BLOCKCHAIN AND ITS AWARENESS: A CASE STUDY OF SLIK SAFE

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ABSTRACT

No cyber defence or information system can be regarded as 100% secure. What is deemed safe today won't be tomorrow given the lucrative nature of cybercrime and the criminal's ingenuity to seek new methods of attack. Blockchain is gaining traction today, but critics who question the scalability, security, and sustainability of the technology remain. (1).

The objective of this paper is to analyse the constraints against blockchain technology and how Slik Safe(A California- based company) has revolutionised this technology and provides us with the answers.

Slik Safe is the platform, which expands the customer's knowledge and vision for creating solutions. Slik Safe is a decentralized, end-to-end encrypted file backup solution that provides the answers to blockchain threats. The sensitive data is protected through an encrypted

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decentralized file, meaning the data is not living in one place. Slik Safe is the future as it revolutionises blockchain technology.

This paper contains the following sections:

Section 1: Introduction And Review of Literature

Section 2: Objective

Section 3: Methodology

Section 4: Scope Of The Study

Section 5: Limitations Of The Study

Section 6: A Case Study Of Slik Safe (A California- based company)

Section 7: Conclusion.

KEYWORDS: Blockchain, Decentralized, End-To-End-Encryption, Slik Safe.

INTRODUCTION

SECTION 1: INTRODUCTION AND REVIEW OF LITERATURE

Blockchain technology is mostly defined as a decentralized distributed ledger that records the provenance of a digital asset with an end - to - end- encryption. (2)

When we create a document and share it with a group of people, the document is distributed instead of copied or transferred. This created a decentralized distribution chain that gives everyone access to the document simultaneously. No one is locked out awaiting changes from another party, while all the modifications in the documents are recorded in real-time making changes completely transparent.

It is an especially revolutionary technology. It helps reduce risk, stamps out fraud and brings transparency in a scalable way for myriad uses that are immutable. This infrastructure can be highly beneficial in offering cyber security solutions in problematic areas such as networks, data storage and transmission. (2)

Although not unbreakable, blockchain has evolved to become one of the most foolproof forms of transacting in the digital network realm. As designed and intended, the technology has been credited for its information integrity assurance. If well-utilized, many sectors like Banking, cyber security etc. can benefit from it. (3)

While blockchain technology produces a tamper-proof ledger of transactions, blockchain networks are not immune to cyberattacks and fraud. Those with ill intent can manipulate known vulnerabilities in blockchain infrastructure and have succeeded in various hacks and frauds over the years. (4)

Hackers and fraudsters threaten blockchain in these ways:

1. Phishing attacks are scamming attempts to steal the user's credentials. They send emails which include hyperlinked links designed to look authentic and through that they take away the sensitive information of the users.

- 2. Routing attacks work on a real-time basis. Although, the participants can't see any threats on the internet as everything seems normal. However, behind the scenes, the hackers extract all the confidential data (the big data transfers
- 3. Sybil attacks are used to obtain information from the IP addresses of the users connected to the same network.
- 4. 51% attacks refer to potential attacks by a single person who gains control of more than 50% hashing rate due to mining.

Ransom ware is malicious software used by hackers to hold hostage files, data, or applications on a computer making them inaccessible to the owner. In order to regain access to the data, the owner must pay a ransom demand to the hackers. It is a problem for consumers, governments, and businesses alike. It's a growing threat that has inflicted significant damage and cost businesses and government organizations a ton of money. (5)

Ransom ware runs in the background and encrypts the files on a computer or server. It's often designed to spread across a network and to target as many machines as possible. Hackers also create a cryptographic key that will unlock the data once the ransom is paid. Without this key, the data is inaccessible. (5)

Blockchains are computer networks on which all data is decentralized. This means that the data doesn't live on just one computer or server. Files are stored on every single computer node on the network. Since no one has the power to corrupt data on a blockchain, the data is said to be immutable. (5)

Any files that have been encrypted and uploaded to the blockchain will remain on the blockchain forever. It's easy to see how governments and enterprises would benefit from the use of blockchain technology to avoid ransomware attacks and other cyber attacks. With immutable, incorruptible data storage, management would be able to sleep at night while saving money on cyber security services. (5)

In October 2008, a few weeks after the Emergency Economic Stabilisation Act rescued the U.S. financial system from collapse, Satoshi Nakamoto introduced a cryptography mailing list to Bitcoin, a peer-to-peer electronic cash system "based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party." With Bitcoin, for the first time, the value could be reliably transferred between two distant, untrusting parties without the need for an intermediary. Through a clever combination of cryptography and game theory, the Bitcoin 'blockchain'—a distributed, public transaction ledger—could be used by any participant in the network to cheaply verify and settle transactions in the cryptocurrency. (6)

