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Blockchain Technology in Accounting: A Systematic Review of Applications, Challenges, and Future Prospects

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ABSTRACT
Blockchain technology has emerged as a transformative innovation with the potential to revolutionize the accounting profession. By leveraging its core features of decentralization, immutability, and real-time access to data, blockchain addresses long-standing challenges in financial reporting, auditing, and compliance. This systematic review explores the diverse applications of blockchain in accounting, including automated auditing, fraud prevention, secure data management, and real-time reporting. It also delves into the challenges hindering its widespread adoption, such as scalability issues, high implementation costs, regulatory uncertainty, and the steep learning curve for professionals.Despite these obstacles, the future prospects of blockchain in accounting remain promising. Innovations such as smart contracts, interoperability with other technologies, and global standardization efforts are expected to drive its adoption. Blockchain's potential to democratize financial services and empower small and medium-sized enterprises further underscores its societal relevance.This review concludes by highlighting the dual need for addressing adoption barriers and fostering collaboration among stakeholders to harness blockchain's full potential. As accounting embraces digital transformation, blockchain is poised to become a cornerstone of a more transparent, efficient, and trustworthy financial ecosystem.

Keywords: Blockchain, accounting, distributed ledger, challenges, applications, prospects, innovation.

I. INTRODUCTION

The swift advancement in technology has brought remarkable changes in various industries and sectors, including the accounting sector(Talha et al., 2022). Of these innovations, blockchain has been identified as a unique technology that is capable of revolutionizing the methods of recording, verifying and reporting of financial information(Nofel et al., 2024a; Jimoh, Ajayi and Ayilara, 2014). As the technology on which cryptocurrencies like Bitcoin are built, key features of blockchain such as its decentralization, together with immutability creates strong foundational reasons for the technology to address the glaring issues in accounting such as transparency, fraud together with the streamlining of the audit process which has otherwise been traditionally problematic and time-consuming.

Simplistically, blockchain can be described as an electronic ledger that can coordinate the recording of transactions on several computers so they cannot be manipulate(Shekhtman and Waisbard, 2021). Compared with most conventional accounting platforms where financial information is kept in large servers, this system empowers concurrent and consistent data exchange among all the participants of a platform. It guarantees that finance records are clear, coherent, and traceable so that embezzlements or fabrication have low chances of occurring(Dashkevich, Counsell and Destefanis, 2024). For this reason, there has been active interest around blockchain, particularly within the accounting sector, as well as the policymakers and the academics since they anticipate that this technology can transform the reporting of financial statements and business structures.

Nonetheless, the adoption of blockchain in accounting has some hurdles, for instance, technological implementation is expensive, the technology is quite complex, and there is no standard set of regulatory rules that are recognized globally to support them(Toufaily, Zalan and Dhaou, 2021). Moreover, accounting has a skills problem when it comes to the use of blockchain because many practitioners fail to meet standards

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needed to harness it. Such factors justify the analysis of the existing blockchain uses and the organizational hindrances to its application as well as the untapped opportunities in the accounting domain.The purpose of this paper is to present a review of current literature in regards to the use of blockchain in accounting, its advantages, and disadvantages, as well as possible development for the future.

Applications of Blockchain in Accounting

Blockchain technology has shifted the accounting profession and presented new solutions to old problems in the field. It promotes the accuracy, security and efficiency of managing financial data due to decentralized and immutable, as well as transparent database. The different ways through which applications of blockchain technology is used in accounting are discussed below as shown in figure 1 below.

Financial Reporting and Record Keeping

Blockchain enables recording of financial data that is decentralized, thus leading to its correctness(Javaid et al., 2022). As with any paper-based accounting systems, the data is normally dispersed and stored in different databases, which many times results in confusion and errors. Blockchain solves this problem because it brings one original copy that will be shared between all the parties involved and interested in reviewing the record. This shared ledger increases trust and minimizes differences between two or more parties that may arise from differences in accounting records.

Another benefit to financial reporting is real-time synchronization made possible by blockchain(Hendershott et al., 2021). Most conventional accounting approaches entail certain time lags which result from manual matching and aggregation tasks. Since the decisions made by Blockchain execute massive automated functions, issues such as recording of financial transactions in organizations occur in real-time, thus enabling reports generation as well. This enables right decisions to be made at the right time and also enhances operational economy.

