

Blockchain Economy : The New Era of Digital Economy

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ABSTRACT

In this research paper the researcher given the analysis report of blockchain technology and its significant usage in new era of digital economy. The researcher stated that block chain technology is a network software protocols that enables the secure transfer of money, assets, and information via the internet, without need a third party intermediary. The researcher focused on some of the significant research issues and new dimension of centralized data centers, distributed ledger technology, specific times tampered with a unique cryptographic signature, tamper-proof auditable history of all transactions. In current scenario the block chain technology provides highly secure data in all aspects using cryptography, fingerprint that verifies the authenticity of the data. Alteration of the original data causes the hash of the altered data to no longer match the original fingerprint. Transactions on the blockchain are grouped and stored in blocks. The combined hash of these transactions is also stored, and each subsequent block saves the combined hash of the previous block. The resulting digital applications are digital asset registries, blockchains as leapfrog technology for global financial inclusion, long-tail personalized economic services, and net settlement payment secure channels which provides a new era of digital economy. In this research article the researcher focused on some of the significant research issues and challenges, statistical report of current blockchain technology usage and future direction for highly secure technology of new era of digital economy.

Keywords : Blockchain, Economy, Digital Payments

I. INTRODUCTION

A blockchain is the structure of data that represents a financial ledger entry, or a record of a transaction. Each transaction is digitally signed to ensure its authenticity and that no one tampers with it, so the ledger itself and the existing transactions within it are assumed to be of high integrity. Every exchange is carefully marked to guarantee its genuineness and that nobody messes with it, so the record itself and the current exchanges inside it are thought to be of high trustworthiness. Blockchain is a system programming convention that empowers the protected exchange of cash, resources, and data by means of the Internet, without the requirement for an outsider mediator, for example, a bank (Swan,

2015). Exchanges are approved, executed, and recorded sequentially in an affix just alter safe database, where they stay accessible on the Internet for on-request query and confirmation [2] [3].

A computerized cash framework, Bitcoin is the first and maybe the most evident use of blockchain innovation. Cash can be moved quickly progressively starting with one landmass then onto the next, at exceptionally low costs, and in merely seconds or minutes, rather than holding up days or weeks, and paying high commissions, similar to the case with current universal cash move and settlement arrangements. Similarly as the basic mail move convention (SMTP) [1] comprises the hidden convention by which Internet clients can send an

email to one another in a consistent and interoperable manner, paying little mind to their email supplier, in like manner, the Bitcoin convention enables individuals to flawlessly move cash to each other, paying little mind to their bank. Nonetheless, advanced money is nevertheless one application empowered by blockchain innovation. The terms blockchain and appropriated record innovation are regularly utilized conversely. Conveyed record is the general type of the innovation, and blockchain is a particular structure with an extra specialized detail. Both allude to the idea of a record a document that monitors who possesses what. An appropriated record has four remarkable highlights: i) an exchange database shared among system individuals that is ii) refreshed by agreement, with iii) records time stepped with an extraordinary cryptographic signature, kept up in an iv) carefully designed auditable history all things considered. Blockchain includes the extra component of successive refreshing of database records per affixed cryptographic hash-connected obstructs (each square calls a hash of the past square, adequately connecting [5].

Blockchain is a progressive enhancement for any incorporated information framework. Assessment organizations are naturally founded on brought together stores of citizen information. They are prime contender for the sorts of proficiency upgrades that come through blockchain. This is especially the situation for exchange charges, and much more so for a VAT misrepresentation counteractive action application, similar to the Digital Invoice Customs Exchange (DICE), which depends on a constant trade of scrambled information [10].

The researcher expressed that safe database of exchanges reliable over countless hubs. The blockchain is cryptographically verified against

review controls, and it utilizes an accord instrument to keep the database reliable at whatever point new exchanges should be approved. Information stockpiling on the blockchain is verified by cryptographic hashes in which information being hashed return a unique finger impression that confirms the credibility of the information. Adjustment of the first information makes the hash of the changed information never again coordinate the first unique mark. Exchanges on the blockchain are assembled and put away in squares. The consolidated hash of these exchanges is additionally put away, and each consequent square spares the joined hash of the past square. This makes a chain of cryptographically verified and connected squares containing the data—the blockchain by Roman Beck (2018) [21].

