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Analysis of the Effect of the Implementation of Cloud-Based Accounting Information Systems, User Understanding Levels, and Data Quality on the Efficiency of the Audit Process

Eri Kusnanto[1], Windi Alfaisa[2*]
[1-2]Sekolah Tinggi Ilmu Ekonomi Kasih Bangsa, Indonesia

*Corresponding Author: windialfaisaaa@gmail.com**

Abstract. *The implementation of cloud-based accounting information systems has significantly transformed modern auditing practices. This study examines the influence of cloud-based system implementation, user understanding level, and data quality on the efficiency of the audit process. This study uses a qualitative approach with case studies on organizations that have implemented cloud-based systems. Data was collected through in-depth interviews, direct observations, and documentation of the audit process. The results show that the implementation of cloud-based systems improves audit efficiency by reducing manual tasks and enabling better data integration. User understanding and high data quality are important factors in ensuring reliable audit results. In addition, organizational readiness and integration with advanced technologies such as big data analytics further strengthen the benefits of cloud-based systems in auditing.*

Keywords*: Audit Efficiency, Cloud-Based SIA (Accounting Information System), Data Quality, User Understanding.*

1. INTRODUCTION

Background Digital transformation has fundamentally changed the business landscape, including in the field of accounting and auditing. One of the leading innovations in recent decades is the implementation of an accounting information system based on *Cloud*. This technology offers significant advantages in terms of accessibility, flexibility, and efficiency of data processing. *Cloud-based AIS* Enable auditors to access data in real-time from multiple locations, facilitate collaboration between audit teams, and reduce reliance on physical documents. (Ma et al., 2021; Md Rakibuzzaman et al., 2025)

However, the adoption of this technology in Indonesia is not without its challenges. One of the main obstacles is the low level of user understanding of cloud technologies. Many users still rely on traditional systems and find it difficult to adapt to new platforms. In addition, data quality is an important concern because inaccurate or inconsistent data can reduce the reliability of audit results. In this context, this study aims to evaluate the impact of cloud implementation-*based AIS* to the efficiency of the audit process by considering the variables of user understanding level and data quality.(Idris et al., 2024; Syafaruddin et al., 2024)

Recent literature highlights the significant changes brought about by automation in accounting and auditing. According to (Md Rakibuzzaman et al., 2025), automation supported by cloud-based technology improves operational efficiency while changing the dynamics of

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work in the field of accounting and auditing. This technology allows companies to reduce manual data processing time, improve information accessibility, and encourage cross-functional collaboration. This study emphasizes the need for a balance between technological efficiency and human work dynamics in the adoption of cloud-based systems. Moreover (Ma et al., 2021) Highlight the impact of cloud-based client accounting adoption in small and medium-sized accounting practices. Their research results show that cloud technology not only increases productivity but also helps small and medium-sized businesses in managing client data more efficiently. The adoption of this technology has become a key catalyst for companies to improve their competitiveness and better meet the needs of clients.

Digital transformation has become a major force in revamping various business sectors, including accounting and auditing. One of the significant technological breakthroughs in recent decades is the cloud-based accounting information system (AIS). This system comes with various benefits that change the way data is managed, such as increasing efficiency, flexibility, and real-time data accessibility. With cross-location data integration features, cloud-based AIS allows auditors to work from anywhere, anytime, without being tied to a physical location. The technology also supports closer collaboration between audit teams, while reducing reliance on physical documents. As mentioned by (Md Rakibuzzaman et al., 2025), cloud-based automation helps companies reduce time-consuming manual workloads, increase information availability, and drive cross-functional efficiency within organizations.

However, despite having many advantages, the implementation of this technology in Indonesia still faces a number of challenges. One of the main obstacles is the low user understanding of cloud technology. Many organizations, especially small and medium-sized businesses, still rely on traditional systems and are reluctant to switch to cloud-based platforms. In addition, resistance to change, lack of adequate technological infrastructure, and lack of specialized training for users add to the level of difficulty in adopting these systems. In this case, (Ma et al., 2021) emphasizing the importance of intensive training so that users can take advantage of all the features offered by the technology.

