Integration of Finance Sector using Blockchain

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Abstract The emergence of blockchain technology has created new needs that in many industries cannot be effectively fulfilled by traditional technology. Recognizing this, virtually all interested companies are exploring various ways to implement the technology. In Fact, it is said to have created an inflection point of an era where many big players have already integrated with blockchain technology. What began as the basis of cryptocurrencies such as Bitcoin, blockchain technology — essentially a virtual ledger capable of recording and verifying a high volume of digital trans- actions — is now spreading across a wave of industries. The world has seen many revolutionary technologies securing a spot in the market. Blockchain is believed to have made a similar motion. This means in no time, blockchain is going to become a widely accepted technology. It will also open flood gates for a deluge of new career opportunities. And so, it is better to ride the trending wave and make the most of it while it lasts.

Keywords — Altcoin, Bitcoin, Blockchain, Cryptocurrency, Decentralized, Finance

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I. INTRODUCTION

One of the most advertised IT popular expressions to have developed over the most recent few years. Blockchain has discovered its way into major media features on a close regular schedule, yet 2 years back, it was a word utilized by a generally modest number of individuals to depict the shared distributed ledger innovation.

The blockchain is an obviously bright innovation – the brainchild of an individual or gathering of individuals known by the alias, Nakamoto. In any case, from that point forward, it has advanced into something more prominent, and the primary inquiry everyone is posing is: What is Blockchain?

Before we investigate the innovation of Blockchain and how it functions, it is first worth investigating the idea of behind blockchain and its uses in various divisions.

It is to nothing unexpected that Blockchain innovation being a popular expression of the day has pulled in the consideration of business visionaries, governments, banks and a lot more people across the globe see the coming of the Blockchain innovation to the Internet. Also, they anticipate the move of intensity balance from incorporated bodies in the communications and business divisions.

The study emphasizes on the applicability and legality of blockchain technology in finance sector.

II. OBJECTIVE OF STUDY

- To study the different aspects the Blockchain.
- To study what is blockchain, its working, its types, applications and its benefits and limitations.
- To study what is cryptocurrency and its impact on the traditional financial system.
- To study the role of blockchain in different sectors.
- To study the impact of Blockchain on the different sectors.
- To study the effects of Blockchain in finance sector.
- To study how concept of Blockchain can help a country in various fields.

III. RESEARCH METHODOLOGY

For the purpose of the study, data is collected by exploring the various secondary sources like websites, news articles, books, white papers, etc. A comprehensive study has been undertaken to study the impact of Blockchain technology in finance sector.

Research Design

My research design will be descriptive followed by partially exploratory because the entire project will be based on the data collected from internet, reports, journals and analysis so that the detailed and clear description will be there in the project, so there is a mix of explanation and description design. It will cover all the major information about Blockchain and will give a clearer view to the reader how it works.

Source of Data

The main source of information in my project will be based on secondary data like facts, figures, graphs collected from internet, which will be analyzed and summarized in the form of this project report.

Scope of research

My project topic basically falls in the category of business, banking & finance. The objective of the research having the main aim to make people aware of blockchain and its use in different sectors.

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IV. LIMITATIONS OF STUDY

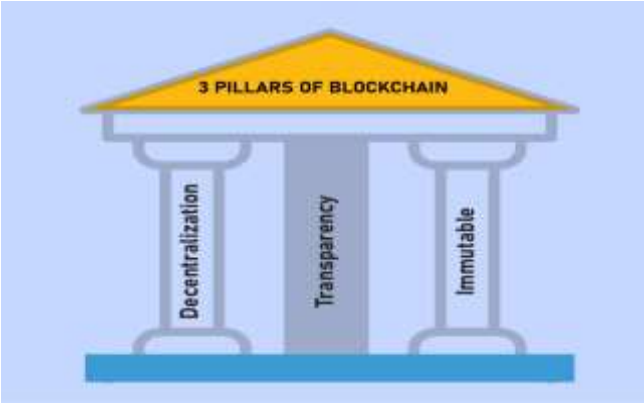
- The secondary data collected might consist of manipulations, which might have given bias in the result.
- The lack of experience in preparing the project report.
- Lack of time for completion of the project.
- The method lacks flexibility. In case of inadequate or incomplete information the result may deviate.
- It is very difficult to check the accuracy of the information provided
- Documents may lack authenticity parts of the document might be missing, and we might not even be to verify the document, meaning we cannot check whether its biased or not.
- The way things are measured may change over time**,** making historical comparisons difficult.
- As a project report the area of study is vast and may be not enough for to give any limitation.

