BLOCKCHAIN AND CROSS-BORDER MONEY TRANSFER - AT A GLANCE.

Mallieswari R [1], Manish Kumar Sahu[2]

Assistant Professor, PGDM Student

Ramaiah Institute of Management, Bangalore, India

Abstract: The banking industry is one of the prominent sectors in any of the economy. Many innovations have been done in the sector to have a smooth flow of operation inside and outside the banks. Also, there has been set up of many innovation labs to deal with recent technology. One of technology which is making buzz all around the world is blockchain. It is considered to be a prominent technology in the banking sector. This technology has the potential to tremendously affect the strategies for closing and affirming transaction, optimizing assets, and also numerous different business forms which inside and out record for billions of dollars in yearly costs for banks today. Blockchain technology provides a high layer for security in storing and transmitting data, decentralization, open network infrastructure and low cost of operation. All these impressive features make it more promising in the restricted banking industry. Giants banks like Goldman Sachs, JP Morgan and many more already started the implementation of the blockchain. Due to the large volume of data in cross-border money transfer, it involves more transaction cost and time. Implementation of blockchain in this area would be a step-in cost saving and reduce turnaround time as also to experience the advantages of modern technology of distributed ledger. In this study, we focused on how the implementation of blockchain would help the banking industry in terms of reducing the cost and time involved along with providing more security.

IndexTerms – **Blockchain, Cross – Border money Transaction**

I.   Introduction

The Banking industry includes various segment such as retail, corporate banking, and asset & wealth management and industry assets are forecast to climb to an estimated US $163,058 billion in 2017 with a CAGR of 8% over the next five years. The global financial system is enormous and it is very difficult to transfer money across the border.

One of the considerable frail spots in the global installment's ecosystem is Remittance wherein funds are moved from one account to another account within the same or any other financial institution. As the economy is worldwide, its considerable issue is whether business can pay somebody in another country.

Given the shortcoming of the as-is-process with cross-border payment, blockchain and the concept of the distributed ledger has been resonating well amidst the banking and financial sector. It has been making a buzz for quite some time now, and the distributed ledger blockchain is also widely talked by banks.

The lure of blockchain is its process of verifying and authenticates transactions. Instead of a trustworthy intermediary or a financial organization, it relies on accord among a peer-to-peer network of computers supported advanced algorithms. All the transaction is recorded in the blocks on all system across a price chain. This elimination of middlemen and decentralization of trust has introduced potentialities to make processes like cross-border payments, commercialism and settlement quicker, more reliable and less expensive.

Blockchain is distributed ledger technology in which entire database are accessible to all nodes of the network. Thus, each node has a complete copy of entire ledger and any modification can be done with the consensus of all the node present in the network. This mean that direct transfer of currencies can occurs across the border without any manipulation due to the absence of intermediary (central bank).

Traditionally, in the current banking system transferring money from account at bank A to account at bank B takes multiple steps. If X wants to transfer 100$ to Y, X's account is debited with 100$ and Y's account should be credited with the same amount. If the accounts are in the same bank than bank can simply apply changes to their book as the credit and debit amount of bank remains identical.

However, if X has account in bank A and Y has account in bank B, it changes the total debit and total credit amount of bank A and bank B. In practice, it brings a large amount of risk while dealing with transfer of money between accounts of different banks. Therefore, banks have account at central bank for bookkeeping, where they debit and credit the transactions of banks. The central bank played the role as settlement authority for the payment in the currency.

Following are the issues in current Global Money transfer process: -

Complexity

While transferring money from one nation to another nation, additional intermediate channels are added which overall increases complexity, more delay in process and higher cost.

Intermediary at Risk

Central bank operates as middleman for the settlement of transaction to guarantee payments. In case of any issues regarding the remittance, Central bank has to pay to its customer.

Costly

SWIFT charges the bank for processing the transaction irrespective of whether bank is at sending or receiving end. A bank charges fee for processing the transaction along with SWIFT cost which overall increases the cost.

Liquidity

A central bank insists that there should be sufficient liquidity maintained by bank in settlement or nostro account. Transfer of money denied in case banks does not maintain the enough cash balance with themselves.

Security

Presence of third party - Central bank has the capability to overwrite and overturn the ledger activities. Also, the banks are provided with heavy volume of user's data which is concern from both the ends (sender bank & Receiver bank).