II. RELATED WORK

Joseph Abadi, Markus Brunner Meier (2018) emphasized the record-keeping preferable masterminded through a blockchain over through a conventional brought together middle person? The perfect characteristics of any record-keeping framework are (I) rightness, (ii) decentralization, and (iii) cost effectiveness. Blockchains drive down rents by considering free passage of record-attendants and convey ability of data to contending "forks." Blockchains must, along these lines, give static impetuses to rightness through computationally costly confirmation of-work calculations and license record-managers to move back history so as to fix false reports. While blockchains can monitor proprietorship moves, authorization of ownership rights is regularly better supplemented by unified record-keeping [1].

Christian Catalini, Joshua S. Gans (2019) talked about on how blockchain innovation can shape

development and rivalry in advanced stages. The researcher distinguish two key costs influenced by the innovation: the expense of check and the expense of systems administration. The expense of check identifies with the capacity to efficiently confirm state, including data about past exchanges and their traits, and current proprietorship in a local advanced resource. The subsequent computerized commercial centers enable members to make joint interests in shared foundation and advanced open utilities without allocating business sector capacity to a stage administrator, and are portrayed by expanded challenge, lower boundaries to passage, and a lower protection hazard. Due to their decentralized nature, they likewise present new sorts of wasteful aspects and administration challenges [2].

Davidson et.al., (2016) stated that blockchain is something other than ICT development, yet encourages new sorts of financial association and administration. Recommends two ways to deal with financial aspects of blockchain: advancement focused and administration focused. Contends that the administration approach — situated in new institutional financial matters and open decision financial matters — is most encouraging, on the grounds that it demonstrates blockchain as another innovation for making unconstrained associations, for example new kinds of economies [3].

John P. Conley (2017) emphasized that the blockchain new businesses have grasped starting coin contributions (ICOs) as a vehicle to raise early capital. The crypto-tokens offered in these deals are proposed to fill a generally shifted set of jobs on various stages. A few tokens are like monetary forms, others are progressively similar to protections, and others have properties that are completely new. Each organization's innovative vision requires a token with novel properties and employments. The primary

concern of this paper is that structuring a fruitful token must consider certain parts of money related hypothesis, budgetary financial aspects, and game hypothesis [4].

Melanie Swan (2017) expected for non-specialists to characterize blockchain innovation and a portion of the key ideas, and after that I expand four explicit applications that feature the potential financial advantages of advanced records. These applications are advanced resource libraries, blockchains as jump innovation for worldwide monetary consideration, long-tail customized financial administrations, and net repayment installment channels. I likewise feature key difficulties that counterbalance the potential monetary advantages of blockchain conveyed records, while contending that the advantages would exceed the potential dangers. The all-encompassing topic is that an expanding measure of regular tasks including cash, resources, and records could begin to be led by means of blockchain-based disseminated arrange records with cryptographic security, and at progressively granular degrees of detail [5].

Lin William Cong, Zhiguo He (2019) emphasized that Block chain innovation gives decentralized agreement and possibly broadens the contracting space through savvy contracts. In the interim, producing decentralized accord involves dispersing data that fundamentally modifies the enlightening condition. The researcher investigates how decentralization identifies with accord quality and how the quintessential highlights of blockchain remold the scene of rivalry. Shrewd contracts can relieve educational asymmetry and improve welfare and customer surplus through upgraded passage and rivalry, yet conveying data during agreement age may energize more prominent intrigue [6].

Roman Beck et.al., (2018) stated that Blockchain innovation is regularly alluded to as a momentous advancement and the harbinger of another financial time. Blockchains might be equipped for inducing another sort of financial framework: the blockchain economy. In the blockchain economy, settled upon exchanges would be implemented independently, following guidelines characterized by shrewd contracts. The blockchain economy would show itself in another type of hierarchical plan—decentralized self-governing associations (DAO) which are associations with administration guidelines determined in the blockchain. The researcher examined the blockchain economy along measurements characterized in the IT administration writing: choice rights, responsibility, and motivators. Our contextual analysis of a DAO delineates that administration in the blockchain economy may withdraw profoundly from set up thoughts of administration [7].

