

IMPLICATION OF BLOCK CHAIN IN FINANCIAL SERVICES

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Abstract : Financial world is at the cusp of enormous changes. Block chain, Artificial Intelligence (AI), robotics, process automation gives all sort of promises solving all issues in financial world. Of these block chain is the next wave transforming the industry, block chain is transforming the financial industry and creating opportunity for both new and established players. The finance industry is peculiar about facilitating the trusted exchange of value between multiple untrusted parties. Intermediaries that we trust with enormous responsibility and risk end up with high cost and manual process which can be tampered. financial service institution are now looking to block chain to enable more efficient organisation organisational collaboration, eliminate intermediary and create a new business model. This paper attempt to briefly explain about block chain technology and its opportunities in financial industry with special reference to service sector.

IndexTerms - block chain, smart contract, and encryption.

I. INTRODUCTION

Block chain is the new word in the revolution of technology which the world is looking forward as a driving force of net working, block chain is decentralised, digital, distributable ledger creating identical copies making the information more difficult to manipulate. Block chain is the leader of all transaction owned and monitored by everyone but ultimately controlled by none. It is a new technology paradigm that could create fundamentally new way of financial transaction and interact exchange. Block chain completely changes the financial transaction providing unprecedented transaction security through cryptography that avoid costly main frames and data centre. Organisations ranging from small start ups to major corporations and government agencies are now investing in the technology streamline that block chain will cause intrusion to the current business models in financial service sector and beyond. Block chain offers the promise of addressing some of the key challenges experienced over many years. It also provides the opportunity for more accurate tracking of customer repayment histories, across border and banks.

II. REVIEW OF LITERATURE

(PARKER, 2018) Explains the concept of block chain has energised the financial industry globally and has already brought disruption. The feature of block chain could transform the financial service landscape. (SORT) Viewed block chain can bridge the gap of missing securities and transparency in daily transaction. (FORGLOW) Investigates about block chain technology its current use and explores other possible implementation with potential application ranging from wider banking and business to voting and international trade. (LEMIEUX) Aims in leveraging block chain technology in support of digital preservation and potential that exist to see the fundamental shift in current digital preservation paradigm and indeed the very role of archive in society as the result of this technology. (BRAT CANT, CRISTOPH VAGUE, CLIFF EVAN, 2015) Pointed out that finance industry isn't interested in alternative money or digital currency instead they are interested in distributed ledger. Capgemini create a 9stem technology to evaluate block chain platform. (Ammous, 2014) Innovations are more significant for people who could skip traditional financial services and move to digital currencies. The author preliminary brainstorming about the possibilities could open in developing word.

III. OBJECTIVE OF THE STUDY

- To understand the concept of block chain technology
- To know the implication of block chain in finance sector

IV. DISCUSSION

As with all important emerging technologies no financial services firm can ignore block chain technology. A number of block chain start ups are already in the financial system providing complete solutions. This paper mainly deals with the importance of block chain technology and its implementation in various financial sectors with special reference to financial services.

Block chain is conveying many things to many people for developers it is a distributed encrypted data base technology. For business and finance it is distributed ledger. Technology underlying the explosion of digital currency (bit coin). For technologist it is driving force for the next generation internet. For others it is most radically re shaping the society and economy to a decentralised world. Actually block chain is all of the above just defining it in different perspective. Block chain is literally just a chain of blocks. the word block actually represent digital information and chain means stored in public data base. The concept was introduced in 2008 by Santoshi Nakomoto as part of digital bitcoin currency.

Block chain is a decentralised system of secured and trusted distributed database which records and share the transaction details among many nodes which are the part of the network so that the data is not modified. so each and every transaction which happen in the block chain is distributed across all the nodes on the block chain. Each and every participant has the same copy of the

ledger and it is immutable ledger. Once the record of the transblocation is registered it cannot be modified .block chain was originally introduced to time stamp digital document and prevent tampering of records. In simple terms a chain of block that contains information is called block chain.

When a transaction is occurred its related information is recorded in to a block. And then this block is verified and validated by the miners of the public ledger and then added to the main block chain. A block chain aggregated transaction in a single block which a miner has to validate and to that the miner gets rewarded.

IV.I COMPONENTS OF BLOCK CHAIN

Previous Hash:-previous hash includes the attribute which is connecting to the previous block.

Data:-data contains the details of the address, receiver address and transaction amount ie.multiple transaction in a block, so there is n numbers of details of sender, receiver and value.

Nodes: - in proof of work nodes is the random value used to vary the output of the hash value. So proof of work is the process of transaction verification done in block chain.

Hash: - hash is like a digital finger print. It is the fingerprint of the current block .where it takes the input value (previous hash, data and nodes) and produces an output value of fixed length.

VI.II FEATURES OF BLOCK CHAIN

Public distributed ledger: A block chain is a decentralised public distributed ledger that is used to record transaction across many computers. A distributed ledger is the database that is shared among the user of block chain network. The transactions are accessed and verified by user associated to the network. Any change to the ledger are reflected in all copies in seconds. The transactions are accessed and verified by user associated to the network there by making it less prone by cyber attack.

