Blockchain Technology: Its Importance, Implementation and Impact on Customer Experience

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Abstract: Blockchain Technology is considered as one of the technological revolutions after the internet technology. The idea of blockchain is a decentralized, secure and transparent ledger distributed among users and it can be relevant to many different fields. It has the potential to revolutionize the digital world by enabling a distributed consensus where each and every transaction in the blockchain technology of past and present involving digital assets and that can be verified at any time in the future. This paper covers significance and use of blockchain technology and limitations of the technology. The paper provides various applications of blockchain technology in insurance, banking, marketing and non-financial sectors. The findings of the study are applications of block chain are seen as a solution that has been developed, such as Internet of things (IoT), smart contracts, smart properties, digital content distribution and P2P broadcast protocols. Finally, a concluding section presents some overall remarks and potential use of customers through blockchain development.

Index terms: Blockchain technology, Cryptography, Insurance and banking, challenges

I. INTRODUCTION

Blockchain is the one of the innovation in technology that supports the Bitcoin cryptocurrency protocol and it has a greater impact on the communication and marketing. Blockchain technique is shared the digital data that is permanent and unchangeable. It is initially associated with Bitcoin applications which are constructing on a same technology. It is an online platform that is based on chronological records, transactions and track properties through a distributed ledger in a network [1]. Blockchains are tamper evident and tamper resistant digital ledgers which are implemented in a distributed fashion and generally without a central authority [2]. At the initial situation, all the user society is record their transactions in the form of shared ledger within the group. In the Blockchain network, under normal conditions transactions cannot be altered after once published by user community. This technology allows the data to be stored and exchanged on peer to peer basis, Structurally, Blockchain data can be consulted, shared and secured by using consensus based algorithms. It is used a decentralized manner and removes intermediaries or “trusted third parties” [3]. Blockchain has certain key features, it operates with automation (Blockchain members view smart contracts allow for automatic settlements), transparency (audit trail that can be consulted at any time by members), autonomy (there is no need for a central decision-making body) and security (secure owing to the staking of blocks [4]. The blockchain adds a new real-time capability for security professionals by focusing on the integrity of the digital assets that encompass a network and the composition of data points, switches, routers, event logs and binaries so the state of the network can be verified separately and in real time manner [5]. In this view, the structure of the paper organized as follows. It is important to identify nature of Blockchain technology which seen as suitable solution for conducting transactions that need to be studied and addressed above. The rest of the paper as follows. Section 2 addresses the importance of Blockchain technology and its limitations. In section 3 describes the process of collecting relevant data which describes research methodology. Section 4 presents implementation of Blockchain technology and discussions about applications of Blockchain technology in various sectors and finally section 5 conclude the paper.

II. IMPORTANCE OF BLOCKCHAIN

The public Blockchain technology is implemented in 2009 that was initiated in terms Bitcoin crypto currency. Blockchain, is the technology behind this Bitcoin cryptocurrency system and is seen as essential for ensuring superior security and privacy for various applications in many other domains including the Internet of things (IoT) ecosystem. In this ecosystem, any computer in spite of where it is located can generously access this Blockchain technology and be involved in the process of approving new locks. There are currently three categories of Blockchain. Public Blockchain (all the participants are able to access the database, store a copy and modify it by making accessible their computing power i.e. Bitcoin), consortium Blockchain (open to the public but not all data is available to all participants) and private Blockchain (a central authority manages the rights to access or
modify the database) [4]. It has the potential to revolutionize the digital world by enabling a distributed consensus where each and every transaction in the past and present involving digital assets can be verified at any time in the future. The advantages of Blockchain technology are more important than the regularity issues and technological challenges. Blockchain is finding applications in

III. RESEARCH METHODOLOGY

The goal of this research paper is to summaries the literature on implementation of the Blockchain and similar digital ledger techniques in various other domains beyond its application to crypto-currency and to draw appropriate conclusions. In this study, Reviewed the literature and present in the form of chronologically representation. There is a lot of literature on blockchain from various sources, such as

IV. DISCUSSIONS

Blockchain has the potential to transform various industries and make processes more democratic, secure, transparent and efficient. Many financial and non-financial players are excited about the potential of this technology. Financial players are the foremost movers to capitalize on this technology even though it is still in a blossoming stage. A study by the World Economic Forum predicts banks and regulators around the world are poised to experiment numerous Blockchain prototypes in 2017[8].

A. Implementation of Blockchain:

B. Applications of Blockchain:
There are obvious benefits to motivating the adaptation of these global technologies. Blockchain is one innovation whose architectural properties increasing provide indispensable foundation to the digital landscape where there is an appropriate to define greater level of autonomous and attribution [10].

