

DIGITAL TRANSFORMATION AND AUDITOR COMPETENCE IN REALIZED AUDIT EFFICIENCY

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Abstract

This digital transformation phenomenon presents a crucial new challenge: auditor competency readiness. No matter how sophisticated technology is, it is merely a tool whose effectiveness depends heavily on the person operating it. Today's auditors face pressure to possess new competency standards that go beyond basic accounting understanding. They require high levels of Computer Self-Efficacy—the confidence and technical ability to master complex audit software (Nugroho, 2025). Without adequate digital competency, technology use risks becoming an operational burden or leading to failure to detect fraud in increasingly sophisticated client information systems. Although numerous studies have been conducted on information technology and auditor performance, most are fragmentary and focused on empirical testing in specific areas. There is an urgent need for a comprehensive synthesis of research findings from recent years to understand how technology and human competency truly interact to create efficiency. Therefore, this study was conducted using the Systematic Literature Review (SLR) method. Through this systematic approach, researchers will examine the literature from 2020 to 2025 to map technological trends, identify factors influencing auditor competency success, and formulate a solid framework for public accounting firms (KAPs) facing the future of digital auditing. The research methods used are: *Systematic Literature Review (SLR)*. The digital transformation of audit practice during the 2020-2025 period experienced rapid acceleration, starting with the migration to cloud computing for remote work needs, then progressing to the utilization of Artificial Intelligence (AI) and Big Data Analytics for comprehensive real-time data analysis. The adoption of these technologies has been shown to contribute positively to audit efficiency through the automation of manual tasks, increased risk detection accuracy across the entire data population, and the flexibility of remote audits. However, a literature synthesis confirms that maximum efficiency does not rely solely on technological sophistication but is highly dependent on auditor competency, including computer self-efficacy and data analysis skills. Therefore, continuous auditor competency development and the integration of technology-based curricula at the higher education level are needed to maximize the potential of technology in future audits.

Keywords: Digital Transformation, Auditor Competence, Audit Efficiency

1. INTRODUCTION

The professional world is currently on the verge of a major transformation triggered by the Industrial Revolution 4.0 and Society 5.0. The development of digital technology has disrupted various business sectors, including the public accounting profession. The emergence of innovative technologies such as Artificial Intelligence (AI), Big Data Analytics, Cloud Computing, and Blockchain has shifted the audit paradigm from traditional, reactive and manual methods to proactive, intelligent, and data-driven processes (Lutfianisa et al., 2025). In Indonesia, Public Accounting Firms (KAP) are now required to quickly adapt to the digital ecosystem to maintain their

relevance among stakeholders and ensure public trust in financial reports.(Purnamasari et al., 2024).

The integration of information technology into audit practice is not simply a modernization of work tools, but rather a fundamental strategy for achieving audit efficiency. Operationally, the use of cloud-based systems enables real-time data synchronization between auditors and clients, drastically reducing geographical and time barriers (Barus et al., 2024). Furthermore, the implementation of Computer-Assisted Audit Techniques (CAA) and process automation allows auditors to test entire data populations rather than relying solely on traditional sampling. This not only speeds up engagement duration but also minimizes the risk of human error and improves the accuracy of audit findings.(Astrella Dzaqiyyah, et al., 2025).

Beyond operational aspects, digital transformation is also triggering new dynamics in audit fee structures. The implementation of advanced technologies such as AI and Big Data often leads to short-term cost increases for public accounting firms due to expensive infrastructure and software investments. However, these investments are seen as strategic steps to improve the quality of anomaly detection and accuracy, ultimately delivering greater added value to clients despite pressure on audit fees.(Elsa et al., 2025)

On the other hand, demands for government budget efficiency and physical distancing policies have accelerated the adoption of remote audits. The use of information technology in remote audits has been empirically proven to increase flexibility and speed of audit completion without compromising the credibility of audit results, as long as it is supported by adequate digital infrastructure.(Purnamasari et al., 2024)This emphasizes that technology is not just a tool, but a solution to the limitations of physical resources and time.