Bryan Routledge and Ariel Zetlin-Jones (2018) stated that subjective theoretical assaults on monetary standards can emerge from unavoidable desires. This is a well-examined wellspring of cash emergencies. In this paper, the researcher demonstrates that blockchain appropriated record advancements, for example, those which backing Bitcoin and Ethereum, can be adjusted to dispose of unavoidable theoretical assaults on a cash. The scientist demonstrates the peg is resistant to theoretical assaults emerging from inevitable outcomes and gauge the size of stores and exchange costs expected to help the peg [8].

Allen et.al., (2017) stated that popular government is a monetary issue of decision obliged by exchange expenses and data costs. Society must pick between contending institutional structures for the direct of democratic and decisions. These choices are obliged by the advancements and establishments accessible. Blockchains are an administration innovation that

decreases the expenses of agreement, organizing data, and checking and authorizing contracts. Blockchain could be connected to the democratic and constituent procedure to frame a crypto-vote based system. Examined through the Institutional Possibility Frontier system, we suggest that blockchain brings down turmoil and autocracy expenses of the democratic and discretionary procedure [9].

Ainsworth, Richard Thompson and Shact, Andrew(2016) concentrated on World Economic Forum in excess of 800 official and innovation specialists were asked when they thought a specific "tipping point" would be come to – when might we see an administration gather charge with blockchain? Blockchain will likewise be fundamental for making the EU Commission's April 2016 Action Plan on VAT work. Blockchain ought to be a basic piece of the nitty gritty administrative proposition (expected in 2017). This arrangement will get a "conclusive VAT framework" managing intra-EU cross-fringe exchange, which will be founded on tax assessment in the nation of goal. This paper predicts that the EU will acquire the "authoritative framework" on the back of blockchain innovation [10].

Böhme et.al., (2015) emphasized on Bitcoin is an online correspondence convention that encourages the utilization of a virtual money, including electronic installments. Bit coin's standards were structured by designers with no clear impact from legal counselors or controllers. Bitcoin is based on an exchange log that is appropriated over a system of taking an interest PCs. It incorporates components to compensate genuine investment, to bootstrap acknowledgment by early adopters, and to make preparations for centralizations of intensity. Bit coin's structure takes into consideration irreversible exchanges, a recommended way of cash creation after some time, and an open exchange history [10]

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Saleh and Fahad (2019) stated that the consent less blockchains require a convention to create agreement. The biggest such blockchains (for example Bitcoin, Ethereum) utilize Proof-of-Work (PoW) for that reason, however PoW has huge weaknesses. Different options have been proposed. This paper gives the principal formal monetary model of the most well-known option, Proof-of-Stake (PoS), and builds up conditions under which PoS produces agreement. An adequately unobtrusive reward plan not just infers presence of a balance in which

agreement gets at the earliest opportunity yet in addition blocks a constant forking harmony. The last outcome emerges on the grounds that PoS, in contrast to PoW, requires that validators hold stake [12].

Marten Risius, Kai Spohrer (2017) stated that the blockchain innovation is normally considered conceivably troublesome in different respects, there is an absence of getting where and how blockchain innovation is adequately appropriate and where it has mentionable down to earth impacts. This issue has offered ascend to basic voices that judge the innovation as over-advertised. Against this background, this examination adjusts a set up research system to structure the bits of knowledge of the flow collection of research on blockchain innovation, diagram the present research scope just as dismissed themes, and sketch out multidisciplinary research draws near. The structure separates three gatherings of exercises (plan and highlights, estimation and worth, the executives and association) at four degrees of investigation (clients and society, go-betweens, stages, firms and industry) [13].

Quoc Khanh Nguyen (2016) presented the investigation report on worldwide money related emergency 2008, the world has been placing more exertion in fixing banking and budgetary exercises with stricter guidelines. In any case, the viability of this approach has stayed dubious the same number of individuals accept that strategy producers ought to advance opportunity and straightforwardness by engaging general society to legitimately meddle and change the framework for open intrigue. This article endeavors to integrate and dissect accessible data with an emphasis on the job of blockchain, a monetary instrument that can possibly assume a significant job in the economic advancement of the worldwide economy [14].

Maupin and Julie (2017) took a shot at blockchain innovations hold the way to building a comprehensive worldwide advanced economy that is auditable secure and straightforwardly responsible to the world's natives. When governments must battle to reestablish the open's confidence in cross-fringe financial collaboration, blockchains can assume a basic job in reinforcing monetary flexibility while guaranteeing the worldwide economy attempts to the advantage of all. Inability to do as such dangers further dividing the worldwide economy, undermining open trust in universal monetary organizations, and pushing the most front line blockchain improvements into dull web arrangements that are past the scope of government impact [15].

