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# Adoption of Blockchain Technology in Accounting Practices: A Practitioner's Perspective

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**ABSTRACT**

Blockchain technology has the potential to transform accounting by increasing transparency, security, and operational efficiency in financial reporting and audits. This study examines blockchain adoption from a practitioner's viewpoint, evaluating the challenges, feasibility, and strategic impact on accounting professionals. Employing a mixed-methods approach, it integrates quantitative survey data with qualitative insights from industry experts to assess major adoption barriers, such as regulatory ambiguity, technological complexity, implementation costs, and resistance to change. The findings suggest that blockchain preparedness and governance are crucial in driving adoption, while awareness and feasibility act as secondary influences. The study highlights the importance of industry collaboration, regulatory alignment, and specialized training programs to facilitate blockchain's seamless integration into accounting systems. Addressing these challenges can help firms leverage blockchain's advantages in financial accountability, fraud prevention, and audit effectiveness, shaping the future of accounting practices.

**Keywords:** Blockchain Adoption, Accounting Innovation, Financial Transparency, Regulatory Uncertainty, Audit Efficiency and Governance and Compliance

## 1. INTRODUCTION

### 1.1 Background of the Study

Originally introduced as the foundational technology behind Bitcoin, blockchain has since evolved into a disruptive force across multiple industries. In accounting, its core features—decentralization, immutability, transparency, and automation—offer transformative potential for financial reporting, auditing, and record-keeping.

Traditional accounting systems rely on centralized databases managed by organizations, which exposes them to risks such as fraud, data manipulation, and inefficiencies. Blockchain, with its ability to create secure, real-time, and tamper-resistant financial records, presents a compelling alternative. Leading accounting firms, including Deloitte, PwC, and EY, have begun exploring blockchain integration to enhance financial reporting and compliance.

Despite its theoretical benefits, blockchain adoption in accounting remains limited due to concerns about scalability, regulatory compliance, and the reluctance of professionals to shift from conventional systems. This study aims to explore blockchain adoption from the perspective of accounting practitioners, identifying key barriers, opportunities, and practical implications.

### 1.2 Statement of the problem

Although blockchain technology promises to enhance transparency and efficiency in accounting, its adoption is hindered by several challenges. One major barrier is regulatory uncertainty, as the lack of clear legal and compliance frameworks raises concerns about blockchain's legitimacy in financial reporting. Additionally, the cost of implementation poses a significant challenge, with the high initial expenses of integrating blockchain into existing accounting systems deterring many firms from adoption. Another key issue is technological complexity, as many accounting professionals lack the technical expertise required to implement or manage blockchain-based systems effectively.

Furthermore, resistance to change among traditional accountants and auditors remains a critical obstacle, as some professionals may be sceptical of blockchain's benefits or unwilling to alter established workflows. These barriers highlight the need for an in-depth investigation into how practitioners perceive blockchain, the specific challenges they face in its adoption, and the potential solutions that could facilitate a smoother transition to blockchain-based accounting systems.

### 1.3 Scope of the study

This study is motivated by the growing interest in digital transformation within accounting and the increasing role of technology-driven financial practices. A key motivation is bridging the gap between technology and accounting, as understanding how blockchain fits into current accounting frameworks is crucial for its successful adoption. Additionally, addressing fraud and transparency issues is a major driver, given that traditional accounting systems are prone to errors and fraud, whereas blockchain's immutability could help mitigate these risks.

Another important aspect is enhancing the efficiency of financial audits, as blockchain's real-time verification capabilities can significantly reduce the time and effort required for audits. Moreover, supporting regulatory compliance has become essential, with increasing global regulations requiring better compliance tracking and financial reporting integrity. Finally, understanding industry readiness by studying practitioners' perspectives can help assess the industry's preparedness for blockchain adoption and guide future policy recommendations.

### 1.4 Research gap

Blockchain Preparedness and Governance – Existing research lacks a structured framework for assessing organizational readiness. There is a need for clear governance models, regulatory compliance mechanisms, and adoption roadmaps to enhance blockchain integration in accounting.

