



Analysis of Digital Accounting Practices in Auditing for Internal Auditors

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Abstract: The study considers how the implementation of digital accounting affects internal auditors in Indonesia and their views and opinions concerning the implementation of digital accounting from an internal auditor's perspective. The study is using the qualitative method, which employs several in-depth interviews with internal auditors. Questionnaires are also distributed to support the statements from interviews with internal auditors. The analysis was completed using the descriptive analysis method. The result of this study shows that the majority of internal auditors have a positive view towards the implementation of digital accounting, as supported by the questionnaires given to internal auditors. Additionally, the study shows that the implementation of digital accounting in internal audits will lead to an increase in effectiveness and efficiency.

Keywords: *Digital Accounting, Internal Auditors, Accounting Information System, Big Data*

1. Introduction

The dynamic nature of the business environment is evident as it continues to evolve rapidly over time. Regardless of whether these changes are influenced by external or internal factors, it is imperative for businesses to streamline their financial processes in order to effectively manage their operations. As technology continues to advance, there is a corresponding rise in the potential risk that could impact a business if not properly managed. This is where internal auditors play a crucial role: in monitoring and evaluating company activities and in offering valuable insights for enhancing decision-making processes.

The increasing relevance of digital technologies lies in its ability to enable the development of options that can bring meaningful benefits to investors and other stakeholders. In January 2023, Otoritas Jasa Keuangan (OJK) began to usher the internal auditor to utilize technology during the implementation of governance, risk, and compliance (GRC). Additional data compiled in 2021 through a survey conducted by PwC and included in a report titled "Global Crisis Survey" in which findings indicate that GRC Technology is not being fully leveraged within the internal audit (PwC,

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2021). Hence, the adoption of digital technology serves as an immediate method for companies to enhance operational efficiency and the quality of financial reporting. Digital transformation involves the integration of technology into all aspects of business operations, including the audit fields. The audit profession, which is responsible for ensuring compliance of financial statements with current accounting regulations along with their accuracy in reflecting a business' financial activities, is also experiencing progress in technology [1]. The evolution of information technology, particularly big data analytics and artificial intelligence (AI), could potentially influence the audit profession.

This study aims to investigate the internal auditors' attitudes and views towards the implementation of Digital Accounting to identify the underlying elements influencing their acceptance or resistance. By looking into internal auditors' experiences using the implemented accounting system in their everyday tasks and activities, it also aims to identify the perceived influence on work performance, job satisfaction, and overall effectiveness.

2. Literature Review

2.1 Digital Accounting

The term "digital" denotes electronic technology that has the ability to generate, store, and manipulate diverse forms of data in both positive and negative scenarios. As defined by Dao [2], digital accounting involves a structure utilized by individuals to gather, integrate, manage, store, process, analyze, retrieve, and disclose their financial accounting information. It is also recognized as an information system designed to offer data for decision-making purposes. Decision-making challenges are an ongoing reality for organizations and business entities, and the production of adequate, precise, timely, and reliable information can be facilitated through the adoption of computer-based and digital-based information systems [3].

Nguyen [4] discovered that the adoption of digital transformation allows managers to effectively utilize allocated resources for accounting tasks and mitigate errors associated with them. This, in turn, enables organizations to focus on targeting customers, improving product quality, and enhancing competitiveness. By effectively adopting digital accounting practices, organizations can attain a high level of information accuracy, enabling them to make critical decisions and enhance their accounting systems to support expanded operations. As a result, they can conveniently access their financial data and information from any location at any given time, facilitating the tracking of results and data analysis [5].

2.1.1 Accounting Information System

The Accounting Information System (AIS) is responsible for managing data collection, processing, categorization, and reporting of financial transactions to deliver relevant information for monitoring outcomes, enhancing understanding, and supporting decision-making [6]. Maintaining a robust internal audit system can also uphold the qualitative attributes of accounting documents. A well-executed audit control enables company management to utilize reliable information for conducting business operations effectively and evaluating the organization's performance [7].