DmitryEfanov, Roschin (2018) adroitly, the blockchain is an appropriated database containing records of exchanges that are shared among partaking individuals. Every exchange is affirmed by the accord of a dominant part of the individuals, making deceitful exchanges unfit to pass aggregate affirmation. When a record is made and acknowledged by the blockchain, it can never be changed or vanish. These days the blockchain innovation is considered as the most noteworthy development after the Internet. On the off chance that the last interfaces individuals to acknowledge on-line business forms, the previous could choose the trust issue by shared systems administration and open key cryptography. The motivation behind this paper is to consider on particular use cases at the all-inescapable effect of the blockchain innovation and take a gander at this as a natural piece of our day by day life [16].

Allen et.al.,(2018) fused blockchain exercises into the more extensive transmit of ensnared political economy hypothesis, stressing monetary and other

social marvels as the developing result of human associations. Blockchains are a computerized innovation joining shared system processing and cryptography to make a permanent decentralized open record. The blockchain contrasts vintage record advances, either paper-based or kept up by in-house databases, generally dependent upon progressive, outsider trust components for their support and security. This suggestion has noteworthy ramifications for the pertinence of existing ensnared connections in the monetary, social and political spaces. Blockchain empowers non-regional 'crypto-severance', not just lessening the expenses related with looking after records, yet profoundly amending and deconcentrating information molded systems to on a very basic level test the financial places of inheritance firms and governments. These bits of knowledge are additionally lit up with reference to back, property and personality cases. Snared political economy gives a convincing focal point through which we can observe the effect of blockchain innovation on a portion of our most significant connections [17].

Koepl et.al., (2017) emphasized that Blockchain innovation can possibly change drastically how an advanced economy manages keeping up and refreshing records. This development has just made heaps of disturbance in money related markets and past. It will be a test to give advertisers a chance to make sense of how to best utilize this innovation while guaranteeing purchaser wellbeing and proficiency. The objective in this paper is to disclose the capability of blockchain innovation and guide controllers in how to approach the difficulties this innovation involves. The most notable instances of blockchains are found in the region of installments frameworks and, all the more for the most part, in budgetary markets. The potential use of this innovation, in any case, arrives at a lot more remote

than only being a cash like bitcoin or a record-keeping framework. Early uses of this innovation incorporate brilliant contracts and endeavors by governments to assemble all inclusive online recognizable proof frameworks. Blockchain innovation likewise presents new ideas, for example, cryptographic correspondence conventions and circulated information stockpiling that can expand the security of electronic systems and offer potential cost proficiency. Particularly in zones where these middle people are of fundamental significance or give benefits that require a high level of specially appointed coordination [18].

M.M. Pryanikov and A.V. Chugunov (2017) stated the circulated record innovation (blockchain) advancement examination in all through various financial circles of the general public. The feature is the speculation and systematization of definitely known information, the primary phases of blockchain innovation improvement are arranged, and the blockchain innovation usage projections are displayed regarding new alleged «Digital economy» markets advancement [19].

N. N. Pokrovskaya (2017) concentrated on reasonable research mirrors the comprehension of the more extensive and increasingly intelligent utilization of cryptographic forms of money and Blockchain' calculations for the security and value of tasks. This is particularly significant for the exchanges between the aggregate entertainers on various progressive positions, e.g., the State and privately owned businesses or affiliations, or people. The haze processing' equipment and programming are useful for the points of improving tax collection and guaranteeing unwavering quality of any exchanges. The capacity to give an abnormal state of data security through frameworks like Ethereum permits of structure a solid and straightforward arrangement

of tax assessment and of guideline of all communications between social, monetary and political operators, including the money related and non-budgetary estimations [20].

Roman Beck (2018) emphasized on new universe of blockchain conceivably changes the money related structures we have come to know and feel conflicted about. What does a decentralized, secure framework mean for our general public? Any endeavor to change data requires reiterating, the square significant to the exchange, however all ensuing squares. The Ethereum blockchain goes past bitcoin to permit client made savvy contracts executed on a nonexclusive, programmable blockchain under decentralized control, utilizing an inherent Turing-complete programming language. This permits savvy contracts and modified (even subjective) rules for proprietorship, exchange organizations, and state progress capacities. These shrewd contracts empower the appropriated client network to determine a few issues without relying upon confided in concentrated experts [21].