Feasibility of Integration with Accounting Systems – Limited studies address practical challenges like compatibility with legacy systems, cost constraints, and technical complexity. Research is needed on real-world case studies and scalable solutions for seamless blockchain adoption.

### 1.5 Objectives of the study

- To examine the role of blockchain preparedness and governance in influencing adoption
- To evaluate the feasibility of integrating blockchain with existing accounting systems

## 2. LITERTURE REVIEW

1. **Nakamoto (2008)** conceptualized blockchain as a decentralized ledger system designed to facilitate secure and transparent financial transactions without intermediaries. The potential of this technology to improve financial reporting and reduce fraudulent activities has since been widely discussed in academic and industry literature.
2. **Dai, J., & Vasarhelyi, M. A. (2017)** explored how blockchain enhances financial reporting by ensuri-

ng real-time data validation and reducing reliance on traditional, paper-based accounting records. Their findings suggest that blockchain's immutable nature could improve accuracy and efficiency in financial audits. Similarly, Yermack (2017) examined its role in corporate governance, emphasizing how blockchain's transparency can enhance financial accountability and minimize the risk of fraudulent reporting.

3. **Yermack, D. (2017)** examined blockchain's role in corporate governance and financial transparency. The research discusses its ability to create immutable financial records, minimizing fraudulent reporting and increasing accountability in financial statements.
4. **Zhang, Y., & Wen, J. (2017**) investigated the integration of blockchain with the Internet of Things (IoT) to automate accounting transactions. Their study highlights how smart contracts enable self-executing transactions, reducing human error and streamlining reconciliation processes. Meanwhile, Schmitz and Leoni (2019) conducted an extensive review of blockchain adoption in accounting, acknowledging its security benefits while also noting significant implementation challenges such as regulatory uncertainties and integration costs.
5. **Schmitz, J., & Leoni, G. (2019)** provided an extensive review of blockchain adoption in accounting, identifying key advantages such as enhanced security and auditability. However, the study also highlights challenges, including regulatory uncertainties, implementation costs, and resistance to change within the accounting profession.
6. **Tan, B. S. (2020)** analyzed blockchain's role in securing accounting records by preventing data manipulation and ensuring financial data integrity. His research emphasizes that automated ledger updates can enhance regulatory compliance and minimize audit risks. Wang and Kogan (2018) focused on blockchain's impact on auditing practices, arguing that while real-time auditability is a major advantage, it also necessitates the development of new verification methodologies.
7. **Wang, Y., & Kogan, A. (2018**) focused on blockchain's implications for the auditing profession. Their research discusses how blockchain enhances real-time auditability but also necessitates new verification methodologies to validate cryptographically secured financial transactions.
8. **Pimentel, E., & Boulianne, E. (2020)** explored how smart contracts contribute to financial reporting automation. They found that these contracts could significantly improve efficiency by reducing transaction processing time and ensuring the reliability of financial statements.
9. **Al-Htaybat, K., & von Alberti-Alhtaybat, L. (2017)** highlighted the evolving role of accountants in the digital age, stressing the need for professionals to develop blockchain expertise to stay relevant in the industry.
10. **Deloitte (2021)** examined real-world blockchain applications in financial reporting and compliance. The study presents case studies of multinational corporations leveraging blockchain for accurate record-keeping, fraud prevention, and streamlining complex financial transactions.
11. **ICAEW (2020)** analysed blockchain's potential in financial transaction management. The study highlights how blockchain eliminates the need for reconciliations, enhances compliance with financial regulations, and reduces operational inefficiencies in accounting systems.
12. **Ernst & Young (2021)** evaluated blockchain's impact on the auditing landscape. Their study discusses the shift toward continuous, real-time auditing enabled by blockchain and the challenges auditors face in adapting to immutable financial records that require new validation techniques.
13. **Coyne, J. G., & McMickle, P. L. (2017)** assessed blockchain's strengths and limitations in accounting. While the study acknowledges blockchain's ability to enhance security and accuracy, it

also highlights issues such as scalability concerns, regulatory constraints, and the need for widespread industry adoption.