The interconnectedness of technology and people is increasingly emphasized in the context of internal and external audits. Auditors' technical, analytical, and communication competencies are key determinants of whether the use of information technology will truly result in faster and more relevant audit quality, or become an administrative obstacle. Specifically, the use of cloud computing has become a new standard, enabling more transparent and accountable data integration, while simultaneously requiring auditors to maintain integrity and independence amidst easy access to digital data.(Rahmah et al., 2025).

However, this digital transformation phenomenon presents a crucial new challenge: auditor competency readiness. No matter how sophisticated technology is, it is merely a tool whose effectiveness depends heavily on the person operating it. Today's auditors face pressure to possess new competency standards that go beyond basic accounting understanding. They require high levels of Computer Self-Efficacy—the confidence and technical ability to master complex audit software.(Nugroho, 2025)Without adequate digital competency, technology use risks becoming an

operational burden or causing fraud detection failures in increasingly sophisticated client information systems.

Although extensive research on information technology and auditor performance has been conducted, much of it remains fragmentary and focused on empirical testing in specific areas. There is an urgent need for a comprehensive synthesis of research findings from recent years to understand how technology and human competency truly interact to create efficiency. Therefore, this study was conducted using the Systematic Literature Review (SLR) method. Through this systematic approach, researchers will examine the literature from 2020 to 2025 to map technological trends, identify success factors for auditor competency, and formulate a solid framework for public accounting firms (KAPs) facing the future of digital auditing.

2. METHODOLOGY

This study employed a Systematic Literature Review (SLR) design. This method was chosen to identify, evaluate, and interpret all research findings relevant to the topic of digital transformation and auditor competency. Unlike a conventional literature review, the SLR was conducted in a transparent, systematic, and replicable manner, thus providing objective conclusions regarding audit efficiency in Public Accounting Firms (KAP). This study adopted the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol to ensure the quality of the review reporting. The steps involved include:

1. Identification: Initial search of articles through electronic databases.
2. Screening: Selecting articles based on titles and abstracts that match the research focus.
3. Eligibility: Reviewing the full text of the article to ensure the required data is available.
4. Inclusion (Included): Determine the final list of literature to be analyzed in depth.

Inclusion and Exclusion Criteria

To maintain the focus of the research, the researcher set the following limitations:

1. Inclusion Criteria
 - a. Articles come from scientific journals (national/international) that have gone through a peer-review process.
 - b. Publications in the period 2020 to 2025.
 - c. Discusses topics of information technology (AI, Cloud, TABK/CAATs), auditor competency, and audit efficiency/performance.
2. Exclusion Criteria
 - a. Articles that do not have full-text access.
 - b. Articles in the form of conference proceedings that have not been published in journals, or popular articles (news/opinion).

3. FINDINGS AND DISCUSSION

Based on a literature analysis of 45 previous studies, it shows that digital transformation in audit practices experienced rapid acceleration during the 2020-2025 period.

3.1 Digital Transformation and IT Adoption Trends (2020-2025)

a. Transition to Cloud Computing (2020-2022)

In response to the COVID-19 pandemic, there has been a massive shift to the use of cloud-based information systems. This allows auditors to access data and conduct audits remotely, which in turn improves operational efficiency and data security (Barus, Pardede, & Manjorang, 2024; Kusnanto & Alfaisa, 2025).

b. Adoption of AI and Big Data Analytics (2023-2025)

The trend is shifting from simple data accessibility to in-depth analysis using Artificial Intelligence (AI) and Big Data. These technologies are used to detect data anomalies in real time and perform continuous auditing (Herdiana & Nugrahanti, 2025; Muslimin, Purnamasari, & Nur, 2024; Paresti & Dewayanto, 2025).