Blockchain technology, by reducing the costs of running decentralized networks of exchange, allows for the creation of ecosystems where the benefits from network effects and shared digital infrastructure do not come at the cost of increased market power and data access by platform operators. This reduction in the cost of networking has profound consequences for market structure, as it allows open-source projects and startups to directly compete with entrenched incumbents through the design of platforms where the rents from direct and indirect network

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effects are shared more widely among participants (for example, users, application developers, and investors), and no single entity has full control over the underlying digital assets. (6)

Blockchain technology could potentially provide solutions to some of the challenges faced by the energy industry. Requirements for future energy systems can be summarized by three key principles: decarburization, decentralization and digitalization, with a shift to empower consumers, a pillar for both EU and UK policy. However, the structure of energy and electricity markets is inadequate to achieve this vision, as small players' participation in the markets is practically excluded and incentives for active consumer participation have so far proved not sufficient. (7)

A commercial report by Deloitte states that blockchain-enabled transactional digital platforms could offer operational cost reductions, increased efficiency, fast and automated processes, transparency and the possibility of reducing capital requirements for energy firms. The cost savings potential is not restricted to utilities and can be relevant to energy consumers. (7)

Blockchains provide the opportunity for an automated billing in energy services for consumers and distributed generators, which comes with the potential of administrative cost reduction. Blockchains offer traceability of energy produced and consumed at each endpoint informing consumers about the origins and cost of their energy supply, and making energy charges more transparent. This opens up the opportunity for incentivising behavioural change and demand response. In addition, enhanced secure features of blockchains could potentially be used to safeguard data privacy, identity management and resilience towards cyber-threats. (7)

Blockchain technology in Finance is hugely disruptive and empowering in both public and private sector computing applications. As a way to order transactions in a distributed ledger, blockchains offer a record of consensus with a cryptographic audit trail that can be maintained and validated by multiple nodes. It lets contracting parties dynamically track assets and agreements using a common protocol, thus streamlining and even completely collapsing many in-house and third-party verification processes. (8)

Blockchain is a part of developments in fintech and techfin, and so on. It is really going to be the impact of blockchain or distributed ledgers together with big data, artificial intelligence, deep learning, smart contracts and the Internet of Things. The combination of these technological developments is what will increase productivity and lead to change, not only in the financial world but in the way we process things. (9)

Fintech and blockchain innovation is, in a way, much more process than product innovation, even if, in services, the distinction between process and product innovation is tenuous. The impact is partly through making it possible to do things better, more efficiently than we could before. The result will be new competitive forces and changing market structure. (9)

From an investment perspective, one thing one hears and sees in the press is 'investment in blockchain'. However, one does not simply invest in blockchain, one invests in companies – either in companies that develop technology or in a product or a service that uses blockchain. This is where we get into a lot of hype and a lot of bubbles. (9)

One important feature of blockchain that is clearly beneficial to healthcare applications is decentralization which makes it possible to implement distributed healthcare applications that do

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not rely on a centralized authority. Additionally, the fact that the information in the blockchain is replicated among all the nodes in the network creates an atmosphere of transparency and openness, allowing healthcare stakeholders, and in particular the patients, to know how their data is used, by whom, and when and how. More importantly, compromising any one node in the blockchain network does not affect the state of the ledger since the information in the ledger is replicated among multiple nodes in the network. Therefore, by its nature, blockchain can protect healthcare data from potential data loss, corruption or security attacks, such as ransomware attacks. (10)

SECTION 2: OBJECTIVE

This study highlights blockchain technology in the finance, health and energy sector. This study is a case study of Slik Safe (A California- based company) which has revolutionised this technology and is working towards using this technology in ransomware.

SECTION 3: METHODOLOGY

This study is focussing on the work done by Slik Safe company in Blockchain technology.

SECTION 4: SCOPE OF THE STUDY

The Scope of the study is to understand the use of Blockchain technology in the digital world. The study is company-specific, Slik Safe, which shares its platform for using blockchain technology in keeping our documents safe and secure.

SECTION 5: LIMITATIONS OF THE STUDY

Blockchain is the need of the hour. For a focused study, only one company, Slik Safe, that is working in this direction has been taken for understanding.

SECTION 6: A CASE STUDY



Silk Safe, California based company reaching a milestone by using blockchain technology. It is a decentralized, end-to-end encrypted file backup solution that provides the answers to blockchain threats.