Additionally, blockchain facilitates regulatory compliance by providing a secure and unchangeable transaction record(Ajayi-Nifise et al., 2024). Authorities can access these records to confirm compliance with financial regulations, thereby streamlining the compliance process. This capability enhances audit efficiency and minimizes the potential for errors or fraudulent activities, establishing blockchain as an essential asset for precise financial reporting.

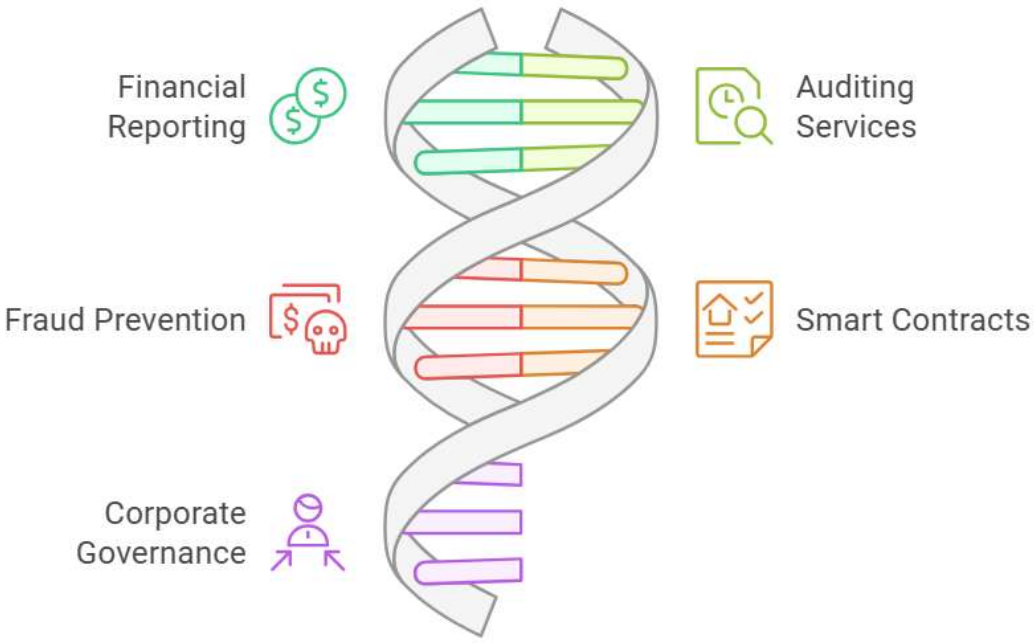

Figure 1: Application of Blockchain Technology in Accounting

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Auditing and Assurance Services

Additionally, using blockchain makes it easy to adhere to the regulatory requirements as it keeps information on several transactions unalterable(Brás et al., 2024). These records can be used by the regulators to ensure compliance with predominant financial laws and policies making the audit easier(Javaid et al., 2022). lack of errors or fraud possibilities and an ability to save time and contacts on different types of audits is critical for financial reporting with the help of blockchain.The immutability in blockchain improves the credibility of the audit evidence(Dyball and Seethamraju, 2021). While in a normal database, data can be changed or meddled with, with blockchain, it is implemented that all the transactions will be immortalized and cannot be changed. This leads to the creation of more credibility in financial statements and strengthens auditors belief in the validity of the data.

Also, in blockchain, data can be incorporated with smart contracts for the purpose of compliance check and for raising alert in case of anomalous behavior in real time basis(Kulkarni et al., 2025). For instance, smart contracts often create alarms whenever financial transactions are outside the compliance benchmarks set. This automation does not only relieves the burden of auditors, but also monitors continuously and timely detect anomalies, attempts to simplify the mechanism of risk control and management.

Fraud Prevention and Detection

Fraud however remains a serious issue in accounting, it incurs losses, organizational reputational damage among others(Jimoh et al., 2018; Rashid et al., 2023). Blockchain technology provides a very strong solution in the form of an open and fully protected system that would allow to register financial transactions. This characteristic advocates that entries in the ledgers cannot be changed, hence frauds are near impossible to cover-up.

Another advantage in blockchain technology is the ability to increase transparency. Blockchain solution provides unprecedented accessibility and transparency for all qualified parties, including auditors and regulators, to confirm the records of the transactions(Gauthier and Brender, 2021). This visibility means that there are low chances that fraudsters will be able to perpetrate scams in the site used. For instance, companies using blockchain for payment of goods and services supply can ensure that paymentsare been made correctly by the supply chain and no unauthorized payments are made.

