Blockchain Technology and Its Implications for Internal Audits

Shubham Dhanuka[1], Ms Latika Sandhwani[2]

[1]GRMI Scholar -Batch 13, Global Risk Management Institute
[2]GRMI Faculty (Professor of Practice), Global Risk Management Institute

Abstract

Internal audits have traditionally been mired in a world of physical file storage and labour-intensive documentation. Yet, the advent of blockchain technology signals a seismic shift in this landscape, heralding a move from conventional, reactive methods to a dynamic, ongoing, and proactive audit process. This study explores the transformative potential of blockchain to revolutionize internal audits, offering not merely an examination of its technical aspects within internal auditing (IA) but envisioning a future where internal audits become more streamlined, efficient, and empowering—actively fortifying an organization's financial integrity. Nonetheless, adopting blockchain is not without its challenges. This paper aims to navigate through these potential obstacles, proposing strategies to embrace and surmount them.

In addressing these challenges, our research meticulously reviews current practices and the array of existing literature on the subject. Through a comprehensive analysis and synthesis of these sources, we develop a unified framework that underscores our findings. This paper is not just an academic exercise; it's a clarion call to rethink the role and methodology of internal audits in light of emerging digital technologies. Prepare to embark on a journey towards dismantling outdated paper-based systems and welcoming an era marked by digital trust and transparency within the sphere of risk management.

Keywords: Blockchain Technology, Internal Audits, Audit Innovation, Risk Management,

1.   Introduction

Blockchain technology is spreading is spreading firefrom the winds. particularly within industries and businesses, it becomes imperative for our internal audit department to acquire the skills necessary for assessing this phenomenon.

Creating efficient training resources is currently a pressing requirement, and in the broader perspective, these tools will aid in the transition towards an optimized state. Internal Audit, despite being an Independent and objective assurance and consulting function, employs a methodical and rigorous evaluation process aimed at enhancing anorganization'sefficiency and effectiveness and

Rigorous evaluation process aimed at enhancing an organization's efficiency and effectiveness. It places its primary emphasis on three key areas: Governance, Risk Management, and Controls, with theoverarching goal of providing value to the organization Given the emergence of new technologies, internal audits must adopt novel approaches to assess their compatibility with professional standards, ensuring the reliability of assurance within its traditional scope and beyond Block chain technology asa product, introduces distributed ledgers for the real-time recording and reporting of data thereby necessitating a shift in audit sampling guidelines.

This technology empowers auditors to examine each transaction meticulously to identify any irregularities within the data sets Moreover, it eliminates the requirement for lower-value validation tasks, enabling auditors to focus on complex, secure, real-time transactions.

Blockchain was initially created as the underlying technology for cryptocurrencies such as Bitcoin, Ethereum, Tether and Binance coins are now being used to improve the efficiency, openness and security of Internal audit procedures.

1.1. The Changing and Evolving Function of Internal Audit in the Context of Blockchain Technology

The transformation of the internal audit function within an organization is significantly influencedand impacted by the adoption and integration of blockchain technology. Here's a detailed exploration of howthis technology is reshaping and adding value to the role of Internal Audit.

a. Emphasise Transparency and Trust

- Block Chain ensures the Transparency and immovable of Transaction.
- Internal Audit can trust and rely on blockchain to check and validate the proper accuracyand inline of financial data report

b. Real-Time Auditing

- Traditional audits get involve a sample basis due to resource limitations, Block-chain allows forthe real-time auditing of every transaction within the firm.

   To enhance its significance and way within the organization, the internal audit function should go beyond offering assurance services and instead offer guidance on intricate business matters while proactively foreseeing risks.

1.2. Understanding the Block Chaintechnology

Blockchain technology, originally conceived as the foundation for cryptocurrencies, is a decentralizedand immutable ledger system It enables transparent, secure, and tamper-proof record-keeping, makingit a promising tool for internal auditors. This report explores the multifaceted applications of blockchainin the field of internal audit, outlines its potential benefits, addresses challenges and highlights real- world use cases.

How does the actual blockchain work?

- **Peer-to-Peer Network -** In a peer-to-peer network, every participant acts as both a service provider and client, contributing and accessing resources. This structure allows for the establishment of a decentralized ledger system without the presence of a main privilege with a third party.
- **Unsymmetrical Public key –** A technique for confirming digitalsimilarities with a substantial level of certainty
- **Mechanism -** A procedure employed to establish consensus among distributed processes or systems, intended to ensure reliability within a network comprising numerous, potentially unreliable nodes

A blockchain is a decentralized ledger that enables the secure and immutable transfer of digital assets in real-time. Essentially, it functions as a record or ledger of digital events arranged in orderly blocks, Which are both encrypted, it functions as a record or ledger of digital events arranged in orderly blocks,which are both encrypted and distributed among numerous parties. Modifications to the blockchain canonly occur when a consensus is reached by a majority of participants in the system. Once data is added,it is safeguarded through cryptographic methods to ensure data integrity. The blockchain maintains a definitive and auditable history of every transaction ever executed.

Block-chains serve as protocols that enable the controlled and systematic storage and sharing of

transactional data by entities Typically, this technology functions as an underlying platform and infrastructure that permits applications to be developed on top of it. Consequently, it is entirely feasible for an end user of a blockchain-enabled application to be oblivious to the fact that block-chain technology is underpinning the processing.

1.3. Features of Block Chain

Block-chain are categorized into two groups Permissionless which is open to the public, and permissioned system which is "private" or "semi-public."