Roberto Casado-Varaa et.al.,(2018) emphasized that the present production network is a straight economy model that legitimately or in a roundabout way satisfies supply needs. Be that as it may, this model has a few burdens, for example, the connections between the individuals from the inventory network or the absence of data for the shopper about the cause of the items. In this paper we propose another model of store network by means of blockchain. This new model empowers the idea of roundabout economy and dispenses with a considerable lot of the disservices of the present supply chain [22].

Vasily Kupriyanovsky et.al., (2017) emphasized that on advanced supply chains in a joint economy. A store network is a term that portrays the arranging,

search, generation, dissemination and conveyance of items or administrations from the spot of starting point to utilization. Compelling and sensible supply the board is important to guarantee the accessibility of the correct item at the opportune time and in the ideal spot at the correct cost. This article centers around the investigation of business relations and their joining into the supply chains, which are worked through electronic information coursing on the Internet between colleagues and worth included specialist organizations working in the worldview of a common computerized economy utilizing blockchain advancements [23].

Yong Yuan and Fei-Yue Wang (2016) emphasized that Blockchain, broadly known as one of the problematic advancements rose as of late, is encountering quick improvement and has the maximum capacity of altering the inexorably concentrated canny transportation frameworks (ITS) in applications. Blockchain can be used to build up a verified, trusted and decentralized self-ruling ITS biological system, making better use of the inheritance ITS framework and assets, particularly successful for publicly supporting innovation. This paper leads a primer investigation of Blockchain-based ITS (B2ITS). The researcher think about that blockchain is one of the verified and confided in structures for structure the recently created parallel transportation the executive's frameworks (PtMS), and consequently talk about the connection among B2ITS and PtMS. At long last, we present a contextual analysis for blockchain-based continuous ride-sharing administrations. In our perspective, B2ITS speaks to the future pattern of ITS exploration and practice, and this paper is planned for invigorating further exertion and giving supportive direction and reference to future research works [24].

Yeoh, P. (2017) analyzed the key administrative difficulties affecting blockchains, inventive disseminated advancements, in the European Union (EU) and the USA. A subjective point of view supports the examination. This paper depends on essential information from material resolutions and auxiliary information from the open space including pertinent contextual analysis bits of knowledge. The keen administrative hands-off methodology embraced in the EU and the USA to a huge degree looks good for future creative commitments of blockchains in the monetary administrations and related segments and toward improved budgetary comprehensiveness. The paper's discoveries offer help for blockchain innovation to progress with least administrative brakes for more prominent worth including and effectiveness headway, particularly for budgetary administrations, consequently extending openness and in this way monetary comprehensiveness. This paper attracts more noteworthy thoughtfulness regarding the innovation supporting virtual monetary forms. It likewise features other financial possibilities spilling out of blockchain headway [25].

III. PROBLEM STATEMENT AND RESEARCH OBJECTIVES

Data security is one of the major security concern in digital world. The intricacies of the technology itself may be hard to grasp even for tech enthusiasts, but the growing popularity and prevalence of the technology is clear for all to see. Blockchain technologies can be used as public means of transactions as well as private ledgers for inter-company transactions and record keeping. The researcher stated some of the significant research issues and intended to new era of digital economy.

1. The researcher pointed out the security factors of blockchain technology and its significant usage for secure data transaction.
2. The researcher is also analyzed the different dimensions of blockchain technology in digital economy.

Apart from the above points, the researcher also discussed the significant research issues and challenges of blockchain technology in digital economy.

IV. CONCEPTUAL FRAMEWORK OF THE RESEARCH STUDY

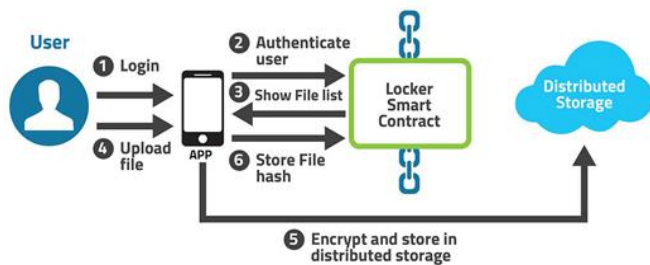


Fig.1.1: Framework of the Research Study



Fig.1.2: Data Transmission in Blockchain Technology

V. HOW THE BLOCKCHAIN WORKS

The researcher emphasized that the blockchain is basically a distributed database technology with encryption. It's open source, so anybody can change the basic code, and they can perceive what's happening. It's genuinely distributed; it doesn't require incredible delegates to verify or to settle exchanges.

