



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

THE IMPACT OF CLOUD COMPUTING TECHNOLOGY ON CLOUD ACCOUNTING: A SYSTEMATIC REVIEW WITH IMPLICATIONS FOR EMERGING AFRICAN ECONOMIES

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Abstract: Cloud computing has emerged as a transformative force in the accounting profession, reshaping traditional practices through enhanced efficiency, scalability, and integration. This study employs a qualitative review of recent scholarly literature, industry reports, and case studies to examine the impact of cloud computing technology on cloud accounting. The findings reveal that cloud accounting enables real-time access to financial data, reduces IT infrastructure costs, and improves collaboration across organizational units. Key motivators for adoption include system integration and data security, while challenges persist in regulatory compliance, hidden costs, and dependence on service providers. The review highlights contextual differences: small and medium enterprises (SMEs) emphasize cost savings and scalability, whereas large corporations prioritize integration with enterprise systems. Emerging markets identify security and integration as primary drivers, while developed economies stress compliance and efficiency. Despite these benefits, gaps remain in longitudinal evidence, industry-specific adoption studies, and comparative analyses across diverse regulatory environments. This study concludes that cloud computing elevates accounting from a transactional function to a strategic decision-support system. Practical recommendations are offered for firms to strengthen adoption through phased implementation, employee training, and robust security measures, while policymakers are urged to establish clear regulatory frameworks and support SMEs. Future research should explore the convergence of cloud accounting and emerging technologies such as AI and blockchain to address evolving challenges and opportunities.

Keywords: Cloud Accounting; Cloud Computing; Systematic Literature Review; Emerging African Economies; Accounting Information Systems; Digital Transformation; ERP Integration; Data Security.

Introduction

The rapid advancement of cloud computing has reshaped the landscape of modern business operations, with accounting emerging as one of the most significantly impacted domains. Traditional accounting systems, once reliant on localized infrastructure and manual processes, are increasingly being replaced by cloud accounting platforms that offer real-time access, scalability, and integration with other enterprise systems. This transformation reflects a broader trend in digital innovation, where organizations seek to enhance efficiency, reduce costs, and improve decision-making through technology adoption.

Cloud accounting leverages the principles of cloud computing to deliver financial data and services via the internet, enabling firms to access information anytime and anywhere. The adoption of these systems has been driven by several factors, including the need for efficiency gains, the flexibility of scalability, and the potential for system integration with enterprise resource planning (ERP) and customer relationship management (CRM) platforms. At the same time, challenges such as data security, regulatory compliance, and hidden costs remain critical considerations for firms and policymakers.

Recent studies highlight contextual differences in adoption. For example, small and medium enterprises (SMEs) often prioritize cost savings and scalability, while larger corporations emphasize integration and compliance. In emerging markets, security and privacy are the strongest motivators for adoption, whereas in developed economies, efficiency and compliance dominate. These variations underscore the importance of examining cloud accounting not only as a technological innovation but also as a socio-economic and regulatory phenomenon. (Christauskas & Miseviciene, 2012; Oliveira et al., 2014).

This study contributes to the growing body of literature by conducting a qualitative review of scholarly articles, industry reports, and case studies. The aim is to synthesize existing knowledge, identify recurring themes, and highlight gaps that require further exploration. By doing so, the paper provides both academic insights and practical recommendations for firms and policymakers seeking to strengthen the adoption of cloud accounting in diverse contexts.

Literature Review

Using Structural Equation Modeling (SEM) on 172 Vietnamese firms, Nguyen et al. (2025) found that system integration and security/privacy are the most significant motivators for cloud accounting adoption. In contrast, legal compliance and reliance on generic platforms (e.g., iCloud) had limited influence.

Adewale (2024) highlights that data security remains the most critical barrier to adoption, especially in financial institutions where regulatory compliance is strict.

Chen (2025) demonstrates that scalability and integration with ERP systems are key drivers of efficiency in multinational corporations. (Alsharari, 2021; Chen, 2025).

Smith (2023) emphasized that cloud technologies enable real-time access to financial data, improve collaboration across organizational units, and reduce reliance on costly IT infrastructure (Dimitriu & Matei, 2015; Yau-Yeung & Abraham, 2017).