V. WHAT IS BLOCKCHAIN?

Blockchain is a secure series or chain of timestamped records stored in a database that a group of users manages who are a part of a decentralized network. Blockchain is a decentralized or distributed ledger where each node in the network has access to the data or records stored in a blockchain. The encryption of all the important data records in the blockchain is done using cryptographic techniques. This ensures the security of the data in the blockchain.

So, the primary concept behind blockchain technology is having a network of multiple users or computers known as "Nodes" which can have secure and legitimate transactions directly without a third-party mediator. Any authorized node that is a part of the network can access the set of records added as a legitimate block in the blockchain. This makes the blockchain system an immutable, distributed digital public ledger that can record financial as well as other types of transactions.

VI. PILLARS OF BLOCKCHAIN TECHNOLOGY



Source: https://www.appventurez.com/blog/blockchain-understanding-its-basics-and-how-it-works/

A. Decentralization –

Decentralization is the way toward conveying and scattering power away from a focal position. Generally, money related administrative frameworks, which are right now in presence, are concentrated, implying that there is a solitary most noteworthy ex- pert accountable for overseeing them, for example, a union bank. There are a few critical detriments to this methodology, originating from the way that any central authority likewise assumes the job of a solitary purpose of failure in the framework: any glitch at the head of the chain of command, regardless of whether inadvertent or conscious, unavoidably negatively affects the whole framework. Bitcoin was planned as a decentralized option in contrast to government cash and along these lines doesn't have any single purpose of disappointment, making it stronger, proficient and majority rule. Its fundamental innovation, the Blockchain, is the thing that considers this decentralization, as it offers each client a chance to get one of the system's numerous installment processors. Since Bitcoin's appearance, numerous different digital forms of money, or altcoins, have showed up, and in majority of the occasions they additionally utilize the Blockchain to accomplish some level of decentralization

. *Transparency –*

Even though individual data on the blockchain is ket hidden , the innovation itself is quite often open source. That implies that clients on the blockchain system can change the code as they see fit, insofar as they have a lion's share of the system's computational force backing them. Keeping information on the blockchain open source likewise makes altering information considerably more troublesome. With a huge number of PCs on the blockchain arrange at some random time, for instance, it is improbable that anybody could roll out an improvement secretly.

B. Immutability –

Immutability can be characterized as the capacity of a blockchain record to stay unaltered, for a blockchain to stay unaltered and permanent. Even more briefly, information in the blockchain can't be changed.

Each block of data, for example, realities or transaction subtleties, continue utilizing a cryptographic standard or a hash value. That hash value comprises of an alphanumeric string created by each block independently. Each block not just contains a hash or advanced mark for itself yet additionally for the past one. This guarantees block is retroactively coupled together and persistent. This usefulness of blockchain innovation guarantees that nobody can barge in the framework or modify the information spared to the block.

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VII. BLOCKCHAIN IN FINANCE

Currency transactions between persons or companies are often centralized and controlled by a third-party organization. Making a digital payment or currency transfer requires a bank or credit card provider as a middleman to complete the transaction. In addition, a transaction causes a fee from a bank or a credit card company. The same process applies also in several other domains, such as games, music, software etc. The transaction system is typically centralized, and all data and information are controlled and managed by a third-party organization, rather than the two principal entities involved in the transaction. Blockchain technology has been developed to solve this issue. The goal of Blockchain technology is to create a decentralized environment where no third party is in control of the transactions and data. (Yli-Huumo J, Ko D, Choi S, Park S, Smolander K ,2016).

VIII. BLOCKCHAIN'S IMPACT ON BANKING

Blockchain innovation gives an approach to untrusted gatherings to come to concession to the condition of a database, without utilizing an intermediary. By giving a ledger that no one oversees, a blockchain could offer explicit money related types of assistance — like installments without utilizing a broker, similar to a bank.

Further, blockchain takes into consideration the utilization of apparatuses like "smart con- tracts," which might mechanize manual procedures, from consistence and cases preparing, to circulating the substance of a will.

For use cases that needn't bother with a serious extent of decentralization — yet could profit by better coordination — blockchain's sibling, "distributed ledger innovation (DLT)," could help corporates set up better administration and principles around information sharing and joint effort.

With worldwide banking right now a $134T industry, blockchain innovation and DLT could disintermediate key administrations that banks give, including:

- **Installments**:

By setting up a decentralized ledger for installments (for example Bitcoin), blockchain innovation could encourage quicker installments at lower expenses than banks.

- **Leeway and Settlement Systems**:

Distributed ledgers can diminish operational expenses and carry us closer to ongoing exchanges between monetary foundations.