Moreover, blockchain leads to instant fraud identification with the help of technological solutions that are designed to track transactions for fraud and other anomalies(Dhanawat, 2022). When used with artificial intelligence, advanced algorithms and machine learning, blockchain has the network analysis capabilities of studying patterns in financial data and detecting any suspicious activities. This preventive measure of fraud not only saves organization's money but also increases confidence of stakeholders.

Smart Contracts

Smart contracts are automated contracts wherethe terms of the contract along with the code are integrated into one(Madir, 2020). When saved on the blockchain, contracts run specific operations once defined terms are met within the contract. Smart contracts in accounting strategies the concept of billing, payroll services and procurement, and other processes where third-party interference is not needed.

For instance in procurement, a smart contract can be programmed in a way that, anytime an organization delivers the goods, the smart contract pays for them. This cuts out the need for a manual check, is faster than any check presented, and saves money in administration. Likewise, through smart contracts the company can pay employees without the need of involving middlemen as the payroll can be calculated and delivered once certain standards are met.

The accountability of financial dealings is likely to improve with the assist of smart contracting since they are transparent and auditable(Almadadha, 2024). Every stage of a transaction can be followed in order to guarantee that all contractual requirements are met. This helps diminish the probability of controversy and give a consistent guideline for addressing elaborate fiscal transactions, making smart contracts an essential tool in present accountancy.

Taxation and Compliance

Tax reporting and compliance have ever been a delicate and sensitive affair and have always been associated with so many errors(Elebute, 2023). It eases these operations because blockchain provides a record of every financial operation in detail and with maximized accuracy. This makes certain that organizations have right information, particularly within the calculation of taxes and preparation of reports.

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Blockchain also ensure transparency when it comes to tax compliance(Lyutova and Fialkovskaya, 2021). In consequence, blockchain minimizes opportunities for tax evasion and disputes through offering regulators a secure database proving transactions. The government or tax authorities could employ blockchain for crediting payments for taxes, and guarantee everything is legal, thus promoting trust between society and the government.

Also, the application of blockchain in taxes calculation and detection of all kinds of frauds can be implemented in blockchain(Ajayi, Jimoh and Ayilara, 2016; Olabanji, 2023). For example, through smart contract, the program can calculate and thereby deduct various taxes in relation to the transactions. These improvements do not only reduce the time taken in certain tax processes, but also helps to reduce cases of penalty for non-complianceand errors made.

Supply Chain Accounting and Management

The use of blockchain technology in supply chains has monumental consequences for accounting in terms of visibility at the end-to-end of the chain(Rogerson and Parry, 2020). The manners through which supply chain activities are implemented can be enhanced by incorporating blockchain technology. For instance, the use of smart contracts can help in tracking the flow of goods, validating transactions and producing a detailed and correct statement of the money spent on procurement and money realized from sales(Olalekan, Esther and Adedamola, 2024).

For example, all cost associated to the goods can be reported in real time or the location and cost of all goods in transit. It also assists organizations to check their supply chain for flaws like delay or anomaly in the supply of some of the products hence enhancing the operational financial management of organizations(Oginni et al., 2024).In addition, blockchain allows data in the supply chain to be connected with accounting systems and thus facilitating account balancing(Owolabi et al., 2024). This cuts down the risks of making errors which lead to the improvement of the quality of financial statement. Similarly, blockchain accounting also enhances accountability in the supply chain in as far as the compliance with ethical sourcing is concerned(Olanrewaju and Ayilara, 2024).

Cross-Border Transactions and Currency Management

Payments across borders are always associated with high charges, long completion durations and conversion from one currency to another(Zhang, 2020). Blockchain on the other hand solves the challenges by allowing efficient, safe, and cheap cross border transactions. This inherent model of working does not require intermediaries hence cutting short transaction costs, time and enhanced.

Another example of situations whereblockchain also makes convenient for accounting professionals is handling of multi-currency transactions(Maiti, Kotliarov and Lipatnikov, 2021). It will help large organizations to track and reconcile the conversion of currency and all other relative transactions in real-time and submit reports with accuracy. This is particularly advantageous for the multinational companies which have different business jurisdictions.

Furthermore, as regards international business operations, blockchain enables adherence to international financial reporting standards due to the registry of all cross-border operations(Dashkevich, Counsell and Destefanis, 2024). This helps to minimize the incidence of violations of laws as well as improves the quality of financial statements. For these reasons, such accounting practices equally benefit from efficiency and reliability of the blockchain for managing international operations.