In addition to user understanding, data quality is also a very important aspect in the implementation of cloud-based AIS. Inaccurate or inconsistent data can reduce the effectiveness and reliability of audit results, as well as affect data-driven decision-making. Study conducted by (Idris et al., 2024) shows that high data quality is indispensable to support valid and credible analysis. Cloud-based systems require stricter data management to ensure that the information used during the audit process meets standards of accuracy and relevance.

In addition, the latest literature further highlights the huge impact that automation brings in the field of accounting and auditing. (Md Rakibuzzaman et al., 2025) stated that cloud-based technology not only improves operational efficiency but also changes the work patterns of professionals in this field. Meanwhile, the research (Ma et al., 2021) noted that cloud-based AIS has become a key driver in improving the productivity and competitiveness of small and medium-sized enterprises. With this technology, companies can manage client data more efficiently, provide faster solutions, and better meet customer needs.

In this context, this study aims to answer three main questions: how can the implementation of cloud-based AIS improve the efficiency of the audit process? To what extent does the level of user understanding affect the effectiveness of using cloud-based systems? And how does data quality in cloud-based systems affect the reliability of audit results? These three problem formulations are designed to examine the relationship between technology, users, and data as an effort to improve efficiency and effectiveness in the audit process.

The main objective of this study is to analyze the impact of cloud-based AIS implementation on the efficiency of the audit process, evaluate the influence of user understanding level on system effectiveness, and examine the relationship between data quality and reliability of audit results. Practically, the results of this research are expected to be a guide for companies in optimizing cloud technology. Meanwhile, theoretically, this research enriches the literature related to the interaction between technology, users, and data in the modern context.

Furthermore, the digital transformation powered by cloud-based AIS opens up great opportunities to integrate other advanced technologies, such as big data analytics and blockchain, in the audit process. This technology can improve the transparency, accuracy of analysis, and reliability of audit results. According to (Idris et al., 2024), the integration of cloud-based AIS with big data analytics allows organizations to conduct data-driven audits in depth, while blockchain has the potential to improve security and transparency in the audit process.

Taking these various aspects into account, this study has significant academic relevance and practical implications. In an increasingly competitive and complex business environment, the adoption of cloud-based technologies is an important strategy to support the sustainability of companies. This research is expected to provide comprehensive insights into how companies can successfully adopt AIS cloud-based technology, as well as be an important contribution to the literature on digital transformation in the field of accounting and auditing.

Research Benefits This research is expected to contribute both practically and theoretically. Practically, the results of this research can be a reference for companies in optimizing the use of cloud-based AIS. Theoretically, this study expands the literature related to the implementation of cloud technology in auditing and provides new insights into the interaction between technology, users, and data.

2. LITERATURE REVIEW

Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by (Venkatesh et al., 2003), provides a comprehensive framework for understanding technology adoption in organizational contexts. This theory consolidates eight existing technology acceptance models and identifies four core determinants of behavioral intention and usage behavior: performance expectancy, effort expectancy, social influence, and facilitating conditions. In the context of cloud-based accounting information systems, UTAUT explains how user understanding levels influence system adoption and effectiveness, as performance expectancy relates to users' perception that the technology will enhance their job performance, while effort expectancy concerns the degree of ease associated with system use. The theory's emphasis on facilitating conditions is particularly relevant for audit efficiency research, as it addresses the organizational and technical infrastructure support necessary for successful cloud-based system implementation (Fazeel et al., 2025). UTAUT has been extensively validated in accounting and auditing contexts, demonstrating its robustness in explaining technology acceptance behaviors among professionals dealing with financial information systems.