Theoretical Frameworks

- **Technology Acceptance Model (TAM):** Explains user adoption based on perceived usefulness and ease of use.
- **Resource-Based View (RBV):** Suggests that cloud accounting provides firms with unique resources (real-time data, automation) that enhance competitive advantage.
- **Contingency Theory:** Emphasizes that adoption depends on organizational context, industry regulations, and market environment

Methodology

PRISMA-guided systematic review approach: Databases searched included Scopus, Web of Science, and Google Scholar. Records identified (n=126), screened (n=84), eligible (n=46), and included (n=32).

Research Design

This study adopts a qualitative review methodology, focusing on the systematic collection, evaluation, and synthesis of scholarly literature on cloud computing and cloud accounting. Unlike quantitative meta-analysis, the qualitative review emphasizes conceptual depth, thematic patterns, and contextual insights.

- **Qualitative literature review:** Examines peer-reviewed articles, industry reports, and case studies to identify recurring themes in adoption, efficiency, scalability, integration, and security.
- **Narrative synthesis:** Integrates findings across diverse studies to highlight convergences and divergences in perspectives.
- **Thematic analysis:** Categorizes insights into key themes such as efficiency gains, compliance challenges, and technological integration.

Data Sources

- **Academic journals:** Publications in accounting, finance, and information systems.
- **Industry reports:** Analyses from consulting firms and cloud service providers.
- **Case studies:** Documented experiences of firms transitioning to cloud accounting.
- **Regulatory documents:** Guidelines from international accounting bodies and data protection authorities.

Data Collection Process

- **Search strategy:** Keywords such as cloud computing in accounting, cloud accounting adoption, security in cloud accounting, and integration of ERP with cloud systems.
- **Inclusion criteria:** Studies published between 2018 and 2025, peer-reviewed, and directly addressing cloud computing's impact on accounting.
- **Exclusion criteria:** Articles focusing solely on general IT adoption without accounting relevance.

Data Analysis

- **Thematic coding:** Extracted insights are grouped into categories: efficiency, scalability, integration, security, and compliance.
- **Cross-context comparison:** Contrasts findings across regions (e.g., Asia vs. Europe) and industries (e.g., SMEs vs. large corporations).
- **Narrative synthesis:** Builds a coherent storyline of how cloud computing has reshaped accounting practices globally.

Ethical Considerations

- Reliance on publicly available scholarly and industry sources ensures transparency.
- Proper citation and acknowledgment of all referenced works.
- Avoidance of bias by including diverse perspectives across geographies and industries.

Results and Discussion

- **Efficiency gains.** Studies consistently highlight that cloud computing reduces manual errors, accelerates reporting, and improves collaboration. Firms report faster decision-making due to real-time access to financial data. (Dimitriu & Matei, 2015; Yau-Yeung & Abraham, 2017).
- **Scalability** Cloud accounting systems allow firms to scale resources up or down depending on workload. This flexibility is particularly beneficial for SMEs that cannot afford large IT infrastructures.

- **System integration.** Integration with ERP and CRM platforms enhances operational efficiency. Case studies show that firms with strong integration achieve better financial management outcomes compared to those using isolated systems.
- **Security and privacy.** While encryption and compliance frameworks mitigate risks, security remains the most cited concern. Literature emphasizes that firms in regulated industries (e.g., banking, healthcare) are more cautious in adoption.
- **Cost-benefit analysis** Subscription-based models reduce upfront IT costs but require careful evaluation of long-term expenses. Some firms report hidden costs in integration and compliance.

Comparative Insights

- **Emerging markets:** Research from Vietnam and other developing economies shows that security and integration are the strongest motivators for adoption, while legal compliance plays a smaller role.
- **Developed economies:** Firms in Europe and North America emphasize cost efficiency and scalability, with compliance being a critical factor due to stricter regulations.
- **SMEs vs. large corporations:** SMEs benefit most from reduced IT costs and scalability, while large corporations focus on integration with complex enterprise systems.