Enhancing Corporate Governance

Blockchain also enhance the corporate governance, since it increases the level of transparency and accountability in the system(Efunniyi et al., 2024). Blockchain can be also applied to track different decisions of boards, shareholders' voting results and executives' compensations in organizations. It minimizes cases of conflict of interest and brought corporate governance closer to ethical benchmarks.

For instance, the blockchain can be used as a means of improving the credibility of shareholders' exercises of their voting rights in corporate decisions(Ayilara, Ajayi and Jimoh, 2016). For executive compensation, it can also generate an independent and honest trail meaning compliance with the regulations on corporate governance and encouraging trust among the shareholders.

Moreover, blockchain enhances identification of efficient financial systems that can meet corporate governance objectives(Adeusi,

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Jejeniwa and Jejeniwa, 2024). Through blockchain, organizations can have real-time access to financial data, hence making sound decisions and being able to account to the shareholders. Thus, the employment of blockchain in corporate governance policies improves organizational legitimacy and effectiveness(Olarenwaju, 2023).

Challenges in Adopting Blockchain in Accounting

As useful as the blockchain technology seems to be in addressing various professionals challenges, including that of the accounting field, it comes with certain barriers in its implementation. Some of these challenges include technical constraints; regulatory policy issues; rollouts that involve stakeholder resistance; and high costs of the rollouts. The below outlines some of the major problematic issues in applying blockchain in accounting:

High Initial Costs and Investment Requirements

One of the biggest issues facing the sector is the high expenses that come with using blockchain technology(Habib et al., 2022). Implementing blockchainsystems require investment in information technology (IT) facilities, software and analysis, and skilled human resource(Pinna et al., 2020). These costs may be expensive for SMEs as most of them cannot afford to under take such measures to carry out their activities.

Also, indirect costs incurred when migrating from traditional systems to those built on blockchain technology(Toufaily, Zalan and Dhaou, 2021). This, of course, requires rigorous planning, practice and, in some cases, days or even weeks of transition where rates will not necessarily remain high. To a number of organizations, such as these, such financial and operational losses are an insurmountable hurdle to implementation(Alade, 2023a).

In addition, there is the problem of outsourcing, which is necessary to implement most blockchain solutions, further increasing costs(Bottoni et al., 2023). Such collaborations and ensuring the partnerships ensures that organizational can take time and save a lot of money to secure and prolonging the process of blockchain technology adoption.

Scalability and Performance Issues

Another main challenge associated with the use of blockchain systems in accountancy is low scalability that many of these systems, especially public ones, exhibit(Akter, Kummer and Yigitbasioglu, 2024). Because the underlying technology is distributed, consensus mechanisms are used to verify transaction authenticity, typically a slow and resource-consumption demanding approach. With large numbers of transactions, performance reduces, and so are the speed and efficiency associated with the system.

In accounting the number of transactions processed in a single business day may be very large; this makes scalability an issue of paramount importance(Sarwar et al., 2021). Companies might discover that no current blockchain platforms meet their scale and throughput needs for real-time financial reporting or auditing. Some of these problems are solved in private blockchains which are more scalable than the public ones but they are less transparent and decentralized as a rule(Shoetan et al., 2024).

The problem of scalability is further aggravated by the energy consumption related to some consensus mechanisms, for example, proof-of-work(Fahim, Rahman and Mahmood, 2023). These processes are power hungry and not only increase cost of production, but also open up various sustainability questions that organisations may not want to answer leading to their adoption of block chain technology.

Regulatory and Legal Uncertainty

Another challenge that blockchain faces in the accounting field is the absence of well-defined guidelines to regulate blockchain technology(Toufaily, Zalan and Dhaou, 2021). Currently, governments and regulatory bodies around the globe are still struggling to understand the type of system that needs to be implemented as well as to regulate blockchain. This inherent uncertainty poses certain threats to organizations, especially in closely governed sectors like finance-accounting(Olarenwaju, 2023).

For instance, the questions concerning the admissibility of records stored in blockchains as well as concerns of data privacy and, tax treatment of blockchains are not well addressed in most jurisdictions. The current lack of rules and standards governing the use of blockchain may slow its adoption because companies are unsure of what regulatory framework they may violate if they start implementing blockchain. This is particularly so for MNEs that are operating across different legal systems where overlapping standards can really cause additional challenges.