- **Raising funds or Gathering pledges**:

Initial Coin Offerings (ICOs) are trying different things with another model of financing that unbundles access to capital from conventional capital- raising administrations and firms.

- **Securities**:

By tokenizing conventional protections, for example, stocks, securities, and elective resources — and putting them on open blockchains — blockchain innovation could make more proficient, interoperable capital markets.

- **Advances and Credit**:

By evacuating the requirement for guards in the advance and credit industry, blockchain innovation can make it safer to get cash and give lower loan fees.

- **Exchange Finance**:

By supplanting the lumbering, paper-overwhelming bills of filling process in the exchange account industry, blockchain innovation can make more straightforward-ness, security, and trust among exchange parties all inclusive.

IX. APPLICATIONS OF BLOCKCHAIN TECHNOLOGY IN VARIOUS FIELDS OF BANKING

I). Payments:

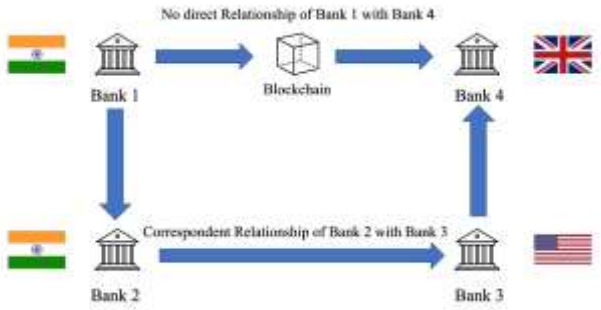
Blockchain innovation offers a high-security, minimal effort method of sending installments that eliminates the requirement for check from outsiders and beats handling times for existing bank transfers.

II). Clearance and settlement systems:

DLT could allow settlement of transactions directly and can keep record of all the transactions surpassing all the existing methods of settlements.

Current international payments have multiple issues such as **Cost** – There are many intermediaries involved which results in increased transaction costs like corresponding banks imposing a transaction fee or commission to both the counterparties.

- **Time** – The transaction takes multiple days for the settlement because of the different time zones of international banks which causes delay due to the different working hours of the bank.



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III) Fund-raising:

Fund-raising through investment is a burdensome procedure. Business visionaries set up decks, endure innumerable gatherings with accomplices, and bear long arrange- ments over value and valuation with expectations of trading some piece of their organization for a check. Conversely, a few organizations are raising assets by means of "initial coin offerings (ICOs)," fueled by open blockchains like Ethereum and Bitcoin. In an ICO, ventures sell tokens, or coins, in return for financing (regularly named in Bitcoin or ether). The estimation of the token is — from a certain point of view — attached to the achievement of the blockchain orga- nization. Putting resources into tokens is a path for financial specialists to wager legitimately on utilization and worth. Through ICOs, blockchain organizations can hamper customary raising money process by selling tokens straightforwardly to the general population. So we can say that there are 8 possible use cases in which blockchain be resourceful for crowdfunding, they are as follows:

- Global wealth creation
- Lowering Transaction/Taxation fees
- Enforcing funding terms
- Removing middlemen
- Decentralized crowdfunding platforms
- Crypto-equity trading
- Exchange listed ICOs
- Crypto Bounties

IV). Securities:

To buy or sell assets like stocks, debt, and commodities, you need a way to monitor who claims what. Stock markets today accomplish this through a complex chain of brokers, exchanges, central security depositories, clearinghouses, and custodian banks. This chain has been worked around an obsolete arrangement of paper proprietorship that isn't just moderate yet can be off base and inclined to misdirection . Say you want to buy a share of X stock. You might plac e an order through a stock exchange, which matches you with a seller. In the old days, that meant you'd spend cash in exchange for a certificate of ownership for the share. This grows significantly more muddled when we're attempting to execute this exchange electronically. We would prefer not to manage the everyday administration of the assets— like exchanging certificates, bookkeeping, or managing dividends. So, we outsource the sharehold- ings to custodian banks for safekeeping. Since purchasers and sellers don't generally depend on a similar custodian banks, the custodians themselves need to depend on a trusted outsider to clutch all the paper certificates. To settle and clear a request on a trade includes different go-betweens and purposes of disappointment. By and by, that implies that when you purchase or sell a benefit, that request is handed-off through an entire bundle of outsiders. Moving pro- prietorship is entangled in light of the fact that each gathering keeps up their own form of reality in a different record. Not exclusively is this framework wasteful, but at the same time it's loose. Securities exchanges take between 1 to 3 days to settle since everybody's books must be refreshed and accommodated toward the day's end. Since there are such a large number of various intermediaries involved, transactions must be physically approved with time to time. Each intermediary charges an expense. Blockchain innovation vows to change money related markets by making a decentralized database of exceptional, computerized resources. With an appropriated record, it's conceivable to move the rights to an advantage through cryptographic tokens, where assets are depicted "off-chain." While Bitcoin and Ethereum have achieved this with absolutely digital assets, new blockchain organizations are chipping away at approaches to tokenize real-life assets, from equities to commodities.