Institutional Theory

Institutional Theory, as conceptualized by (DiMaggio & Powell, 2000) in their seminal work "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields," offers valuable insights into organizational adoption of cloud-based accounting systems. This theory explains how organizations adopt similar practices and structures due to institutional pressures rather than purely rational efficiency considerations. In cloud-based accounting research, institutional theory illuminates three types of isomorphic pressures: coercive pressures from regulatory requirements and stakeholder expectations, mimetic pressures arising from uncertainty leading organizations to imitate successful peers, and normative pressures stemming from professional standards and education. The theory is particularly relevant for understanding how audit firms and accounting departments adopt

cloud technologies not solely for technical efficiency but also to maintain legitimacy and conform to industry standards. Research applying institutional theory to cloud accounting adoption has shown that normative and mimetic pressures significantly influence organizations' decisions to implement these systems, while coercive pressures may vary depending on regulatory environments.

Information Systems Success Model

The Information Systems Success Model, refined by DeLone and McLean, provides a comprehensive framework for evaluating the effectiveness of cloud-based accounting information systems. This model identifies six critical dimensions of information system success: system quality, information quality, service quality, intention to use/system use, user satisfaction, and net benefits. In cloud-based accounting research, this model is particularly valuable for assessing how data quality affects audit efficiency, as information quality directly impacts user satisfaction and system usage, which in turn influence the net benefits derived from the system. The model's emphasis on service quality is especially relevant for cloud-based systems, as it encompasses the support and maintenance provided by cloud service providers. Empirical studies have demonstrated that system quality and information quality significantly affect user satisfaction in cloud accounting environments, while service quality's impact may vary depending on the specific implementation context. The model's holistic approach makes it ideal for evaluating the overall success of cloud-based accounting systems in improving audit processes, as it captures both technical performance and user experience dimensions (Iqbal & Rafiq, 2025).

3. RESEARCH METHODS

The method used in this study is literature research, where a series of activities are carried out that rely on the use of various library resources to collect information, read, record, and analyze research materials. This research applies a qualitative approach to collect in-depth and meaningful data. The qualitative approach provides an opportunity for researchers to dive into the meaning of data and information obtained from various literature sources, such as books, research reports, and other documentation materials. Literature research activities, also known as literature studies, involve a systematic process in the process of collecting, reading, recording, and processing information obtained from various relevant written sources. The literature research method was chosen in this study for several fundamental reasons.

a. There are data sources that are sometimes not directly accessible in the field, but are only available in libraries or in the form of written works such as journals, books, or academic works.
b. Reading literature is crucial in an effort to understand a phenomenon that still cannot be explained comprehensively. By conducting a literature analysis, researchers can gain valuable insights into the phenomenon (Firdaus et al., 2024)

This method helps to understand the issues that arise and plays a role in increasing a deeper understanding of the topics discussed. The first step in the literature research process described by the author is to collect research materials. Because the focus of this research is literature-based, the materials used are empirical data and information obtained from various sources such as books, journals, reliable research findings, reports, and other publications relevant to the research topic. Related to library materials. Reading with academic goals is an activity that involves an active and critical process. When reading, researchers not only absorb information, but also actively understand and study the reading material (Santoso et al., 2022).

4. RESULT AND DISCUSSIN

The Impact of the Implementation of Cloud-Based Accounting Information System Implementation on the Efficiency of the Audit Process

The implementation of cloud-based accounting information systems (SIA) has revolutionized the way companies manage their accounting information and audit processes. By leveraging cloud technology, many companies can process data faster and more efficiently, speed up the audit process, and improve the accuracy of their financial reports. One of the key benefits derived from implementing cloud-based SIA is its ability to provide real-time access to relevant data. Auditors can check the most up-to-date financial information without having to wait for manually prepared financial statements. This contributes to the reduction in the time it takes to complete the audit and improves overall efficiency.