Also, the regulators themselves might have insufficient skills to regulate blockchain

effectively to meet the growing demand(Akanfe, Lawong and Rao, 2024). This gap could lead to the creation of archaic or overly prescriptive policies which kill innovation and slow adoption. Until such developments are made, regulatory issues will be the biggest impediment.

Resistance to Change

The implementation of blockchain involves a change of existing organizational practices at the systems level and this makes it to face this problem(Ameyaw and de Vries, 2023). Users that comprise this domain encompass employees, management and sometimes third parties and they may not accept this technology due to ignorance, insecurity or skepticism.For instance, accountants and auditors who worked with the earlier forms of systems may consider blockchain as a threat to their job(Alade, 2023b). Thus, despite the largely automated nature of many of conventional accounting processes by blockchain, it is nevertheless still a human oversight process. However, this assumption may cause some professionals to resist adoption because they consider the technology an competitor to them and not an improvement to their operations.

Further, they may resist change because of the perceived difficulty in the use of blockchain technology(Choi et al., 2020). Companies also face the problem of translating the purpose and utility information technology of blockchain technologies in simple terms to the stakeholders, which results in aggregation to adopt the technologies. Besides, eradicating this kind of resistance entails the undertaking of expansive education and training campaigns invariably expensive to organize.

Integration with Existing Systems

The integration of blockchain with conventional accounting systems is a technical process which has been realised to involve a number of technical challenges(Kitsantas, 2022). Conventional systems on the contrary are not fit environments to support the blockchain technology since they usually need to be significantly revised or even rebuilt. This integration process may take quite some time and be rather expensive, which puts many organizations off adopting blockchain.

Furthermore, how blockchain integrates with other systems that support its functioning is still in development(Belchior et al., 2021). People may use distinctive protocols and standards in the diverse blockchain platforms to make it tough to integrate easily. At the same time, this absence of conformity for the industry may impair the compatibility of exchanging the financial information between blockchain and conventional systems, thus lowering its performance and reliability for accounting.

Technical skills needed for integration make it even more difficult to realize(You and Feng, 2020). It is presumed that organizations require hiring or training people with profound knowledge in both blockchain and accounting systems, which at the moment is a massive challenge because of the lack of skilled personnel in the blockchain field. Another layer of challenge encountered due to this shortage of professionals is with regards to the adoption process.

Data Privacy and Security Concerns

As much as blockchaintechnology is celebrated, it still has security flaws, that is, it is not entirely secure. Blockchain records are used in accounting where the data disclosed can be sensitive and to this end, the privacy of records have to be protected(Anyanwu et al., 2024). For instance, public blockchains are considered more vulnerable to data exposure since the transactional data is open to all nodes involved.

However, even in private blockchains some form of access or data leakage can occour. Another weakness of blockchain is that the security depends on the integrity of the entire network, making it susceptible to attacks on weak nodes. For accounting purposes this is a very big concern since corrupted data can cause a lot of loss and bring the reputations of the involved organizations into disrepute.

Knowledge and Skills Gap

Blockchain technology in accounting is has not yet been fully achieved because specialized expertise is lacking(Pimentel and Boulianne, 2020). Hence, accounting and audit personnel need to understand the concepts of blockchain more profoundly, whereas information technology specialists need to study accounting principles. Addressing this knowledge gap becomes a major concern that overwhelms adoption in most cases.

Currently, a skill shortage becomes a critical issue, and it is impossible to address it only through training programs and educational measures(Prager, Martinez and Cagle, 2021). Requirements shortage is one of the most pressing issues organizations face when seeking to hire specialised professionals to handle the technological and fiscal sides of blockchain integration. This results in the delay of the technology's adoption but also a higher price for

attracting and retaining personnel with the desired set of skills.

Also, because of the fast-growing trend of block chains, the information that the professionals work with is often outdated, and it's important to constantly update the information. For many organizations, staffing a force with the current level of knowledge is a tasking process; let alone the challenge of implementing blockchain.

Future Prospects of Blockchain in Accounting

In recent years, blockchaintechnology has immensely revolutionize the accounting field. In due course and as part of growing industry experience and evolution, blockchain presents features that hold great possibilities that could alter the practice of accounting as is known today. In the following section, the potential for blockchain application in accounting is discussed, along with its opportunities and solutions to current problems.