Assessing computerized accounting systems involves multiple aspects, prompting auditors to consistently expand their knowledge. Auditors should not only have proficiency in accounting, auditing, and finance, but also a certain level of understanding in computer applications and network technology [8]. Srinidhi, Chen, Tsang, and Yu [9] highlight the necessity of enhancing the training of internal auditors in the realm of computerized accounting systems to boost internal control efficiency, increase audit control transparency, and reduce the impact of human factors in the audit process.

2.2 Internal Audit

Internal auditors are appointed by organizations of all types to conduct audits on behalf of management, under the supervision of the board of directions. The specific duties of internal auditors can vary significantly depending on the employer. Some internal audit teams may consist of only one or two employees who primarily engage in routine compliance audits. Conversely, other internal audit teams may have a large workforce of more than 100 employees, each with diverse responsibilities. Operational auditing and expertise in assessing computer systems are common areas of involvement for many internal auditors [10].

During an audit engagement, the primary focus and essential data revolve around the financial aspects of the audited organization, encompassing a balance sheet, income statement, cash flow statement, and explanatory notes to the financial statements. The primary aim of this endeavor is to depict the financial status, performance, and cash flow variations of the entity as of a specific balance-sheet date and over a defined period [11]. As outlined in PSAK regulations, auditing standards are linked not only to the auditor's professional proficiency but also to the factors deliberated upon during the audit process and in the subsequent report.

2.3 Role of Digitalization

Digitalization is aimed at providing users with information access and plays a key role in developing innovative methods to facilitate quicker and more precise decision-making. This ultimately leads to an increase in productivity, a reduction in repetitive tasks, and a boost in the flow of information [12]. The integration of new technologies by businesses, which have the potential to disrupt traditional understandings and practices, underscores the critical necessity for internal audit to be able to keep pace with these advancements [13]. Arsenie [14] highlights the importance for audit professionals and general accounting firms to recognize the influence of digitalization and adapt to the digital interventions and their unavoidable outcomes. It is crucial for auditors to familiarize themselves with these changes.

To fully capitalize on the potential advantages that digitalization can bring to the field of auditing, auditors must confront a series of challenges. The advancement of digitalization in auditing poses a significant obstacle in the form of requiring auditors to adopt a modernized profile. This profile should move away from traditional practices like pen and paper and embracing technological skills [15]. By adapting to these changes, auditors can fully leverage the advantages that digitalization offers [16].

2.4 Influence of Big Data

Big data plays a vital role for auditors as it provides them with a valuable resource to enhance risk assessment, scoping, trend analysis, and decision making [17]. Through the utilization of big data, auditors are empowered to leverage prescriptive analytics, which involves the implementation of computational methods to validate ongoing actions and their consequences within the specific context of challenges, regulations, and limitations [18]. In line with [19] findings, auditors can adopt technologies that not only reduce their expenses in mobilizing but also enhance the effectiveness of internal audits.

The use of big data in auditing may not be immediately apparent given the relatively small size of accounting data, even when dealing with billions of transactions. Accounting data is typically structured and provides details on each account. However, despite the data being small, the techniques used in big data can still be applied to smaller transactions volumes. Furthermore, the availability of new technologies and methodologies has the capacity to enhance the predictive capabilities of data analysis procedures, enabling auditors to base their assessments on data-driven insights rather than personal experience [20]. Consequently, these methods can enhance the significance of audits, rather than relying on partial or random sampling.

3. Methodologies

This study will be using qualitative methods, which employ in-depth interviews and questionnaires to internal auditors. The research methodology must ensure that the theories are applied through an interpretivism approach. According to Thanh and Thanh [21], interpretivism is widely acknowledged as the primary paradigm in qualitative research, facilitating a profound understanding of human perspectives and behaviors within a specific context. The unit of analysis of this study will be the internal auditors that are based in the Greater Jakarta Region and Tangerang. The primary objective of this study is to deepen the understanding of auditor's viewpoints on the adoption of digital accounting. Highlighting the internal auditor as the central figure in this research is crucial, as they are the key focus in acquiring the necessary information to address the research questions. Questionnaires will be distributed to internal auditors to elicit their insights concerning digital accounting, accounting information system, big data, and the effects of digitalization.



