TECHNOLOGICAL INNOVATION IN ACCOUNTING AUDIT: IMPLICATIONS FOR AUDIT EFFICIENCY AND EFFECTIVENESS

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Abstract: In the era of digital transformation, technological innovation has become a driving force in advancing accounting practices, especially in the context of audit examinations. This paper investigates the impact and implications of using the latest technology in accounting audits, with a focus on increasing audit efficiency and effectiveness. This research shows that the integration of technologies, such as big data analytics, artificial intelligence, and blockchain technology, can result in a significant transformation in the way auditors manage, analyze, and verify financial data. The success of technology in improving the quality of audit services is also related to professional ethical challenges that arise along with the development of this technology. The results of this research provide in-depth insight into how technological innovation can have a positive impact on accounting audits, forming the basis for more adaptive and efficient audit practices.

Keywords: Technological Innovation, Accounting Audit, Audit Efficiency.

Introduction

In an era that is increasingly connected and digitally transformed, technological developments have changed the landscape of various fields, including the world of accounting. In particular, technological innovation has become a major driver in increasing the efficiency and effectiveness of the accounting audit process. The application of technology in this field not only creates new opportunities, but also challenges the auditor profession to continue to adapt and utilize the potential of technology to improve the quality of audit services.

The development of information technology has had a significant impact on how financial data is managed and evaluated. The use of technologies such as big data analysis, artificial intelligence, and blockchain technology provides new capabilities in the collection, analysis, and verification of financial data. Auditors, as guardians of the integrity and reliability of financial reports, must understand and integrate this technology in the audit process in order to provide more accurate and relevant results.

This research aims to dig deeper into how technological innovation in accounting audits can increase audit efficiency and effectiveness. The main focus involves analyzing the impact of implementing the latest technology, the challenges faced, and the benefits that can be gained in improving the quality of audit services. Apart from that, this research will also explore the role of professional ethics in facing this technological transformation.

The successful application of technological innovation in accounting audits is not only important for the advancement of the auditor profession, but also has a major impact on stakeholder trust in financial information. This research is significant in providing an in-depth view of how auditors can optimize technology to provide more reliable and relevant audit reports in an ever-evolving business environment.

This paper will be divided into several parts, starting from literature related to technological innovation in accounting audits, the research methodology used, main findings, to practical implications and recommendations for future developments in the audit context. Thus, it is hoped that this research can provide a valuable contribution in understanding the role of technology in increasing the efficiency and effectiveness of accounting audits.

Literature Review

1. **Technological Developments in Financial Auditing**

   Technology continues to develop rapidly, providing new opportunities in the field of financial auditing. The use of technologies such as big data analysis, artificial intelligence, and blockchain technology has changed the traditional paradigm of accounting audits.

2. **Big Data Analysis in Accounting Examination**

   The integration of big data analysis allows auditors to explore and analyze larger and more complex datasets. This opens up opportunities to detect patterns, trends and anomalies that are difficult to identify through traditional methods, increasing audit efficiency and accuracy.

3. **Sustainability and Blockchain Technology**

   The use of blockchain technology in auditing can increase the sustainability and security of financial transactions. Decentralized track records can provide additional confidence in audited financial information. Network theory on blockchain discusses how it works and important aspects in ensuring security, consensus and data integrity within the network so as to reduce the risk of accounting fraud (Saygin, Y., Kılınç, D., & Cicek, AE, 2018).

   Blockchain is a digital mechanism for creating a distributed digital ledger where two or more participants in a peer-to-peer network can exchange information and assets directly without the need for a trusted intermediary. In a P2P blockchain network, access to funds becomes easier with high security, transparency and speed without the need to go through complex and expensive banking procedures. There are characteristics of blockchain that make it different from other technologies, namely a shared ledger that stores transactions between parties, allows several authors to record transactions, eliminates the need for participants in terms of trust, is decentralized, connected transactions, secure and identifiable recording, validation of transactions is carried out. by parties who do not need to be individually trusted and tamper-proof.

   Smart contracts are defined as computerized transaction protocols that execute the terms of a contract (Crosby et al., 2016). The use of smart contracts in blockchain technology can reduce accounting fraud because each transaction is executed according to predetermined rules, and cannot be manipulated by certain parties. This can help prevent fraud such as falsifying data or false accounting that often occurs in traditional accounting systems (Azaria, Ekblaw, Vieira, & Lippman, 2016). This smart contract is one of the advantages of blockchain technology which has the potential to be a SCF solution in terms of credit card validity, bill of lading, factoring and reverse factoring. This smart contract is relatively safe and transparent where sellers, buyers and financial institutions can copy encrypted ledger data because the distributed ledger is guaranteed by modern cryptography (Lekkakos & Serrano, 2015).

4. **Application of Artificial Intelligence in Accounting Audits**

   Artificial intelligence opens the door to automation of routine tasks in accounting audits, allowing auditors to focus on deeper analysis and understanding the client's business context.

5. **Professional Ethical Challenges in Technology Inspections**
   The application of technology in auditing also brings ethical challenges. Auditors need to consider issues such as data privacy, security, and business continuity in the context of the use of current technology.
6. **Opportunities for Increasing Audit Efficiency and Effectiveness**
   Overall, technological innovations in accounting audits promise significant improvements in efficiency and effectiveness. Auditors who adopt this technology wisely can provide more relevant and responsive audit services.

7. **The Importance of Auditor Skills Development**
   As technology innovates, it is important for auditors to develop new skills, including a deep understanding of the technology used, data analysis, and management of related risks.
8. **Technology Integration as a Future Trend**
   Looking to the future, technology integration is not only a necessity, but also an inevitable trend in accounting audits. The profession must continue to adapt to harness the full potential of technology to meet the demands of ongoing change.