14. **Tysiac, K. (2018)** investigated blockchain's influence on financial reporting and statement preparation. The research highlights blockchain's role in minimizing reporting errors, improving transaction traceability, and fostering greater trust in financial disclosures.
15. **PWC (2022)** analysed blockchain's impact on tax compliance and regulatory reporting. Their study highlights its ability to streamline tax documentation, ensure accurate financial data submission, and reduce non-compliance risks through automated reporting systems.
16. **IBM (2021**) examined how blockchain contributes to accounting automation by enabling real-time financial reporting and reducing administrative costs. The study emphasizes its role in facilitating continuous accounting, enhancing data integrity, and minimizing errors in financial statements.
17. **Xero (2023)** explored blockchain adoption among small and medium-sized enterprises (SMEs). The study highlights how blockchain improves financial record-keeping, enhances security against financial fraud, and fosters trust among business stakeholders by ensuring transparent and immutable financial transactions.

## 3. RESEARCH METHODOLOGY

### 3.1 Research design

The study employs a mixed-methods research approach, integrating both quantitative and qualitative methodologies to examine blockchain adoption from a practitioner's perspective. The objective is to identify key barriers, opportunities, and practical implications in accounting. The quantitative analysis involves conducting structured surveys to collect numerical data on factors influencing blockchain adoption. Meanwhile, the qualitative analysis includes semi-structured telephonic interviews with industry professionals, providing deeper insights into practical challenges and implementation strategies.

### 3.2 Rationale for Research Design

This study employs a mixed-method approach to provide a comprehensive analysis by combining statistical data with practitioner insights. The quantitative component identifies measurable trends, while the qualitative analysis offers contextual depth, ensuring a well-rounded understanding of blockchain adoption in accounting practices.

### 3.3 Data collection methods

The data collection process is structured to obtain reliable and diverse insights into blockchain adoption in accounting through primary and secondary sources**.**

For primary data collection**, a** quantitative survey method is employed using a structured questionnaire distributed to accountants, auditors, financial analysts, and blockchain experts. The survey consists of close-ended questions**,** including Likert scale and multiple-choice questions, covering key areas such as perceived barriers (cost, complexity, scalability, and regulations), blockchain readiness (awareness, education, and training), adoption feasibility (integration with existing systems), and blockchain governance and assurance (security, transparency, and compliance).

For secondary data collection, the study reviews existing literature and industry reports to strengthen the research. Sources include academic journals discussing blockchain's impact on accounting practices, industry reports from leading firms such as Deloitte, PwC, EY, and IBM on blockchain applications in finance, and regulatory frameworks provided by IFAC (International Federation of Accountants), FASB (Financial Accounting Standards Board), and IFRS (International Financial Reporting Standards). These

sources provide valuable context and comparative insights into blockchain adoption trends and challenges in the accounting industry.

### 3.4 Population and sampling technique

Target population: The study focuses on accounting professionals, auditors, and finance specialists across various sectors, including large accounting firms, small and medium enterprises (SMEs), and government and regulatory bodies overseeing financial reporting.

Sampling Technique: A stratified random sampling approach is employed to ensure representation across different organizational structures. The sample is divided into three strata: large corporations with established accounting frameworks, SMEs exploring blockchain integration, and regulatory authorities assessing blockchain's financial implications.

Sample size: To maintain statistical significance, a minimum sample size of 235 respondents is targeted, ensuring robust and reliable insights into blockchain adoption within accounting practices.