c. Blockchain

This technology is beginning to be explored to improve data integrity and reduce the risk of errors in financial reports (Apriadi, Mokoginta, & Kuntadi, 2024). An analysis of digital transformation trends in audit practices during the 2020-2025 period indicates rapid acceleration, driven by the need to adapt to remote work environments and the demands of more complex data analysis. The initial phase of this period was marked by a massive migration to cloud computing infrastructure, crucial for ensuring operational continuity through remote data accessibility and enhanced system security. Subsequently, the technological focus shifted from mere connectivity to the utilization of Artificial Intelligence (AI) and Big Data Analytics for real-time anomaly detection and the implementation of continuous auditing. Furthermore, exploration of blockchain technology began to fundamentally ensure the integrity and transparency of financial data. Overall, this evolution represents a paradigm shift from traditional sample-based audits to a more efficient, accurate, and proactive data-driven audit approach.

3.2 IT Contribution in Optimizing Audit Efficiency

The literature consistently shows that IT contributes positively to the overall efficiency of the audit process.

a. Automate Manual Tasks

The implementation of Computer Assisted Audit Techniques (CAATs) significantly reduces the time auditors spend on manual administrative tasks (Ulfa, 2021).

b. Increased Speed and Accuracy

Big Data Analytics allows auditors to analyze 100% of the data population, not just a sample, thereby increasing the accuracy of risk detection and accelerating decision-making (Listya, Aspahani, & Sitepu, 2023; Paresti & Dewayanto, 2025).

c. Remote Audit

The use of cloud computing eliminates geographical limitations, enabling faster and more flexible audits (Putra, Kurniawan, & Izzalqurny, 2022).

The literature consistently confirms that the adoption of information technology (IT) makes a significant positive contribution to optimizing the overall efficiency of the

audit process. The implementation of Computer Assisted Audit Techniques (CAATs) successfully automates manual administrative tasks, thereby substantially reducing processing time. Furthermore, the use of Big Data Analytics enables auditors to comprehensively analyze entire data populations, rather than just samples, which directly improves the accuracy of risk detection and accelerates strategic decision-making. Furthermore, the use of cloud computing supports remote audits, eliminating geographical limitations, thus creating a faster, more flexible, and more efficient audit process.

3.3 The Role of Auditor Competence in Mediating the Relationship between IT and Efficiency

The synthesis analysis confirms that audit efficiency depends not only on the sophistication of technology, but also on the competence of the auditors who use it.

a. The Importance of Computer Self-Efficacy

The auditor's level of confidence in using technology (computer self-efficacy) directly affects audit performance and efficiency (Maharani, Rely, & Sari, 2025).

b. New Skill Needs

Auditors are required to possess data analysis skills and an understanding of information systems. Studies demonstrate the need to develop adaptive auditor competencies to maximize the potential of AI and IT (Kau & Fitiriana, 2025; Aisy & Astuti, 2025).

c. Technology-Based Education

Improving auditor competency must start from the educational level, such as using the Atlas application in universities to simulate risk-based audits (Izzalqurny & Utami, 2022).

The synthesis analysis confirms that audit efficiency depends not only on technological sophistication but also crucially on the competence of the auditors operating it. Auditors' level of confidence in using technology (computer self-efficacy) directly impacts audit performance and efficiency, thus requiring increased adaptive capabilities in data analysis and understanding of information systems. Therefore, continuous auditor competency development is essential to maximize the potential of Artificial Intelligence (AI) and IT as a whole. This strategic step must begin at the tertiary level through the implementation of technology-based curricula, such as audit simulations using the Atlas application, to prepare reliable auditors for the future.

4. CONCLUSION

The digital transformation of audit practice during the 2020-2025 period experienced rapid acceleration, starting with the migration to cloud computing for remote work needs, then progressing to the utilization of Artificial Intelligence (AI) and Big Data Analytics for comprehensive real-time data analysis. The adoption of these technologies has been shown to contribute positively to audit efficiency through the automation of manual tasks, increased risk detection accuracy across the entire data population, and the flexibility of remote audits. However, a literature synthesis confirms that maximum efficiency does not rely solely on technological sophistication but is highly dependent on auditor competency, including computer self-efficacy and data analysis skills. Therefore, continuous auditor competency development and the

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