Figure 1. Data flow in qualitative method [22].

Figure 1 visualizes the stages in the data processing method, from collecting the transcripts to organizing the data. Then, the data will be read and it will be coded by system or manually, and it will be divided into themes or descriptions. The final stage will group both themes and descriptions based on previous theories, case study, or literature review.

4. Findings and Discussion

Throughout the entirety of the interviews, the primary focus was directed towards exploring the views of internal auditors on digital accounting and its accompanying digitalization. The in-depth interviews were conducted with all internal auditors from reputable companies that have already implemented digital accounting or computerized accounting systems. Furthermore, a set of questionnaires were distributed, resulting in a total of 78 responses out of the intended 110 responses (71%). The questionnaires were intended as a supporting statement from in-depth interviews with internal auditors.

4.1 Interview and Questionnaire Findings

Table 1. Findings from in-depth interviews.

Themes	Participants	Findings
Digital Accounting general definition	P1	The combination between technology and accounting are interesting, so the center of accounting involves digitalization; it is also to ensure that the internal control is implemented well in each scope of the work.
	P2	Digital accounting systems enhance reliability by enabling users to process data in accordance with their specific requirements.
	P3	Perhaps in relation to the precision of data, it could be argued that it would be more precise. This is because when we make payments manually or with cash, there exists the possibility of human errors, which can undermine the accuracy of data.
Accounting Information System application	P1	When viewed from an IT perspective, the reporting of financial statements is not significantly impacted. Nevertheless, professionals assert that the accounting information system plays a vital role in generating reports that are subsequently forwarded to banking institutions and financial authorities.
	P2	The current system employed by the company is the SAP system, which bears resemblance to the one mentioned earlier. SAP is primarily used for reporting purposes, but it also facilitates administrative functions such as generating purchase orders. Furthermore, SAP is employed to add new vendors or suppliers, enabling creation of purchase orders. Occasionally, the company also utilizes Accurate, a system that assists in inventory management and reporting for its subsidiary.
	P3	Our current operational framework heavily relies on SAP, serving as the central repository for all our data. By housing all our data within this software, we have achieved remarkable efficiency gains. Nonetheless, our team is actively involved in the development of a new internal system

Themes	Participants	Findings
Usage of Accounting Information System	P1	We, as IT auditors, primarily focus on assessing the security aspects of a system and evaluating its usability. However, in terms of everyday usage, the impact may not be considerable.
	P2	As internal auditors, our primary responsibility is to verify the accuracy of the data. For instance, in the realm of accounting, it is essential for us, as accountants, to compile a report starting from the beginning of the period up until the completion of the report. As auditors, it is incumbent upon us to assess the validity of the data through established procedures or standard operating procedures (SOP) to ascertain the effectiveness of the internal controls or identify any potential loopholes in the processes. By conducting these assessments, we not only carry out our duties as internal auditors but also facilitate the enhancement of the organization's operational procedures.
	P3	The utilization of SAP proves to be highly advantageous as it enables us to extract comprehensive data pertaining to stock and its corresponding value. By extracting data directly from the SAP system, the entire process becomes considerably more streamlined, resulting in heightened transparency and a clear depiction of all relevant details.
Relationship between big data and internal audit	P1	The connection is essential as we progress through the audit process from beginning to end, relying on a data source that is also accessible to other performance colleagues. Typically, this data originates from various system-based terms. Centralizing the data enhances efficiency and streamlines the process.
	P2	When conducting an audit, it is essential to identify a specific population that aligns with the audit scope and timeframe. This population serves as the basis for selecting a sample to undergo the auditing process.
	P3	The foundation of any comparison lies in the availability of trustworthy data. Without access to reliable data, the basis for comparison

Themes	Participants	Findings
		becomes uncertain and the validity of the results may be compromised.
Effects of digitalization towards Internal Auditor	P1	The swift advancement of technology is a well-established fact. In the past, as IT auditors, we sought a deeper understanding of internal company operations beyond the information provided by the organization itself. It was essential to seek out additional sources of information to broaden our understanding.
	P2	From my perspective, I believe it is acceptable as there is a necessity for adaptation. Embracing digitalization can facilitate smoother processes and by incorporating technology, the reliance on manual labor may decrease, subsequently minimizing the occurrence of human errors.
	P3	The emergence of AI can be seen as a double-edged sword. In my opinion, this presents an issue that we are incapable of fully comprehending and managing. Consequently, the optimal utilization of human resources may be compromised, resulting in the potential elimination of numerous job positions as AI becomes more prevalent. While AI undeniably offers immense benefits, its sustainability is crucial to prevent it from becoming a double-edged sword.