V). Loans and credit:

The universes of the purchaser, the financial organization, and blockchain are gradually combining. Another space where that intermingling can possibly totally over- turn the manner in which finance works today is loaning and credit. Customary banks and moneylen- ders endorse loans dependent on an arrangement of credit reporting. Blockchain innovation opens up the chance of shared loans, complex customized loans that can inexact a mortgage or coordinated loan structure, and a quicker and safer loan process when all is said in done. At the point when you round out an application for a bank loan, the bank needs to assess the hazard that you won't take care of them. They do this by seeing factors like your credit score, debt-to-income ratio, and home possession status by accessing your credit score from various credit rating agencies. This centralized framework is often antagonistic to customers since its hackable, which infers customers' credit data isn't secure. But loaning using blockchain offers a less expensive, more effective, and safer method of making individual loans to a more extensive pool of buyers. With a cryptographically secure, decentralized library of historical install- ments, customers could apply for loans dependent on a worldwide credit score.

VI). Trade Finance:

Trade finance exists to relieve dangers, broaden credit, and guarantee that exporters and shippers can take part in global trade. It is a vital piece of the worldwide money related framework, but then it much of the time despite

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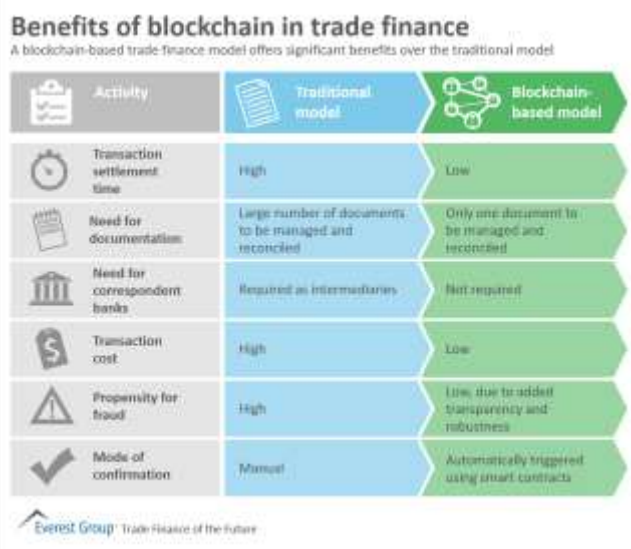
everything works on out of date, manual, and composed documentation. Blockchain speaks to the chance to smooth out and improve the perplexing universe of trade finance, sparing shippers, exporters, and their agents billions of dollars consistently. Blockchain technology has had an inexorably customary near- ness in trade programs for a year at this point, yet its standard job in bills of replenishing and credit has as of late solidified. In the same way as other ventures, the trade finance advertise has experienced strategic misfortunes because of old, obsolete, and uneconomical manual doc- umentation forms for quite a long time. Physical letters of credit, given by one gathering's bank to the next gathering's bank, are still regularly used to guarantee that installment will be got- ten. Blockchain technology, by empowering organizations to safely and carefully demonstrate nation of birthplace, item, and exchange subtleties (and some other documentation), could sup- port exporters and shippers give each other greater perceivability into the shipments traveling through their pipelines and more confirmation of conveyance. Perhaps the most serious hazard to trade parties is the danger of extortion, which is more prominent on account of an absence of secrecy and little oversight on the progression of merchandise and documentation. This opens up the chance of a similar shipment being over and over sold, a disastrous event that occurs so frequently that item trade finance banks discount it as an expense of business. Through blockchain technology, installments among merchants and exporters could occur in tokenized structure dependent upon conveyance or receipt of products. Through savvy agreements, ship- pers and exporters could set up decides that would guarantee programmed installments and cut out the chance of missed, passed, or over and again sold shipments.



Source:https://www.everestgrp.com/2017-09-benefits-blockchain-trade-finance-market-insights-41991.html/

X. CONCLUSION

Breakthrough of any entity doesn't occur without any forethought. Blockchain technology is still in its outset, and a ton of the genuine innovation presently can't seem to be culminated. Stalwart supporters of digital currency believe that it will supplant banks by and large.

Others feel that blockchain innovation will enhance conventional financial system's frame- work, making it more productive. One thing is clear, nonetheless: blockchain technology will in reality change the financial business.

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