transactions are

time and date stamped, and there is a permanent record for each.

2.11 INNOVATION

Leaders of various organizations are using blockchain for solving problems that were cumbersome, time consuming, and which were very complex by using the blockchain technology. So all of the problems in a very less time and it fosters innovation in the society.

2.12 AUDITABILITY

Another benefit of using Blockchain technology is the auditability. Each transaction in a blockchain technology is recorded permanently and creates an audit trail.

We can anytime go and check the authenticity of an asset using this auditability feature.

2.13 AUTOMATION

Another benefit of using Blockchain technology is the automation that it provides. Most transactions in day to day life involved manual updation and involvement of humans. Blockchain automates all the processes by eliminating human involvement. Due to automation feature, things are processed faster with lesser errors as well.

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2.14 CRYPTO PROFITS

The involvement of Cryptocurrencies would lead to higher profits from the crypto market. It can be seen from the graphs of bitcoin, that it is forming an exponential growth graph (Fig 1.0). This means that money once invested would increase manifold and increase the profits of the buyer.

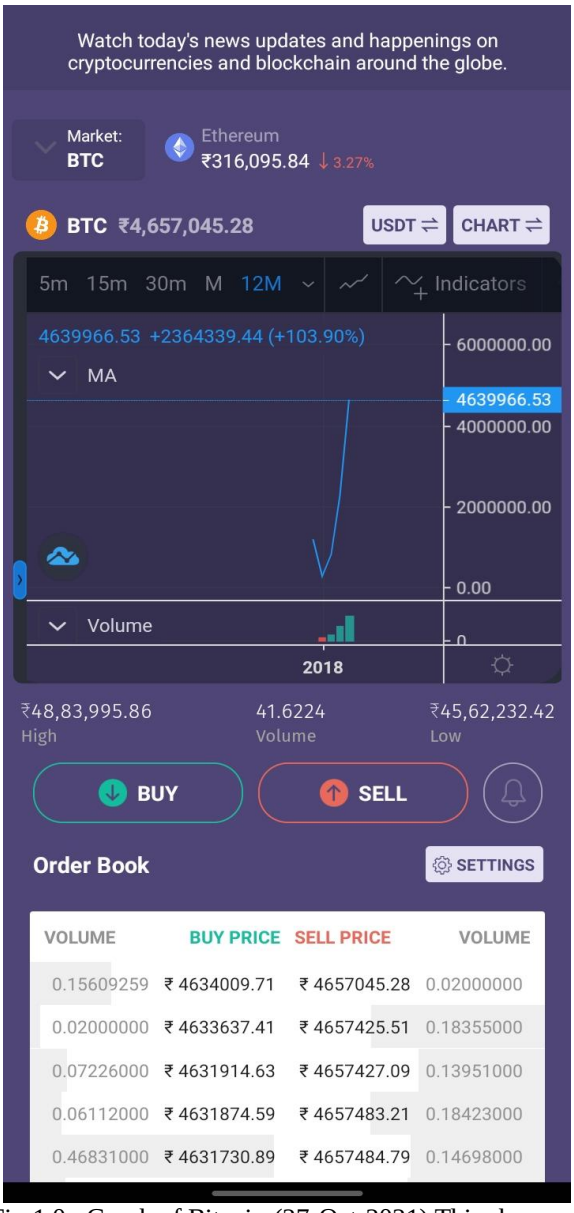

Fig 1.0 : Graph of Bitcoin (27-Oct-2021) This shows that the bitcoin has increased exponentially.

2.15 DIVIDEND PROFITS

Dealing with Cryptocurrencies often lead to the gain of dividends. Comapanies and exchanges such as Bitbns provide such dividends to people who have invested in certain crptos such as Bitcoin, Etherium, Tether, Doge, Bitbns and Safemoon (Fig 1.1)

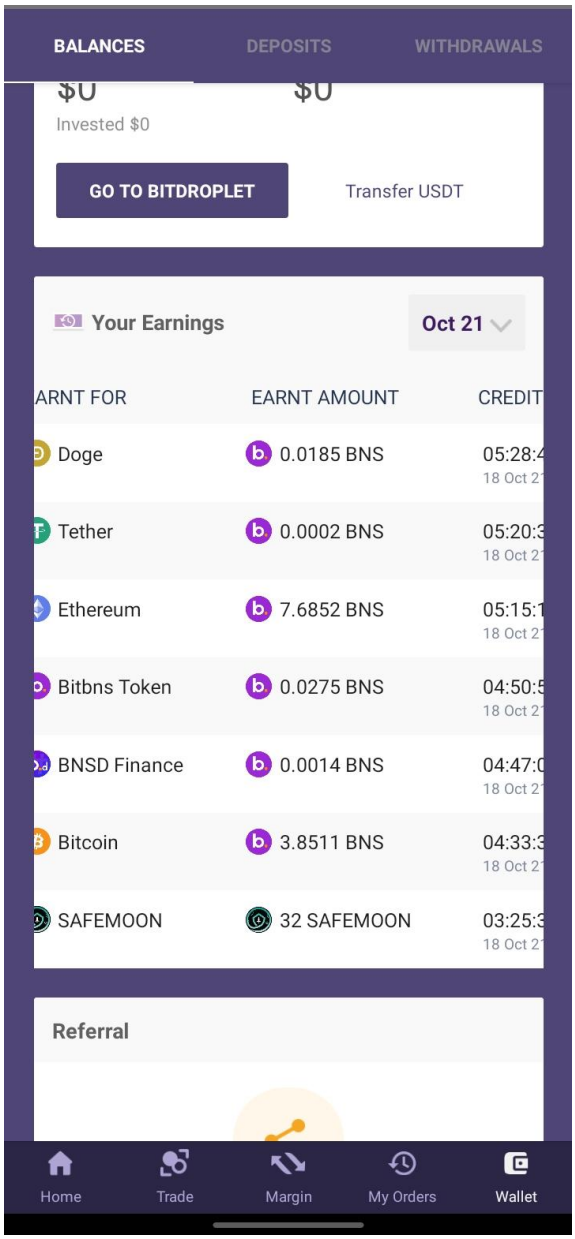

Fig 1.1 : Proof of Dividend payout from Bitbns exchange. Exchanges pay dividend for owning and holding Cryptocurrencies.

III. CONCLUSION

The blockchain technology can be considered as a boon. It has several benefits which has the potential to change the way businesses are done for the better. In the near future we can see even more benefits of the applications of blockchain technology once it has wider audience with people ready to adopt the new.

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