From the questionnaire surveys, it is summarized as follows:

Table. 2. Questionnaire Survey

No	Statement	Findings
1	Digital accounting is one of the information systems that has effectively increased efficiency in assisting Auditor’s tasks, which ultimately contributes to more timely and accurate audits.	58% responses are totally agreed and 35% responses are agreed.
2	The implementation of an accounting information system will significantly improve the efficiency and effectiveness of the audit tasks.	41% responses are totally agreed and 35% responses are agreed.
3	The usage of Big Data will help the Internal Auditors as the source of their data when centralizing data to enhance their efficiency and	32% responses are totally agreed and 62% responses are agreed,

No	Statement	Findings
	increase the performance. Also acted as a data source as a basis to collect population and sampling processes.	
4	Auditors need previous knowledge or prior training to be able to use the systems, as it allows auditors to perform more efficient testing, identify potential risks more effectively, and gain deeper insights into financial data.	27% responses are totally agreed and 66% responses are agreed.
5	Auditors view the digitalization of the auditing profession as a positive development that offers significant opportunities for increased efficiency, improved risk assessment, and enhanced audit quality.	28% responses are totally agreed and 68% responses are agreed.
6	Digitalization is likely to reshape the internal audit profession, potentially leading to a shift in the types of auditors needed rather than a significant decrease in the overall number.	30% responses are totally agreed and 65% responses are agreed.

4.2 Results

In the current digital era, both organizations and accounting professionals are encountering significant alterations in their approaches to acquiring, evaluating, and presenting financial information. Digital technology serves as a crucial instrument in the realm of financial information management, exerting a significant impact on the evolution of accounting procedures. These advancements include accelerated and more precise data processing, as well as the facilitation of in-depth predictive analytics. Through the utilization of digital technology, accounting professionals are able to enhance the effectiveness, transparency, and caliber of increasingly intricate decision-making endeavors. In addition to that, digital technology further enhances effectiveness in the accounting procedure. The evolution of technology demands a constant refinement of the abilities and understanding of professional accountants [23].

The results of the in-depth interview suggest that internal auditors require a fundamental understanding of information technology (IT) to effectively utilize accounting information systems. This method enables auditors to more efficiently and precisely identify risks, anomalies, and patterns because of the integration of advanced technology. In contrast, digital accounting simplifies and automates routine and mundane tasks, freeing auditors from the tedious labor and allowing them to focus on the strategic and analytical aspects of the audit.

5. Conclusion

The implementation of digital accounting has significantly proved that it could be one of the tools that can be used by internal auditors to perform their audit tasks. With the emergence of digital technologies that will be increasingly improved over the

course of time, not only do accountants need to improve their basic knowledge, but companies must use these technologies as the tools to provide financial information management, imposing a significant change in accounting procedures.

The analysis of the implementation of digital accounting for internal auditors was emphasized in this study. Internal auditors must deepen their understanding through training or from their past experience to be able to operate systems. Digital accounting should be implemented in the form of an accounting information system not only for the use of internal auditors but also accountants to record their journals easily. Since the scope of the study only covers the region of Jakarta and Tangerang, another recommendation is to create a new study in a different major city outside of Jakarta and Tangerang region. This study could also be implemented as a quantitative method with different units of analysis or a different focus.