### 3.5 DATA ANALYSIS METHODS

#### 3.5.1. Model Summary Interpretation

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.565 | 0.319 | 0.304 | 0.60863 |

**Key Insights:**

The regression analysis provides insights into the relationship between blockchain adoption barriers and key independent variables, including blockchain readiness, feasibility, preparedness, assurance, and governance. The correlation coefficient (R = 0.565) indicates a moderate positive correlation, suggesting that these factors have a reasonable influence on adoption barriers. The R Square value (0.319), also known as the coefficient of determination, reveals that 31.9% of the variation in adoption barriers can be explained by these independent variables, while the remaining 68.1% is influenced by other unexplored factors.

The Adjusted R Square (0.304) accounts for the number of predictors in the model, providing a more refined estimate. The minimal difference between $R^2$ (0.319) and Adjusted $R^2$ (0.304) indicates that the model does not suffer from overfitting, confirming that the selected variables contribute meaningfully to explaining adoption barriers. Finally, the Standard Error of Estimate (0.60863) represents the average deviation of observed values from the regression line. While a lower standard error indicates a better model fit, the given value suggests a moderate level of prediction error, highlighting the need for further refinement and additional influencing factors in blockchain adoption research.

#### 3.5.2. Interpretation of Regression Coefficients

| Predictor | B (Unstandardized Coefficient) | Std. Error | Beta (Standardized Coefficient) | t-value | Significance (p-value) |
|---|---|---|---|---|---|
| Constant | 0.201 | 0.342 | — | 0.588 | 0.557 |
| Blockchain Readiness | -0.018 | 0.056 | -0.018 | -0.330 | 0.742 |
| Blockchain Feasibility | 0.094 | 0.056 | 0.095 | 1.663 | 0.098 |

| Predictor | B (Unstandardized Coefficient) | Std. Error | Beta (Standardized Coefficient) | t-value | Significance (p-value) |
|---|---|---|---|---|---|
| Blockchain Preparedness | 0.822 | 0.086 | 0.523 | 9.551 | 0.000 |
| Blockchain Assurance | 0.093 | 0.054 | 0.098 | 1.714 | 0.088 |
| Blockchain Governance | 0.115 | 0.051 | 0.125 | 2.282 | 0.023 |

**Key Insights from the Coefficients:**

The regression analysis provides a detailed understanding of the impact of various factors on blockchain adoption barriers in accounting. The constant (0.201, p = 0.557) suggests that when all independent variables are zero, the adoption barriers would have a baseline value of 0.201. However, the high p-value (0.557) indicates that the constant alone lacks statistical significance, making it not meaningful for interpretation.

Among the independent variables, blockchain readiness (-0.018, p = 0.742) shows a negative but statistically insignificant impact on adoption barriers. A 1-unit increase in blockchain readiness slightly reduces adoption barriers by 0.018 units, but the high p-value suggests that awareness and training alone do not significantly influence blockchain adoption challenges. Similarly, blockchain feasibility (0.094, p = 0.098) has a small positive impact on adoption barriers, indicating that challenges related to blockchain feasibility play a role in hindering adoption. However, since its p-value (0.098) is slightly above the 0.05 threshold, its predictive strength remains weak.

The most significant factor affecting adoption barriers is blockchain preparedness (0.822, p = 0.000). A 1-unit increase in preparedness leads to a 0.822-unit increase in adoption barriers, and with a highly significant p-value (0.000), it indicates that organizations lacking adequate infrastructure, skills, and integration strategies face the highest resistance to adopting blockchain in accounting. On the other hand, blockchain assurance (0.093, p = 0.088) has a positive but weak impact, meaning assurance frameworks play a moderate role in blockchain adoption but are not a strong predictor.

Lastly, blockchain governance (0.115, p = 0.023) is another statistically significant factor influencing adoption barriers. A 1-unit increase in governance challenges leads to a 0.115 increase in adoption barriers, suggesting that weak regulatory frameworks and compliance structures contribute to greater difficulties in blockchain adoption. These findings emphasize that while factors like feasibility, assurance, and readiness play a role, preparedness and governance are the most critical determinants in blockchain adoption within accounting practices.