Enhanced Real-Time Reporting and Decision-Making

Among all the possible directions for implementing the technology, one of the most attractive is the use of blockchain technology in providing real-time reporting of financial statements(Qin, 2022). Since blockchain's ledger is decentralized and cannot be altered, core financial records can be accessed by various organizations at any given time helping inform investment decisions. This real time erases gaps that are common in the book keeping such as reconciliations that may take place at the close of the month and makes financial information available to users at their convenience.

For example, organizations might use blockchain in conjunction with other technologies such as artificial intelligence and analytical applications, where customers can see the performance of their financials in real time. Such insights could be used by organisations to discover patterns, and issues, with potential for improvement, that affect operations. Furthermore, real-time reporting is consistent with the evolving regulatory expectations that require organisations to provide more information and to do it more often, indicating that blockchain will play a key role in facilitating compliance in the future.

With increased use of blockchain, its application with other high tech like the internet of things devices could improve the reporting in real time(Nofel et al., 2024b). The internet of things sensors and devices can perform the entry of the financial transaction on the blockchain ledgers in real-time to minimize the error and enhance speedy transactions. This constant sharing of information can transform various sectors including manufacturing and supply chain since financial information is linked to operations.

Standardization and Interoperability of Blockchain Systems

As the role of blockchain in the accounting industry progresses further it would include more integration of the multiple block chain platforms. As of now one of the challenges is the lack of congruent protocols and standards, thus the difficulties in communications between the different system platforms(Kouhizadeh, Saberi and Sarkis, 2021). The attempts to set best practices may lead to further promulgation and implementation of blockchain technology in the realm of accounting.

The organisation standards of the blockchain will allow companies to exchange financial information through various platforms and regions(Zhang, 2020). It could make cross border transactions easier, enhance global relations and ease the process of meeting the accounting standards across the globe. To global business entities, the said enhancements may help decrease the human resources demanded to supervise the company's monetary dealings within various legal systems.

Interoperability is still another area of focus as we progressed towards future advancement. The future blockchain applications are anticipated for greater compatibility with enterprise resource planning systems and other accounting tools as well as other software(Kitsantas, 2022). Interoperability in this case would allow organisations to tap into blockchain technology solutions without necessarily having to under go a complete overhaul of their information technology department, hence making it more suitable to the wide market.

Smart Contracts for Automated Compliance and Auditing

Blockchain, an electronic record, spreading at a rapid pace, especially in business departments and especially the smart contracts or self-executing contracts with the terms coded into it is ventured to gain much growth in accounting(De Andrés and Lorca, 2021). These contracts also present the possibilities to bring automation into many tracking and reporting functions, such as operational compliance and auditing. For instance, smart contract could help check whether the

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specific transaction complies with the legal norms and show that the contractor disagrees.

Within the auditing profession, smart contract could lead to direct real-time audits, and hence potentially facilitate the shortening of audit time as well as effort in the execution of conventional auditing(Li and Kassem, 2021). The technologies that form the basis of an accounting and reporting on blockchain would also spell the end for auditors to verify transactions through reconciliations, because the data in the block chain network is always imputable for truthfulness. This might help to perform audits more comprehensively and timely and reduce the average expenditures from the side of auditors and evaluated organizations.

It is also possible to include tax compliance into the sphere of operation of smart contracts so that the system calculates and reports taxes based on instant financial data(Nayak et al., 2024). Through integration of tax regulations into smart contracts, corporations could avoid violation hence avoiding complication aspects of the law. This application of blockchain might be especially useful in industries with intricate taxes or where there are often some alterations in the requirements.

4. Integration with Emerging Technologies

When implemented concurrently with other technologies like artificial intelligence, machine learning, and big data, blockchain is likely to open new opportunities for accounting(Paramesha, Rane and Rane, 2024). For instance, artificial intelligence and machine learning applications could use features from blocks secured through blockchain to discover trends and patterns of smart financial planning and execution. Perhaps, this integration may improve the chances of the use of blockchain in strategic financial framework.

Blockchain's ability to integrate with big data could also revolutionize accounting by probably allowing organizations to capture and analyze real time financial data(Theodorakopoulos, Thanasas and Halkiopoulos, 2024). This capability would enhance the ability of accountants to get more profound assessment of the state of affairs and to reduce the amount of errors in their forecast of financial trends and scenarios that will be instrumental in the formulation of efficient financial plans and policies.