However, all these above issues can be solved with the implementation of blockchain in process. Ripple blockchain is working in the same industry which aims to supply a worldwide settlement network supported a distributed ledger. Ripple solely partly replaces the correspondent banking system.

In the traditional system, if one thing goes wrong for associate intermediate payment, previous payments need to be reversed and generally manual intervention is needed. to boot, Ripple provides its own currency, XRP, which may be used as intermediate currency for transactions.

XRP is that the solely currency on the Ripple ledger that transactions don't entail counterparty risk. Ripple doesn't take away the trust relationships required within the correspondent industry however merely shifts them to alternative parties, the gateways. This limitation might be removed if such a system would use central banks to act as gateways, since the currencies issued on Ripple would then truly correspond to the important currencies. This would take away all trust needs for settlement aside from the trust within the central banks, that could be a necessity in any case once transacting within the corresponding currency.

II.   CHALLENGES FACED

The area in which significant challenges can be faced during the implementation of blockchain is the adoption by worldwide bank. All the banks have several processes to authenticate the transaction by adopting various tools. Followings are the obstacles during

the implementation of technology in banking sector particularly in cross-border money transfer process.

- **Standardization**

In the present scenario of remittance, we have several International standards for messaging Society for Worldwide Interbank Financial Telecommunication (SWIFT) and EDIFACT. In order to transfer money, there should be single standard which has to be followed by all the parties. Hence, Blockchain technology should work more towards standardize the same process across the global.

- **Cost and Time**

Initially adoption in Cross – border payment will continue to be expensive. As blockchain is considered as P2P network in which there are many nodes present in the system to authenticate the transaction. Initially, this will lead to cost more but during the increase in volume of transaction, charges will be automatically low due to its functionality.

- **Data protection**

As all the details of transaction will be stored in the blocks of the system. There is a strict need to ensure that there is no breach of data and it should not be modified at any point of the chain.

- **Compliance and regulation**

There are many regulatory authorities and also the compliance and regulatory reporting like the anti – money laundering (AML), Know your customer (KYC), Financial action task force (FATF) and others. During the implementation of blockchain, it needs to be ensured that there is sufficient payment transparency.

- **Adoption and Collaboration**

Blockchain technology can only be effective if it is adopted by a greater number of organization or institution. Cooperation among various payment service providers are required to create inter-operable blockchain. There is a need for an extensive global network during the adoption of the technology.

III. BENEFITS OF IMPLEMENTATION OF BLOCKCHAIN IN THE CROSS – BORDER MONEY TRANSFER

The advantages of using the blockchain technology into banking ranges from privacy till security. It leads to more transparency of transaction at the cost of efficiency. The following are the benefits that can be taken out from the implementation:

Security

Since all the details of transaction are encrypted and hashed, there is no possibility for modification of data.

Cost potency

The elimination of third-party appraiser in the process accelerates the method of the dealing and cuts down the fee. Central banks (Intermediary) tend to charge 8 -10 % of the transaction amount. on the opposite hand, the P2P transactions lead to only cost 3-5% of the amount. Hence, it leads to reduction in the cost for processing the transaction.

Downtime

During the heavy volume of transaction in the banks, it leads to the delay in process due to its traditional technology which is unable to compete. Even though banks process more transaction, sometimes it gets failed due to the internet or technology fault. But the same is not true in the case of blockchain, It ensure there is proper and smooth flow of transaction 24*7.

Turnaround time

Reduced turnaround time for processing of transaction as there is no need for intermediary and movement of messages.

Transparency

Increased payment transparency with distributed ledger as sender and receiver are nodes of the network.

III.   METHODOLOGY

The basic methodology that can be used for implementation of blockchain in banking industry is begins with consensus of all the banks. Also, creation of POC (proof of concept) and implementation in intra-group payment first. These activities are carried out through exploratory research. The sender and the receiver (both end users) install the application of bank which is based on blockchain. Users confirm their acceptance of the bank terms of service and register. Each of them gets a personal account and a wallet.

In order to send money, sender A has to buy some cryptocurrency using his fiat currency which is equivalent to the amount that has to be sent to Receiver B. The cryptocurrency will be the application selects cross requests in point A on the receipt of obligations and brings the participants of the transaction in a private chat, where they agree on the way the recipient gets the money, values or services for the obligations in favor of the recipient.