Modern researchers require modern types of data storage, ones with additional security levels beyond a filing cabinet. Often a cloud storage solution is the first thought; the challenges with

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these solutions can be the lack of genuinely encrypted data and the immutability of the data. The idea of immutable data on the blockchain comes into play; the ability to store our files, data, and other important research information in an encrypted format, unchangeable and entirely private for us and our research team.

The sensitive data is protected through an encrypted decentralized file, meaning the data is not living in one place. After encryption, the file is broken down into small chunks of variable size and distributed over a network of nodes worldwide.

Products like SlikSafe enable secure collaboration with real-time document editing and file sharing allow for research between individuals, institutions, and beyond. Storing the data on the blockchain in a decentralized method allows for some exciting options to share the data with contributors and collaborators securely and privately. Maintaining data integrity and security of the data created on any project is crucial.

The Slik Safe quotes that the idea behind changing data falls into the category of 'data tampering' in which someone deliberately destroys, manipulates or edits data through unauthorised channels. Data tempering in ransomware utilises decentralized storage via blockchain so that the data is immutable and unchangeable. This prevents fraudsters from hacking the data.

Colonial pipeline attack in 2021, where hackers encrypted supplier data for a large oil company in the United States, effectively stopping oil shipping until the data was decrypted after the ransom payment was made. Blockchain technology blocks hackers from penetrating one's systems. Innovations in decentralized storage enable the data to be encrypted into small parts, further encrypt those small parts and then distribute them across the world. The data becomes only accessible to its owner and is unchangeable.

In 1995, Pixer animated film-maker almost lost \$497 million due to a lack of data backup. But luckily the owner got success in retrieving the data. Sliksafe is an alternative to traditional file-sharing platforms.

Slik Safe lets the person store their data privately via decentralized storage in 3 simple steps. It's a cheap, fast and permanent storage option.

- 1. Open SlikSafe.com and click Login. The person would now have options to log in via their Google account, email or their favourite crypto wallet, MetaMask or Phantom.
- 2. The client will now be shown a seed phrase with a download button. Save this seed phrase safely. The clients use this seed phrase to encrypt files,
- 3. The person is all set up to see an empty window to drag and drop the file.

In a decentralized world, one is in control of their data. This means that it is a person's choice which data they want others to have. In essence, one can decide on their identity and that is all anyone would know. This is because blockchain has no censorship by design.

Blockchain can only keep track of transactions that have taken place, it does not keep track of with whom or who is having the transaction. So in this way when a person uses crypto wallets to login into a service, the person doesn't exchange their privacy.

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SlikSafe is a secure place to store all our NFTs, TAX documents, and generally any file that one finds important or sensitive. We secure, replicate, and store our files in a way that only we can retrieve that data whenever we want, from wherever we want.

With end-to-end encryption, Slik Safe gives unparalleled control to all files, since the files are encrypted using a personal passphrase before it leaves the device. It is like our own digital wallet, but for our personal files.

After successfully connecting a crypto wallet, one now backs up and shares files with the highest privacy and security!

The crypto world is based on blockchain and in the blockchain world, there are many different ledgers which lead to having multiple pairs of private and public keys in order to do various kinds of transactions. So crypto wallets allow us to have a simple way of managing these sets of private and public keys and help us track our transactions. So basically, a crypto wallet stores the keys and addresses of wallets that live in the blockchains underlying each cryptocurrency.

Slik safe is building the next generation of collaboration in new ways, allowing the people to share and work on files alongside others on Web 3. The future of blockchain is Web 3. Web 1 means a person can read only, Web 2 means a person can read and write and web 3 means a person can read, write and own the internet. The internet would be decentralized sans tech giants in the future of Web3. It will be the rise of new social platforms, search engines, and marketplaces built and owned by the collective, rather than by a corporation. End users would reclaim their power and control over their own data. They could possibly move around from platform to platform on the internet using a single personalised account, rather than having to log into multiple different accounts for each respective company and platform. (11)

SECTION 7: CONCLUSION

BlockChain is the revolutionized technology of the web 3 world. People are still not aware of the use of this technology, which is the need of the hour in this digitalized world.

Slik Safe is the platform, which expands the customer's knowledge and vision for creating solutions. Slik Safe is a decentralized, end-to-end encrypted file backup solution that provides the answers to blockchain threats. The sensitive data is protected through an encrypted decentralized file, meaning the data is not living in one place. After encryption, the file is broken down into small chunks of variable size and distributed over a network of nodes worldwide.

Products like SlikSafe enable secure collaboration with real-time document editing and file sharing allow for research between individuals, institutions, and beyond. Storing the data on the blockchain in a decentralized method allows for some exciting options to share the data with contributors and collaborators securely and privately. Slik Safe is providing the platform for using a crypto wallet to backup and share files with the highest privacy and security.

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