Further, the block chain that addresses the security challenges of data sharing could help implement decentralized finance models in accounting(Smith, 2021). Blockchain based decentralized finance platforms may lead to more traditional potentially value added services including decentralisedpeer to peer lending, automated portfolio management and others, where the current involvement of accountants may be enhanced.

Evolution of Regulatory Frameworks and Global Adoption

With the widespread use of blockchain technology, it is believed that further development of regulations will occur due to the features of blockchain technology(Yeoh, 2017). National governments and regulatory authorities are expected to come up with standard policies on using blockchain on the accounting process, as they seek to address some of the critical questions that come with using blockchain, including data privacy or security, taxation of blockchain and status of data on the blockchain. They may also help to cut down on the amount of risk associated with the system in the eyes of more businesses thereby increasing the rate of adoption of the technology.

Another advantage of blockchain adoption in accounting worldwide is also the international cooperation(Chang, Iakovou and Shi, 2020). Large global organisations such as the International Financial Reporting Standards Foundation and the International Auditing and Assurance Standards Board may position themselves in the middle of the production of blockchain exclusive standards for accounting and auditing. This global standardization could reduce the cost of cross border transactions and also increase the effectiveness of financial reporting around the world.

In addition, as the usage of blockchain increases, more measures will be taken to close the experience and knowledge gap in the field of accounting(Tavares et al., 2023). Education institutions such as universities need to include blockchain technology in their curricular as well as different professional bodies that train accountants should ensure that they impart knowledge in the application of the blockchain technology among other skills that their accountants should learn.

Democratization of Financial Services

Blockchain technologies retain the capacity to offer greater financial inclusion as a solution to reducing exclusion that is entrenched in the current financial systems(Sanyaolu et al., 2024). In accounting, this could mean that inequalities are eliminated since small businesses and start-ups in

many places are locked out of reasonable access to financial instruments.

In particular, the applications based on blockchain technology can offer small and medium enterpries viable and cost-optimized solutions for accounting that would help companies to better manage their funds. Decentralized accounting systems may also enable the businesses to would have more direct control over their accounting numbers, thus, negating the need for intermediaries. In addition, the secure peer to peer transactions possible with blockchain technology could make the existing payment system more efficient for organizations(Lee, 2019). This democratisation of financial services is consistent with trends in other areas of fintech and it remains to be seen how this sort of 'enabling' of innovation fits with the evolving professional identity of accountants.

II. CONCLUSION

Blockchain technology is revolutionalising the accounting industry since it presents a new means through which the efficiency of accounting processes can be improved greatly. Some of these core characteristics of blockchain technology include immutability, decentralization and real-time data accessibility among others which will be in tandem with the accounting profession mandate of delivering accurate and credible information to the users of financial statements. This systematic review has endeavored to involve the social and organizational accountants in understanding various applications of blockchain in their field of practice, the prospects and challenges that would define its future existence and shape the industry in the coming years.

The uses of blockchain technology in accounting from automated auditing to secure data management afford way of modernizing traditional accounting. A number of drawbacks link with traditional systems are eased by blockchain by lessening the manual effort, protecting against frauds, and helping compliance. Smart contracts and real-time financial reporting are the most revolutionary aspects as they allow firms to fulfill the necessary reporting demands and make improved decisions promptly.

However, as is the case with the adoption of any new technology, there are some particular challenges propagated by the use of blockchain. There are challenges like the general size of the services, compatibility of the services, and regulatory problems. High implementation cost and steep learning curve for the professionals also underlines the argument that technology adoption has to be gradual and structured. These challenges call for multi stakeholder support especially by the government entities, regulatory authorities and other corporations that would facilitate desirable environments for blockchain implementation.

It can be concluded that the prospects of blockchain implementation in accounting are very promising. It is presumed that as the technology advances, it will support changes to result in more innovation, since processes concerning reporting, compatibility, and application of broader technologies such as artificial intelligence and big data are more real-time. The advancement of global standardization of block chain, and the emergence of the relevant regulatory mechanisms will also help promote the popularization of block chain, internationalization of account standards and legalization.

Finally, the paper proclaims that blockchain is not just a technique that can be applied, it is the enabler of the transformation of the accounting profession. Focusing on the problems of adoption and accepting the potential benefits of this technology, the accounting industry can use blockchain to improve its numerous aspects in terms of effectiveness, openness, and reliability. This journey is necessary if the profession is to prepare for the challenges presented by a world that is rushing headlong into a digital future and to take its place as one of the key shapers of the global economy of the 21st Century.

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