Method

In this research, the method used is a qualitative method with a literature study approach where the researcher looks for literature related to audit efficiency and effectiveness through book and journal references, as well as looking for general audit-related literature through research journals, both international and national journals. Then conduct a discussion and provide conclusions on the problem being researched. Literature study or literature review is an approach that is collected with the aim of extracting the essence of previous research and analyzing it to provide several descriptions or conclusions from experts listed in the text. (Snyder, 2019).

The strategy for searching literature is to optimize publish or publish with the keywords audit efficiency and effectiveness. The literature used in this research covers the period from 2010 to 2024. With the criteria of international journals and national journals, whether reputable or not, or whether accredited or not accredited, journals in Indonesian or foreign languages, especially English.

The content analysis technique is carried out by carrying out three main stages, namely the first stage of data reduction where the data obtained from journal articles is reduced, summarized, selected the main things and focused on the important things and arranged systematically in accordance with the research objectives so that the data it becomes easier to understand and control. The second data display, namely displaying, is information obtained as a result of data reduction which allows conclusions to be drawn and data retrieval in accordance with the research objectives. Third, Drawing Conclusions or Verification, where the researcher looks for the meaning of the data collected and draws more basic conclusions in accordance with the research objectives (Moleong, 2006).

Results and Discussion

The Impact of Adopting Big Data Analytics Technology on Fraud Detection

Prahbat et al. (2021) stated that big data analytics technology provides benefits for improving audit quality. The use of big data analytics technology helps carry out the audit process by making it easier to manage large amounts of diverse data, integrating various pieces of information, encouraging algorithmic decision making, audit sampling (Krayyem et al., 2022; Prahbat et al., 2021; Koreff et al., 2021 ; Oluwatoyin et al., 2023 ; Soltani et al., 2021 ; Feiqi et al., 2022 ; Handoko et al., 2022).

The Impact of Adopting Big Data Analytics Technology on the Audit Field

George et al. (2021) stated that big data analytics technology has an impact on the implementation of audit procedures by effectively automating or transferring work previously carried out by humans to technology. The impact of big data analytics technology on the audit field is that it helps in analyzing business processes and internal controls, planning audits, assessing risks, collecting audit evidence, identifying audit samples, analyzing data and concluding audit findings and opinions 56 (Werner et al., 2021 ; George et al., 2019 ; Yasheng et al., 2022 ; Koreff, 2022 ; Sanoran & Ruangprapun, 2023).

Factors Influencing the Adoption of Big Data Analytics Technology in the Audit Field

The main factor that encourages audit companies to adopt big data analytics technology is global information technology innovation (Dagiliene & Kloviene, 2019). The large number of data sources requires auditors to be able to filter the various information available. The data obtained can be semi-structured or unstructured. Therefore, knowledge or skills regarding big data analytics technology is important for auditors to be able to carry out their duties in the 21st century (Norlaila et al., 2022).

Factors such as size, quality of human resources, scope of operations, international affiliation and technological capabilities of a company determine the level of adoption of big data analytics technology (Dagiliene & Kloviene, 2019; Babajide et al., 2021; Felix et al., 2021). For example, internationally affiliated companies tend to have a higher level of use of big data analytics technology than local companies.

Research results (Rialdy, 2020) found that indirectly, independence, competence and motivation were proven to have a significant effect on audit quality through due professional care. Research results (Alpi, 2022) show that profitability has a negative and insignificant effect on audit delay, solvency has a positive and significant effect on audit delay and company size cannot moderate the effect of profitability on audit delay, while company size is able to moderate the effect of solvency on audit delay.

Contingency Theory

Research conducted by Dagiliene and Kloviene (2019) links contingency theory and the decision to adopt BDA technology. Contingency theory can be implemented to explain a company's reasons for using or adopting analytical tool technology.

Contingency theory states that the best performance of a company can be achieved if its structure is relevant in dealing with applicable contingencies with reference to size, environment and technology. By referring to ideas from contingency theory, company performance can be influenced by environmental factors and aligned strategies.

Changes that occur in technology and the environment will have an impact on differences between structure, strategy and decision processes. Strategic orientation has a significant influence on an audit company's decision to adopt BDA technology. This is based on efforts to align with new trends in technology, environment and strategy. It can be concluded that strategic orientation can significantly influence companies to adopt BDA in the audit process.

Conclusion

In this research, it can be concluded that technological innovation has become the main driving force in redefining accounting audits, bringing significant implications for audit efficiency and effectiveness. The integration of technologies such as big data analysis, artificial intelligence and blockchain technology opens up new opportunities in managing, analyzing and verifying financial data more efficiently.

Audit efficiency and effectiveness can be improved through automation of routine tasks, allowing auditors to focus on in-depth analysis and understanding the client's business context. However, the successful implementation of technology in accounting audits also depends on developing auditors' skills in understanding and managing the technology.

This research provides a comprehensive picture of how technological innovation can shape the future of accounting audits. The findings show that technology integration is not just an option, but a necessity to meet changing demands and increase the relevance and quality of audit services.

As a recommendation for the future, the audit profession must continue to adapt to technological developments and encourage the development of new skills in auditors. Continuous attention to professional ethics in dealing with technological transformation is also key to ensuring that the implementation of innovation is in line with the principles of integrity and stakeholder trust.

In doing so, this research makes an important contribution to the understanding of how technological innovation can shape and advance accounting auditing, creating a foundation for positive change in audit practice in the future.

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