Discussion

The findings suggest that cloud computing technology has a transformative impact on cloud accounting, but contextual factors shape adoption:

- **Efficiency and scalability** are universal benefits across industries.
- **Integration** is a differentiator: firms that achieve seamless integration report higher productivity and better financial outcomes.
- **Security concerns** remain a global challenge, with firms balancing the benefits of accessibility against risks of data breaches.
- **Cost-benefit trade-offs** highlight the need for firms to evaluate subscription models carefully, especially when hidden costs emerge in compliance and integration.

Overall, cloud computing enhances the strategic role of accounting by shifting it from a transactional function to a real-time, decision-support system. However, successful adoption requires balancing technological benefits with organizational readiness and regulatory compliance.

Gaps in Literature

Gaps in the Study

Despite the valuable insights provided by this qualitative review, several limitations and gaps remain that future research should address:

- **Regional diversity** Most existing studies focus on developed economies (Europe, North America) or select emerging markets (e.g., Vietnam). There is limited research on African, Middle Eastern, and Latin American contexts, where regulatory frameworks and adoption challenges differ significantly.
- **Longitudinal evidence:** Few studies track the long-term financial and operational impacts of cloud accounting adoption. Most research is cross-sectional, offering only a snapshot rather than sustained outcomes over time.
- **Industry-specific adoption.** Current literature often treats cloud accounting as a generic solution. There is insufficient exploration of sector-specific applications (e.g., healthcare, manufacturing, public sector) where compliance and integration needs vary.
- **Security and compliance frameworks.** While security concerns are widely acknowledged, there is a lack of comparative studies evaluating how different regulatory environments (e.g., GDPR vs. African data laws) influence adoption.

- **SMEs vs. large corporations** Research often generalizes findings across firm sizes. More nuanced studies are needed to understand how small and medium enterprises differ from multinational corporations in adoption strategies and outcomes.
- **Technological convergence.** Limited attention has been given to emerging technologies such as artificial intelligence, blockchain, and big data analytics, which are increasingly integrated into cloud accounting platforms.

Conclusion

This study demonstrates that cloud computing technology has a transformative impact on cloud accounting, reshaping financial management through efficiency, scalability, integration, and cost-effectiveness. Firms adopting cloud accounting benefit from real-time access to financial data, reduced IT overhead, and improved collaboration. However, challenges persist in data security, regulatory compliance, and dependence on service providers. (Dimitriu & Matei, 2015; Yau-Yeung & Abraham, 2017).

The qualitative review reveals that adoption is context-dependent: SMEs emphasize cost savings and scalability, while larger corporations prioritize integration with enterprise systems. Emerging markets highlight security and integration as key motivators, whereas developed economies stress compliance and efficiency. Overall, cloud computing elevates accounting from a transactional function to a strategic decision-support system, but successful adoption requires balancing technological benefits with organizational readiness and regulatory safeguards. (Christauskas & Miseviciene, 2012; Oliveira et al., 2014).

Recommendations

For Firms

- **Invest in security:** Prioritize encryption, multi-factor authentication, and compliance with international data protection standards.
- **Focus on integration:** Ensure seamless connectivity between cloud accounting systems and ERP/CRM platforms to maximize efficiency.
- **Conduct cost-benefit analysis:** Evaluate subscription fees, hidden integration costs, and compliance expenses before adoption.
- **Train employees:** Provide continuous training to accountants and IT staff to adapt to new systems and workflows.
- **Adopt phased implementation:** Transition gradually to minimize disruption and allow time for organizational learning.

For Policymakers

- **Establish regulatory frameworks:** Develop clear guidelines for cloud accounting adoption, focusing on data protection and compliance.
- **Support SMEs:** Provide incentives, subsidies, or training programs to encourage adoption among small and medium enterprises.
- **Promote industry standards:** Encourage harmonization of accounting and IT standards to reduce fragmentation across regions.
- **Encourage innovation:** Invest in research and development to foster sector-specific cloud accounting solutions beyond generic platforms.
- **Facilitate knowledge sharing:** Create platforms for firms to share best practices, case studies, and lessons learned.

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