Blockchain technology has a wide variety of use cases in different sectors and possibly impacts on the

Insurance: In Insurance sector, first, the Blockchain technology involves in terms of smart contracts. Smart contracts are fundamentally computer programs that can automatically execute the terms of a contract [7]. Controlling the ownership of a property or asset via Blockchain using smart contract that is physical or non physical. The benefits of using smart contracts are associated with automation and autonomy of management process based on data and infinite immutable data history based on a large. Second, the peer to peer (P2P) insurance is bringing the decentralized autonomous organization (DAO). DAOs are enabling P2P insurance to be rolled out on large scale. Third, Index based insurance (underlying index such as rainfall, temperature, humidity or crop yield i.e. traditional crop insurance). Fourth, possible use in industry agreements are issued (in case of traffic accidents). The Blockchain could clearly help to lower overhead costs while at the same time accelerating management process and making them more secure. Fifth, reinsurance (the use of internal reinsurance enables capital requirement to be reduced for individual entities since the risk is transferred to a captive reinsurance) and finally transforming assets management (the distributed ledger technology could be improve process efficiency in this industry as well as cooperation between the industry and different stake holders).

C. Financial Applications:

Private securities: companies are able directly issue the shares via Blockchain. These shares can then be purchased and sold in a secondary market that sits on top of the Blockchain.i.e. NASDAQ private equity, Medic, Block storm, Coinsetter Auguer etc.

D. Non Financial applications:

Notary public: verifying authenticity of the document can be done using Blockchain and eliminate need for centralized authority i.e scam peers, viacoin.

Music: In music industry, the Blockchain technology can play a role by maintain a comprehensive accurate distributed data base of music rights ownership information in public ledger.

Decentralized proof existence of document: it provides an alternative model to proof-of existence and possession of legal document.

value chain of the respective sectors. This shows that Blockchain technology is not limited to applications in crypto currencies also can be applied to various other applications in different industries [7]. Applications are seen as a solution that has been developed with Blockchain technology such as Internet of things (IoT), smart contracts, smart properties, digital content distribution and P2P broadcast protocols.

Decentralized storage: Storj provides a Blockchain based peer-to-peer distributed cloud storage platform that all one uses to transfer and share data without relying on the third party data provider.

Decentralized Internet of Things (IoT): the Blockchain technology facilitates the implementation of decentralized things IoT platforms such as secured and trusted data exchange as well as record keeping [6].

Marketing industry will have to embrace this technology and make it part of its toolkit because first the companies that the marketing industry services are actively exploring block chain technology for their own business needs. Second, consumers, government and associations will only demand more transparency and finally customers seek reliability from industries and the system. The marketing advantages of blockchain technology are non obvious and untapped resources and companies will want to explore them early to identify potential advantages or opportunities to forge strong partnerships [11].

E. Impact on customer experience:

The initial use of blockchain in the corporate environment has been primarily aimed at reducing cost. Blockchain offers reduction in key costs in insurance and banking and the public sector, lower risk of fraud and theft of insured property, automation of tasks with zero added value, benefit pricing and emergence of new markets [3].

Blockchain s are a remarkably transparent and decentralised way of recording list of transactions. There are many different ways of using blockchain to create new currencies. The way blockchain based currency transactions create fast, cheap and secure public records means that they also can be used for many non financial transactions such as casting vote in elections or providing a document existed at specific time. It helps finally resolve the problems of music and video piracy, while enabling digital media to legitimately bought, sold, inherited and given away second hand like books and video tapes. It present opportunities in all kinds of public services such as health and welfare payments and at the frontier of blockchain development and self executing constraints paving the way for companies that run themselves without human intervention [12].
V. CONCLUSION

Blockchain is a new technology that has the potential to create social, societal and economic change and is used as a tool for financial services to improve transparency and efficiency as well as reduce cost within industry. The transparency in the Blockchain, that helps by making trust in the transaction and also improve efficiency (in finance entities and also help speed up payment between financial entities), transparency (a smart contract provides much higher level of transparency) resilience9, storing data over a large number of nodes benefits the resilience data) governance and trust (a majority of participants need to agree on the data being added before it becomes part of definitive Blockchain) and it creates a more honesty system.

The wide adoption of the Blockchain in a wide range of applications beyond crypto currency, Blockchain possess a great potential in empowering the citizens of the developing countries if widely adopted e-governance applications for identity management and assist ownership transfer [13]. However, several issues need to be considered the new competition landscape that will emerge from the use of block chain, governance and maintain challenges, changes to the evolving legal environment and scalability (legal and technical limitations are difficult to scale up) [3].

Primarily governments and industry gains investing heavily in blockchain research and development are not trying to make themselves obsolete, but to enhance their services, secondly the individuals associated with the transactions which creates privacy and anonymity. While some blockchain do offers full anonymity some sensitive information simply should not distributed in this way, nevertheless, although blockchain are not the solutions for every problems and even if they will not revolutionize every aspect of our lives, they could have a substantial impact in many areas and it is necessary to be prepared for the challenges and opportunities they present.

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