Encryption: Block chain eliminates unauthorised access by using cryptographic algorithm to ensure the blocks are kept secure. Every user in the network can validate transaction to which the encrypted transaction is added. Each user has their own key, public key and private key. Through the use of keys and signatures, the security and accuracy of asset is maintained cryptographically and are controlled by the participant.

Irreversibility and immutability: Creating immutable ledger is the main value of block chain. It refers to the fact that the block chain is highly resistant to alteration. The data blocks are linked and secured with a cryptography called hash. Block chain contain a certain and verifiable of every single transaction made. These prevents past block from being altered and in turn stop double spending, fraud, abuse and manipulation of transaction.

Smart contract: Smart contract is said to be the major contributors to the success of block chain. The term smart contract is described as a computer programs with if- the structure interacting with real world. It allows the automatic execution of commercial transaction and agreement. It will improve contractual term performance as smart contract executes automatically once certain preset conditions have been met. It is important that those smart contracts are firmly rooted in law and complies with any regulatory compliance across jurisdiction if needed. This would develop more trust between the parties as information will be transparent.

VI.IV BLOCK CHAIN IN FINANCE SERVICE SECTOR.

Finance industry has been experiencing a dramatic transformation. Financial market are offering array of financial services to customer that are designed to meet their increasing demand and services. The financial system serves number of people and perform much transaction each day through many financial intermediaries. The biggest issue arising in the financial systemic the rising cost through fes,delays,tedious paper work, service charges, cost of regulatory compliance and also provide opportunities for fraud and crime (tapscott, 2017) ,the implication is that financial institution will ultimately transfer the cost burden to customers. The high cost of financial inter mediation has led to the need to find ways to reduce the cost of financial intermediation and to lower interest rate. In 2018,the block chain came with the solution by reducing the cost of financial intermediation by eliminating all or most third parties involved in any financial intermediation process. Financial services industry is witnessing an increase number of block chain based uses that yield the potential to drive operational efficiency and improve customer experiences. Block chain uses block chain use cases in financial service industry.

IV.V CAPITAL MARKET AND BLOCK CHAIN

Block chain promotes faster transfer of securities and payment and reduces trading cost by removing intermediaries. Smart contract based issuance and allocation of commercial paper to investors, settlement of delivery and payment. Smart contract will speed up the processing of trade agreement on complex financial product and ensure zero errors as the control are executed the encrypted document make proven safety and trust to all parties. The potential benefit of capital market are, Transparency and verification of holdings, secure and real time transaction and immediate irrevocable settlement, primary issuance directly onto a block chain with automated service.

IV.VI BANKING AND BLOCK CHAIN

The main area were banks will be benefited on implementation of block chain technology are reducing cost and making bank to bank and international transfer faster. Block chain provide streamed line and shorten the transaction process and cost with minimum intermediary intervention. Another field were block chain disrupt is in regulatory reporting and compliances. Block chain store financial data in an irreversible form, thus eliminate error associated with manual audit.

The KYC regulation is a mean to identify their customers which is compulsory to every financial institution to minimise crime and other fraudulent activities. With block chain technology every customer is verified independently and the identity is availed to other financial institution thus saves customer from going through KYC process with every financial institution.

IV.VII INSURANCE INDUSTRYAND BLOCK CHAIN

Distributed ledger, smart contract and non repudiated capabilities act on a shared infra structure of block chain leads to an open trusted and secured I T system .these helps the insurance companies to eliminate common source of fraud .block chain verifies underwriting identity, ensures completeness of application evaluate risk .major hurdle in insurance companies is processing of claims .smart contract simplifies the flow of information and payment. Claims processing is a process in which beneficiary has to undergo a series of time consuming activities .creating policies on the block chain as smart contract offers complete control, transparency and traceability for each claim and could lead to automatic pay out.

IV.VIII PUBLIC SECTOR AND BLOCK CHAIN

Digital identity near real time contract management for on boarding partner's customer using block chain based digital identity management. Customer on boarding imposes customer experience leverage digital identities over block chain. Block chain technology also help in tracking on asset from its creation transportation, purchase and inventorying. Technology enables new method of digital voting and avoids ballot rigging. Social security, medical benefit paying domestic and international aid, could be automated through smart contract. Block chain and smart contract can automated transaction handling and improve information sharing allowing each agency to better focus on their own mission.

V.CONCLUSION:

Over the past 3-4 years block chain has emerged as a viable technology for addressing malty party business process that value exchange without completely shared data and third party intermediary. The paper has gone through the major areas of financial services which enable lowered cost, redusing cost, increasing trust and improve customer services. Before implementing block chain technology studies has to be done on its feasibility and challenges. Block chain will bring with the new era of radical transparency and efficient improvement, intermediary can be replaced with direct, trusting relationship between financial institution and their customer.

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