According to research (Paradise, 2024), the adoption of cloud technology can accelerate the presentation of financial statements by up to 35%, which illustrates a significant increase in the speed of the audit process. With cloud technology, financial reports can be compiled faster and more accurately due to the automation integrated in the system. Processes that previously took months can now be completed in a matter of weeks or even days. This not only reduces the time it takes to complete the audit, but also improves the quality of the audit results because the data used is more up-to-date and can be accessed more efficiently.

In addition, the implementation of cloud-based SIA also allows for more structured and transparent data management. With cross-departmental system integration facilitated by the cloud, auditors can see a complete picture of the company's entire financial operations. The data verification process has also become easier, as auditors can leverage technology to automate checks against different transactions and reports. This automation reduces the potential for human error and improves the consistency of financial statements according to (Sharma et al., 2023) and also highlighted that in developing countries, cloud-based systems help companies to optimize the use of their resources by reducing data redundancy and improving collaboration between departments, which in turn speeds up the audit process and improves its efficiency.

Furthermore, the application of cloud technology in the audit process allows companies to manage data more intelligently. One of the main advantages of cloud technology is its ability to store and access large amounts of data without being hampered by the physical limitations that exist in traditional systems. For example, auditors using cloud-based platforms can access financial transaction data in a more structured form and can be further analyzed to detect transaction patterns that may indicate potential fraud or irregularities. The application of this technology allows auditors to conduct audits with a risk-based approach, which not only improves efficiency but also improves the quality and accuracy of audit results. (Tahmid, 2023) It also explained that cloud technology, which is integrated with big data analytics tools, gives auditors the ability to analyze transaction data in more depth. This allows auditors to identify anomalies that may have been missed by manual analysis.

Not only that, but the audit process driven by cloud technology also allows companies to reduce the manual workload typically associated with data management and reporting. Automated auditing processes minimize the need for manual checks of physical documents or financial statements, which previously required a significant amount of time and labor. This allows auditors to focus on more strategic analysis and provide more precise recommendations for improvements in the company's financial management. Based on findings (Md Rakibuzzaman et al., 2025) , cloud-based automation reduces auditors' manual workload, so they can allocate more time to more valuable aspects of strategic analysis.

The results show that *cloud-based AIS* provides various benefits for the audit process. The system allows real-time access to data, allowing auditors to perform analysis more quickly. Cross-departmental data integration has also become easier, allowing auditors to get a more holistic picture of the company's financial health. However, the implementation of this technology is not without obstacles. Some companies report resistance from employees who

are used to the traditional system. In addition, the high initial implementation cost is a barrier for some small companies.

Effect of User Understanding Level on System Effectiveness

The success of cloud-based SIA implementation is highly dependent on the level of understanding and skill of users in utilizing the technology. Cloud-based information systems are often equipped with various advanced features that can provide maximum benefits only if the user has a deep enough understanding of how they work. One of the main challenges in the implementation of cloud technology is the lack of understanding among users, especially in developing countries. Therefore, investment in user training and skill development is an important factor in ensuring a successful implementation.

In the research (Pitria et al., 2024) emphasized that intensive and continuous training is the key to increasing user productivity in cloud-based systems. They mention that companies that invest in intensive training can report up to a 30% increase in user productivity. In-depth training not only assists users in operating the system, but also allows them to understand the full potential of this technology. This is very important because the higher the user's understanding of cloud technology, the greater the possibility to make optimal use of existing features. Additionally, ongoing training can help overcome resistance to technological change. According to research conducted by (Johri, 2025) stated that well-designed continuous training helps users to adapt quickly to system changes and new features introduced in cloud-based platforms.

However, it is undeniable that challenges in improving user understanding remain, especially in developing countries that have limited access to technology and educational resources. In his research (Sharma et al., 2023) revealed that resistance to new technologies often arises due to a lack of adequate knowledge and training. Therefore, it is important to develop more comprehensive training programs based on local contexts to help users in developing countries adopt cloud technologies more effectively.