Permissionless

- Accessibility: Public and open to anyone who wants to participate. No permission or approval is required to join the network.
- Decentralisation: with a large number of nodes participating in thenetwork
- Transparency: Transactions are transparent and visible to all participants on the networkanyone can easily validate transactions and participate in the process.
- Security Model: Relies on Proof of work (PoW) or Proof of stake (PoS) the mechanism tosecure the network Bitcoin and Ethereum are prime examples of permissionless blockchain
- Permissioned It is blockchain usually referred to as semi-public or private b l o c k c h a i n , participants in the network

Must be granted permission to join validate transactions and access data. Hyperledger Fabric andCorda are the prime eg for the permission Block Chain.

1.4. Auditing Block Chain Process

The Interrelated of block-chain technology into the internal audit process can enhance efficiency, transparency and trust. Internal audits are essential for organizations to ensure financial integrity, regulatory compliance and operational efficiency. However, the traditional and old audit processesare often time-consuming and tedious, error-prone, and rely heavily on manual record-keeping. Block chain, with its transparent, tamper-proof, and decentralized ledger, offers a revolutionary solution to many of the challenges faced by auditors. In this comprehensive exploration, it will delve into how block-chain can be used in internal audits, offering detailed insights into its uniqueand modern technology approach.

1. **Record Handling and Keeping:** One of the core features of block-chain is its immutability.Once a transaction or piece of data is recorded on the block-chain, it becomes part of an unalterable ledger. This property ensures that auditors can rely on the integrity of the information stored on the block-chain. In a traditional audit approach, records are susceptible to manipulation or alteration, but with block-chain, once the data is recorded, it remains unchanged.

2. **Transparency and easy Traceability:** Block- chain provides transparency by allowing auditors to trace transactions and assets in a real- time and unambiguous manner Every transaction is recorded in a decentralized and shared ledger that can be accessed by authorized participants This transparency aids auditors in verifying the authenticity of transactions, making it easier to detect fraudulent activities or errors.

3. **Real Time controlling and monitoring:** Block- chain technology enables real-time monitoring of transactions and data This is particularly valuable in industries where immediate auditing is critical and crucial with such as financial services With a traditionalaudit, there's often a time lag between data collection and the actual audit However, block-chain provides auditors with the capability to monitor

transactions as they occur, ensuringthat issues can be identified and addressed promptly and accurately.

4. **Fraudulence observations:** The block-chaintransparency and immutability characteristics render it a potent instrument for detecting fraudulent activities and practices Auditors can readily spot any inconsistencies or unauthorized alterations done in data, as these are promptly visible on the block-chain.

5. **Quick Recovery of Data:** Data recovery becomes significantly more efficient in the event of a disruption. This particular characteristic places data retention and retrieval controls in a category with low associated risks

Blockchain technology holds the promise of transforming transaction processing by establishing a secure, reliable, distributed ledger that can be operated without the burden of a central governing body. However, fully harnessing the advantages of a blockchain-based system demands a profound shiftin both the perspective and procedures of internal auditing. With blockchain, the fundamental principles of auditing and internal control can be ingrained into every transaction.

While blockchain technology holds immense promise, it remains in its early stages of development. Consequently, the associated risk assessments and control frameworks are also in the formative stages. For many internal auditors, this presents uncharted territory.

The encouraging aspect, though, is that much of their existing knowledge and skills remain applicable as auditing approaches for blockchain-based systems evolve, traditional audit concerns related to data availability, processing accuracy, governance, privacy, security, confidentiality, and change management will remain pertinent. However, internalauditors should acquaint themselves with the technical facets of distributed ledgers to adapt their conventional audit protocols to accommodate the novel landscape of risks and benefits introduced by blockchain.

1.5. Conclusion

We conclude that the integration of blockchain technology into internal audit processes offers significant potential to enhance efficiency, transparency, and trust. By leveraging blockchain's decentralized and immutable ledger system, auditors can streamline record-keeping, improve transparency and traceability, enable real-time monitoring, and enhance fraud detection capabilities.

References

1. Introduction-To-Blockchain-For-Audit-Risk-And-Compliance-Professionals **By Michael Condon** *CISA, CIA, Certified Blockchain Expert, is a Manager of Compliance Solutions at AuditBoard. Published on – May 17, 2023*

2. Block Chain and Internal Audit **By Richard C. Kloch, Jr.CPA and Simon J. Little, CPA** *Published By Internal Audit FoundationA Joint research report by the Internal Audit Foundation andCrowe*

3. Enterprise Audit and Block Chain Technology **By Yang Dong & Haiying Pan** *Published on – Dec 23, 2023*

4. The Impact of Block Chain on Internal Audit **By Ivan Popchev Irina Radeva Veneta Velichkova** *Published in – 2021*

5. Internal Audit introductory guide to cryptocurrency and blockchain auditing ***Published By Team Mate*** On – Dec 06, 2023

6. **Nakamoto, S. (2008).** Bitcoin: A Peer-to-Peer Electronic Cash System.

7. **Yermack, D. (2017).** Corporate governance and blockchains. *Review of Finance, 21*(1), 7-31.

8. **Kokina, J., Mancha, R., & Pachamanova, D. (2017).** Blockchain: Emergent industry adoption and implications for accounting. *Journal of Emerging Technologies in Accounting, 14*(2), 91-104.

9. **Dai, J., & Vasarhelyi, M. A. (2017).** Toward blockchain-based accounting and assurance. *Journal of Information Systems, 31*(3), 5-21.

10. **Srivastava, R. P. (2018).** The Challenges and Opportunities of Blockchain for Audit and Assurance.

11. *Auditing: A Journal of Practice & Theory, 37*(4), 145-163.