The system blocks the required quantity of tokens on the seller's account. As soon as the Fiat transaction passes, the system transfers the tokens to the sender's A account. He then transfers them to the recipient B. Then recipient B exchanges tokens for the fiat money of his country. To do this, it leaves a request for the sale of tokens, the system finds a potential buyer of tokens and connects two participants in a private chat.

There they agree on the terms of exchange, depending on the method of payment. All data on committed transactions, as well as the rating of users are fixed in blockchain. In all cases, the participants sign an offer that the company is not responsible for the place where they had a meeting.
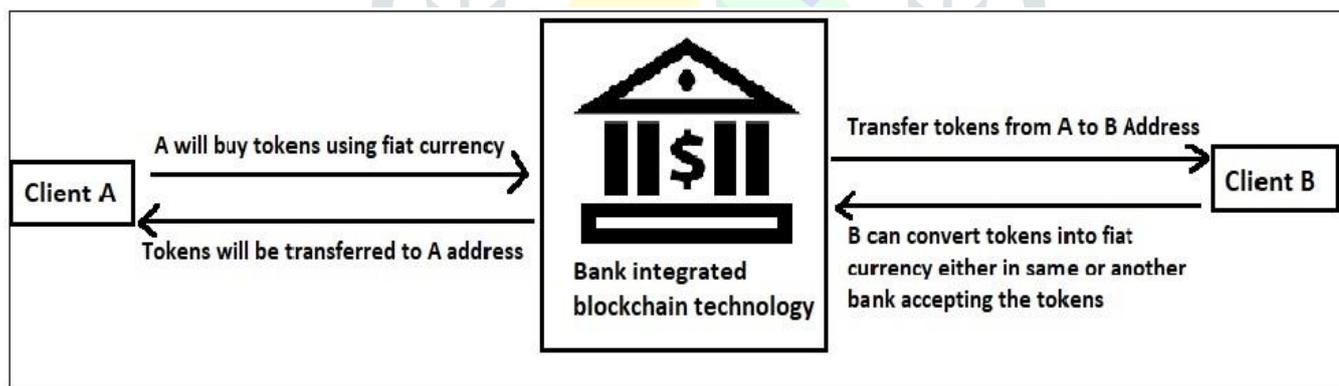
IV.   CONCLUSION

This study focuses on the implementation of blockchain technology in bank services particularly in Cross border money transfer activity. Also, this focus on the methodology, and its challenges faced during implementation. This conceptual framework can act as basis for the implementation. This concept involves the merger of two completely different fields, technology and banking.
To get start with implementation of the technology in this field, consensus of most of the banks is must. Regulatory compliances are another concern which need to be solved before the implementation of the technology.

V.   RECOMMENDATION

The best way to get start with the implementation of blockchain is through intra-group payment first.

In general, for financial applications, there are many parties which are risk averse and do not want to rely on strong trust assumption, blockchain technology is well suited for them. As in the interbank payments process, there are multiple parties involved and it arises the tension between transparency as well as privacy. This can be solved by using cryptographic techniques to ensure privacy while providing public verifiability at the cost of efficiency. Currently Many central banks are researching the possibilities of using the technology for intra- group payment through on- chain currency. It means the value of cryptocurrency is defined by actual value of currency which is interchangeable.

In this way, bank with multiple chain can be used to exchange currency globally while removing the presence of intermediary for better trust.

REFERENCES

[1] Karl Wust, Arthur Gervais. "Do you need a Blockchain?". Department of Computer Science. 2015.

[2] Mas working with industry to apply distributed ledger technology in securities settlement and cross border payments, 2017. http: //www.mas.gov.sg/News-and-Publications/Media-Releases/2017/MASworking-with-industry-to-apply-Distributed-Ledger-Technology.aspx.

[3] Carolyn A. Wilkins. Fintech and the financial ecosystem: Evolution or revolution? 2016. http://www.bankofcanada.ca/wp-content/uploads/ 2016/06/remarks-170616.pdf.

[4] SWIFT explores blockchain as part of its global payment's innovation initiative, 2017. https://www.swift.com/news-events/pressreleases/swift-explores-blockchain-as-part-of-its-global-paymentsinnovation-initiative.

[5] Gideon Greenspan. Avoiding the pointless blockchain project, 2015. http://www.multichain.com/blog/2015/11/avoiding-pointlessblockchain-project.

[6] Achanta Ravishankar. "Cross border Money Transfer using blockchain enabled by big data". 2018. https://www.infosys.com/industries/cards-and-payments/resources/Documents/cross-border-money-transfer.pdf