It uses cutting edge cryptography, so in the event that we have a worldwide, distributed database that can record the way that we've done this exchange, what else might it be able to record? All things considered, it could record any organized data, who paid whom as well as who wedded whom or who possesses what land or what light purchased power from what power source. On account of the Internet of Things, we're going to require a blockchain-settlement framework underneath. Banks won't probably settle trillions of ongoing exchanges between things.

So this is an exceptional thing. A changeless, unhackable distributed database of advanced resources. This is a stage for truth and it's a stage for trust. The suggestions are stunning, for the money related administrations industry as well as appropriate crosswise over for all intents and purposes each part of society. Most blockchains—and Bitcoin is the greatest—are what you call authorization less frameworks. The researcher can do exchanges and fulfill each other's financial needs without knowing who the other party is and free from focal experts. These blockchains all have an advanced cash or something to that affect related with them, which is the reason everyone discusses Bitcoin in a similar breath as the blockchain, on the grounds that the Bitcoin blockchain is the greatest.

VI. RESEARCH DESIGN AND METHODOLOGY

The research study is based on secondary data and significant factors of blockchain technology in digital economy which are providing a secure path for data transaction in digital world. The researcher given the statistical report of significant usage of blockchain technology and current research issues and security challenges. The steps are given below:

1. Start from user authentication: Login
2. Authenticate the users

3. Contact the locker smart
4. Show the file list
5. Upload the file
6. Encrypt and storage in distributed database

What could go wrong? Blockchain technology which is going to be the platform for a lot of smart agents that are going to displace a lot of humans from jobs. Maybe this whole new platform is the ultimate job-killer. The biggest problems, though, have to do with governance. Any controversy that you read about today is going to revolve around these governance issues. This new community is in its infancy. Unlike the Internet, which has a sophisticated governance ecosystem, the whole world of blockchain and digital currencies is the Wild West.

VII. THE NEW ERA OF DIGITAL ECONOMICS

A list of evolving records which use cryptography to link back to each other and contain transactional data, Blockchain is a technology that has taken the business world by storm. Blockchain data is meant to be resistant to modification and secure as a record of transaction. The intricacies of the technology itself may be hard to grasp even for tech enthusiasts, but the growing popularity and prevalence of the technology is clear for all to see. Blockchain technologies can be used as public means of transactions as well as private ledgers for inter-company transactions and record keeping. Worldwide spending on blockchain solutions is expected to grow from 1.5 billion in 2018 to an estimated 11.7 billion by 2022. Companies in nearly every industry are rushing to take advantage of the perceived benefits of the blockchain phenomenon and many are seeking to adopt their own private versions of blockchain and crypto currency. The financial sector accounts for over 60 percent of the market value of blockchain worldwide in 2018, but

the technology has spread to nearly every industry from healthcare to agriculture.

Table1.1: Source: Statista: Statistics of Spending on Blockchain Solution

Year	Spending in in Billion U.S. Dollars
2017	0.95
2018	1.5
2019	27
2022	12.4
2023	15.9

Distributed ledgers can become the foundation of a robust system of trust, a decentralized platform for massive collaboration. With that, intermediaries will be shuttered. Assets that were once dormant can be exploited. Profit pools can shift and be redistributed. New services delivered on blockchain networks can accelerate access and liberate those that were once locked out of efficient value creation to fully participate in an all-in economy. Distributed ledgers like blockchains are shared and write business transactions to an unbreakable chain that is a permanent record, viewable by the parties in a transaction. Blockchains shift the lens from information held by an individual owner to the cross-entity history of an asset or transaction. Our research shows that once that happens, five attributes fundamental to blockchains have the potential to vaporize the frictions that hold us back today. In this paper, we explore those attributes and how blockchain can facilitate a new economic equation for organizations, trust, and value exchange.