Reference

1. Elliott, R. K. (2002). Twenty-first-century assurance. *Auditing: A Journal of Practice & Theory*, 21(1), 139–146.
2. Dao-Le Flécher, P., Nigam, N., & Mbarek, S. (2023, October). Current trends in accounting for digital/crypto-assets: an empirical analysis of accounting practices from UK, US, Canada and Europe. In *BAR Special Issue—Paper Development Workshop on Blockchain: Impact on Accounting and Accountants*.
3. Bodnar, G.H., & Hopwood, W.S. 2010. *Accounting Information System*. tenth edition. Pearson Education Inc.
4. Nguyen, M. T., Nguyen, Q. H., & Nguyen, T. H. (2021). Digital transformation in the business: a solution for developing cash accounting information systems and digitizing documents. *Science and Technology Development Journal*, 24(2), 1975–1987.
5. Phornlaphatrachakorn, K., & Kalasindhu, K. N. (2021). Digital accounting, financial reporting quality and digital transformation: evidence from Thai listed firms. *Journal of Asian Finance*, 8(8), 409-0419.
6. Global perspectives on accounting information systems: mobile and cloud approach Claudiu Brandasa, Ovidiu Megana, Otniel Didragaa.
7. Turner, L., Weickgenannt, A., Copeland, M.K., 2017. *Accounting Information Systems Controls And Processes*. Third Edition. John Wiley & Sons, Inc.
8. Min, W. (2021, May). On the Internal Control and Audit of Computer Accounting. In *Journal of Physics: Conference Series* (Vol. 1915, No. 4, p. 042007). IOP Publishing.
9. Chen, L., Srinidhi, B., Tsang, A., & Yu, W. (2016). Audited financial reporting and voluntary disclosure of corporate social responsibility (CSR) reports. *Journal of Management Accounting Research*, 28(2), 53-76.
10. Alvin A. Arens, Randal J. Elder, Mark S. Beasley, Chris E. Hogan, 2017. *Auditing and Assurance Services* (16th Edition).
11. Tuanakotta, Theodor M. 2015. *Audit Kontemporer*. Jakarta: Salemba Empat.
12. Y. A. Al-Mohammed, "The Role of Digitalization in Developing Internal Audit Practices in an IT Environment," 2020 2nd Annual International Conference on Information and Sciences (AiCIS), Fallujah, Iraq, 2020, pp. 230-236
13. ERIŞEN, O., & ERER, M. (2023). Exploring the impacts of digitalization on the internal audit professions. *Journal of Research in Business*, 8(1), 171-190.
14. Arsenie-Samoil, M. (2010). *The Impact of Using New Information Technologies On Accounting Organizations*.

15. Raphael, J. (2017, April 1). Rethinking the audit. Retrieved from Journal of Accountancy:
<https://www.journalofaccountancy.com/issues/2017/apr/rethinking-the-audit.html>
16. Babayeva, Aytan, and Napoleon-Dimitrios Manousaridis. "The Effects of Digitalization on Auditing-A Study Investigating the Benefits and Challenges of Digitalization on the Audit Profession." (2020).
17. Meuldijk, M. (2017). Impact of digitalization on the audit profession. *Audit Comitee News*, 33-35.
18. Lee, M., Cho, M., Gim, J., Jeong, D. H., & Jung, H. (2014, June). Prescriptive analytics system for scholar research performance enhancement. In *International conference on human-computer interaction* (pp. 186-190). Springer, Cham.
19. Littley, J. (2012). Leveraging Data Analytics and Continuous Auditing Processes for Improved Audit Planning, Effectiveness, and Efficiency.
20. Russom, P. (2011). Big data analytics. *TDWI best practices report*, fourth quarter, 19(4), 1-34.
21. Thanh, N. C., & Thanh, T. T. Le. (2015). The Interconnection Between Interpretivist Paradigm and Qualitative Methods in Education. *American Journal of Educational Science*, vol. 1, no. 2, pp.24-27
22. John W. Creswell (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 3rd Edition.
23. Nur, M., Indriyanto, E., Digidowiseiso, K., & Hashim, H. A. (2023). The Implementation of Green Accounting in Indonesia: A Bibliometric Analysis. *INTERNATIONAL JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND SOCIAL SCIENCE (IJEMBIS)*, 3(2), 470-480.

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