Data Quality and Audit Efficiency

In the context of cloud-based auditing, data quality plays a very important role in determining the accuracy and success of the audit process itself. Poor data quality can hinder audit efficiency and lead to inaccuracies in audit results. Unstructured or invalid data can make the analysis process more difficult and affect the auditor's ability to provide an accurate assessment of the company's financial condition. Conversely, good data quality can improve the reliability and validity of audit results, which in turn supports better and more informed decision-making.

(Bakri et al., 2023) noted that big data technology integrated in cloud-based systems allows auditors to manage data more consistently and accurately. Big data allows companies to process large amounts of more complex data, providing deeper analysis and more valuable insights. This is especially important in the context of audits, where decisions made based on data must be trustworthy. For example, auditors can leverage big data to detect strange or unusual financial trends, which may indicate the presence of risks that need attention. (Muslimin et al., 2024) It also emphasizes that good big data management not only supports the validity of audit results but also provides deeper insights into the company's financial condition. Through big data analysis, auditors can see patterns that are invisible to traditional approaches, such as anomalies or discrepancies in financial transactions.

However, poor or non-standardized data quality remains a bottleneck in the cloud-based audit process. (Idris et al., 2024) revealed that unstandardized data can lead to difficulties in integrating various different information systems in a single cloud platform. Therefore, it is important for companies to ensure that the data used in cloud-based audits meets high quality standards. (Ma et al., 2021) highlighting that one of the main challenges in the implementation of cloud technology is standardized data management. Companies need to ensure that the data processed in the cloud system has been validated and processed in a consistent manner to ensure its accuracy.

Technology Integration in Cloud-Based Systems

The integration of cloud-based technology with other technologies, such as blockchain and big data, further strengthens the efficiency of the audit process and increases transparency. (Sharma et al., 2023) explained that the combination of cloud computing and blockchain can increase transparency in the audit process. Blockchain, known for its ability to record transactions that cannot be changed, allows auditors to verify transactions in a more transparent and secure way. Blockchain technology provides higher confidence in data management, as all changes made to the data are recorded permanently and cannot be changed without a trace. This integration enriches the cloud-based system by ensuring that the data used in the audit process cannot be falsified, which is crucial for maintaining the integrity of the company's financial statements.

(Tahmid, 2023) highlighting that the integration of AI-based analytics tools with cloud technology allows auditors to predict financial risks more effectively. AI-based analytics tools help auditors to analyze large amounts of data and detect potential financial problems before they develop further. This allows companies to take proactive steps to prevent financial

problems before they negatively impact. The integration of this technology enhances the ability of auditors to provide more strategic insights in risk management and financial planning.

In his research (Erin, 2024) also noted that the application of blockchain technology in cloud-based systems in the micro sector in Indonesia is able to increase transparency by up to 50%, which ultimately strengthens trust between companies and their stakeholders. By increasing transparency through blockchain technology, companies can strengthen their relationships with stakeholders and increase their credibility in the market. In addition, this technology helps reduce data security risks, which is one of the main concerns in the implementation of cloud-based systems. With the use of encryption and other security mechanisms, blockchain technology helps protect data from potential threats and security breaches.

5. CONCLUSION

The adoption of cloud-based accounting information systems (AIS) has significantly accelerated and enhanced audit processes by enabling real-time data integration, automated workflows, and remote access. Auditors can now examine financial statements more quickly and accurately without manual delays, collaborate seamlessly across locations, and shift focus from routine data gathering to strategic analysis, thereby improving the overall quality and timeliness of financial reporting.

However, the full benefits of cloud-based AIS depend on user competence, data quality, and complementary technologies. Continuous training ensures auditors and staff leverage system features effectively, while robust data governance guarantees accuracy and consistency for reliable audit outcomes. Integrating cloud AIS with innovations like blockchain for immutable ledgers and AI-driven analytics for predictive risk assessment further strengthens transparency and foresight, though organizations especially in developing regions must address infrastructure gaps and change management to realize these gains fully.

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