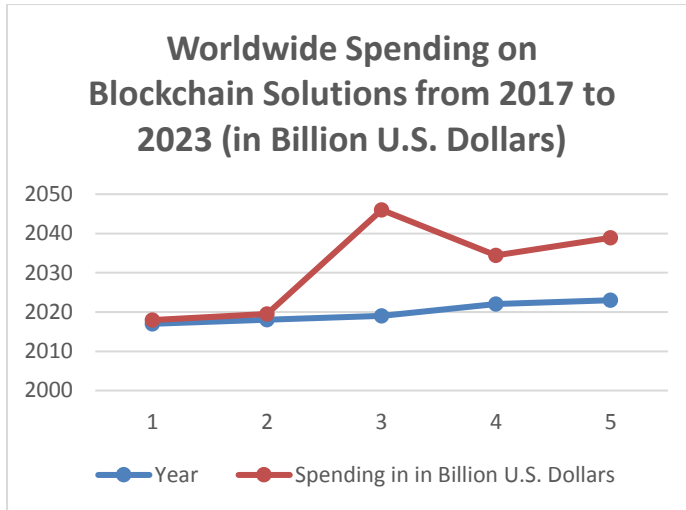


Fig1.3 : Statistics of Spending on Blockchain Solution

Blockchain Technology Stats and Facts

1. \$400 million was the size of the market in 2017, while it is currently over \$500 million, it is expected to grow to \$20 billion in the year 2024.
2. 24 million users of Blockchain wallet users so far (March of 2018).
3. \$1 billion investment has been made in the technology over the five years in Venture Capital investment.
4. \$1.7 billion is spent by the financial service industry on technology.
5. \$2.1 billion was spent globally on blockchain-solutions in 2018.
6. \$700 billion defense bill was passed last year to study blockchain applications for cyber security.
7. 69% of banks are experimenting, and 90% of North American Banks and European banks are investing in blockchain to make their services more secure, seamless and transparent. Banks could save an estimation of \$8-12 billion annually.
8. 3X LinkedIn job postings for blockchain related openings increased over a year. Training centers are being set up by organizations for blockchain developers.

9. 200% stock price jump for a beverage company when it changed its names from Long Island Iced Tea changed its name to “Long Blockchain Corp.”

VIII. SIGNIFICANCE OF BLOCKCHAIN SECURITY AND CHALLENGES

Some Benefits of Blockchain includes:

1. The ultimate defense against Hacking.
2. Transparency and Security against tampering of information.
3. Eliminating the need for a third party as a witness to transactions.
4. Maintaining reliable privacy.
5. Advantageous for Innovative Businesses

Imagine each of us having our own identity in a black box on the blockchain. When you go to do a transaction, it gives away a shred of information required to do that transaction and it collects data. You get to keep your data and monetize it if you want, or not. This could be the foundation of a whole new era whereby our basic right to privacy is protected, because identity is the foundation of freedom and it needs to be managed responsibly.

Blockchain technology—which creates a permanent and transparent record of transactions—has the potential to alleviate inefficiencies across industries. Human progress has been a steady march against friction. From the introduction of money to replace barter and the gradual replacement of wax seals by digital signatures, we have seen steady progress facilitated by digital innovations.

Since the internet, some frictions fell while others rose. The friction of imperfect information, for example, took on added importance in an era that promotes transparency by business partners and consumers alike. New frictions like cybercrime

threaten to cripple even the most successful organizations. Today, three types of frictions predominate: information, interaction, and innovation. In varying degrees to different industries, they're a drag on efficiency. A distributed ledger for business networks based on blockchain technology has the potential to eliminate these frictions.

Blockchain Security and Research Issues In 2019

1. 51% Attacks. In due part to HBO's Silicon Valley, 51% attacks are one of the most recognized blockchain security issues. ...
2. Exchange Hacks. ...
3. Social Engineering.

IX. CONCLUSION

Finally the researcher concluded that blockchain technology are shared and write business transactions to an unbreakable chain that is a permanent record, viewable by the parties in a transaction. Blockchains shift the lens from information held by an individual owner to the cross-entity history of an asset or transaction. The researcher shown that significant usage of blockchian technology in digital economy with data encryption and higher level of security parameters that happens, the attributes fundamental to blockchains have the potential to vaporize the frictions that hold us back today. In this paper the researcher explored those attributes and how blockchain can facilitate a new economic equation for organizations, trust, and value exchange in new era of digital economy.

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