### 3.5.3. Summary of Findings

The analysis identifies blockchain preparedness and blockchain governance as the key drivers of adoption barriers in accounting practices. Blockchain preparedness (p = 0.000) emerges as the most influential factor, indicating that organizations lacking the necessary infrastructure, technical expertise, and integration strategies face the greatest challenges in adopting blockchain. Without sufficient preparation, firms struggle with system compatibility, staff training, and process adaptation, making adoption more complex and resource-intensive. Blockchain governance (p = 0.023) is also a statistically significant factor, highlighting that weak regulatory frameworks, unclear compliance standards, and the absence of

standardized policies contribute significantly to adoption barriers. Organizations operating in uncertain regulatory environments may hesitate to implement blockchain due to concerns about legal risks, data security, and compliance obligations.

On the other hand, blockchain readiness ($p = 0.742$) does not show a significant impact on adoption barriers, suggesting that awareness and general knowledge of blockchain technology alone are insufficient drivers of adoption. While understanding blockchain concepts is essential, firms require concrete implementation strategies and regulatory clarity to proceed with adoption. Blockchain feasibility ($p = 0.098$) and blockchain assurance ($p = 0.088$) exhibit moderate influence, indicating that factors such as integration challenges, scalability concerns, and trust in blockchain's security mechanisms play a role but are not strong predictors of adoption barriers. These findings reinforce that organizations must prioritize preparedness and governance structures to overcome key blockchain adoption challenges, while secondary factors like feasibility and assurance may require further research to determine their long-term impact.

### 3.5.4. Recommendations and suggestions

To overcome the most significant barriers to blockchain adoption in accounting, organizations must focus on enhancing blockchain preparedness and strengthening governance structures. Blockchain preparedness can be improved by developing structured training programs for accountants, ensuring they acquire the necessary technical skills for blockchain implementation. Additionally, firms should invest in blockchain infrastructure and integrate it with existing accounting software to facilitate seamless adoption. Collaboration with technology providers is also essential to ensure smooth implementation and address technical complexities.

Blockchain governance is another critical area that requires attention. Regulatory bodies must establish clear standards for blockchain applications in accounting, providing organizations with well-defined compliance guidelines. To ensure security, auditability, and legal certainty, firms should implement robust compliance frameworks that align with industry regulations and best practices.

Beyond preparedness and governance, improving blockchain feasibility and assurance is crucial for widespread adoption. To make blockchain more feasible, firms should focus on developing low-cost blockchain solutions tailored to accounting needs, making the technology more accessible. Additionally, fostering partnerships between blockchain developers and finance professionals can drive innovation and create user-friendly solutions. In terms of blockchain assurance, the development of standardized audit practices is essential for building trust in blockchain-based financial reporting. Furthermore, certifying blockchain platforms for financial compliance can enhance credibility and encourage broader industry adoption. By addressing these barriers through structured training, regulatory clarity, cost-effective solutions, and audit standardization, firms can create a more conducive environment for blockchain integration in accounting.

## 4. CONCLUSION

Blockchain technology presents a significant opportunity to enhance transparency, security, and efficiency in accounting practices. However, this study highlights that widespread adoption remains limited due to key barriers such as regulatory uncertainty, technological challenges, and resistance to change within the industry.

The findings suggest that blockchain preparedness and governance are the most influential factors affecting adoption. Organizations that invest in staff training, technological infrastructure, and regulatory

alignment are more likely to overcome implementation challenges. In contrast, firms operating in ambiguous regulatory environments may hesitate due to concerns over compliance and legal risks.

While awareness, feasibility, and assurance play a role in blockchain adoption, they are secondary factors. To accelerate adoption, firms should collaborate with technology providers, develop cost-effective blockchain solutions, and align their accounting processes with evolving regulations.

As blockchain adoption gains momentum, early adopters are likely to benefit from enhanced auditability, fraud prevention, and improved financial processes. While the path to full integration presents challenges, a strategic approach—focused on innovation, regulation, and industry collaboration—can facilitate a smoother transition and redefine the future of accounting.

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