



DIGITAL TRANSFORMATION ON EARNINGS MANAGEMENT, AND FINANCIAL PERFORMANCE: MODERATED BY THE AUDIT COMMITTEE EFFECTIVENESS

Tumpal Manik^{1,2*}

¹Faculty of Economics and Business,

Universitas Maritim Raja Ali Haji, Tanjungpinang, Indonesia.

²Department of Accounting, Faculty of Economics and Business,

Universitas Indonesia, Depok, Indonesia.

Email: tmanik@umrah.ac.id

Sylvia Veronica Siregar

Department of Accounting, Faculty of Economics and Business,

Universitas Indonesia, Depok, Indonesia.

Fitriany

Department of Accounting, Faculty of Economics and Business,

Universitas Indonesia, Depok, Indonesia.

Vera Diyanty

Department of Accounting, Faculty of Economics and Business,

Universitas Indonesia, Depok, Indonesia.

Abstract: This paper investigates the impact of digital transformation on earnings management and financial performance, including the effectiveness of audit committees in this relationship. An Indonesia Stock Exchange (IDX) of 378 companies and 3.402 observations, for the period from 2016 to 2024, was analyzed. The findings show a positive and significant impact of digital transformation on earnings management and financial performance. However, it has not yet effectively reduced earnings management practices, but it has been effective in improving financial performance. Another finding shows that the audit committee's effectiveness significantly reduces earnings management practices and improves financial performance. Moderation analysis shows that the effectiveness of the audit committee strengthens the relationship between digital transformation and financial performance. This indicates that the effectiveness of the audit committee plays a role in digital transformation, thereby improving financial performance. This result offers a new perspective for organizations. The implementation of digital transformation requires strong internal controls to effectively prevent opportunities in earnings management practices, by the managerial opportunism that utilize discretionary accrual methods. Further research is needed to investigate funding investments and the development of application technology components, the integration of digital transformation across all divisions and departments, and the limitation of management's access to digital technology data to restrict management's ability to apply earnings management practices.

Keywords: Digital transformation, Audit Committee, Earnings management, Financial performance.

INTRODUCTION:

Digital technology is constantly evolving to meet the needs of people, businesses, and organizations. The emergence of technology-based tools, applications, and new digital platforms has made business activities and operations more effective and efficient (Kong and Liu, 2023; Zhai et al., 2022). These innovations are changing how people interact and collaborate, including in company management (Zhang et al. 2023; Gao et al. 2022).



In other contexts, digital technology drives transformation by integrating processes, innovating digital systems, and developing digital resources. This motivates organizations to adopt digital transformation to manage business operations and create value (Zeng and Wang, 2025; Leng and Zhang 2024; Han et al. 2023; Verhoef et al., 2021).

Digital transformation encourages management and organizations to use digital technology. It brings benefits such as automated data processing and real-time transparency. Digital technology supports the achievement of business goals (Gebauer et al., 2020). Companies that use digital transformation well enhance corporate governance and oversight (Nadkarni & Prügl, 2021). In business processes, it improves the accuracy and speed of financial reporting (Manita et al., 2020). Digital transformation also enhances transaction security and efficiency (Kraus et al., 2021). As a result, it strengthens management performance, gives a competitive risk advantage (Kong and Liu, 2023; Zhai et al., 2022), and helps achieve sustainable success.

Based on a review of previous studies, there are two conflicting findings regarding the impact of digital transformation on earnings management. Several studies show that digital transformation has a negative and significant impact on earnings management (Zeng and Wang, 2025; Lou et al., 2024; Liu et al. 2024; Wang and Hou, 2024; Liao et al., 2023).

In business transactions and data processing, digital transformation will control transaction data errors and fraud, prevent discretionary accrual manipulation practices, and reduce earnings management (He et al., 2024; Peng and Tao, 2022), as well as enhancing business operation transparency, making earnings management more difficult (Zang and Wei, 2026; Lou et al., 2024; Fang et al., 2023). Other studies show that digital transformation has a positive impact on earnings management (Cai, 2026; Han et al., 2023; Jia et al., 2022), indicating that digital transformation increases managers' opportunities to exploit discretionary accruals, thereby enhancing earnings management practices. Another finding is that digital transformation will encourage earnings management (He & Xian, (2026), and Xiang & Yi, (2025). This is due to managers' authority to oversee digital systems, which enables them to apply discretionary accruals based on digital data, thereby undermining the role of digital transformation in reducing earnings management practices.

Digital transformation across company units reduces costs, boosts efficiency, and minimizes overlap overlaps (Verhoef et al., 2021). It also drives innovation, supports revenue diversification, and increases profits (Heredia et al., 2022; Guo et al., 2023). Together, these factors enhance cost-effectiveness and revenue, strengthening financial performance (Chen et al., 2022; BinSaeed et al., 2023; Zhai et al., 2022). However, digital transformation can create financial reporting issues due to managerial discretion. Leaders often control these systems, so managers may shape digitalization to fit their interests, increasing risks such as biased reporting, misrepresented financial outcomes, or weak data controls.

This study examines three research gaps. First, there is a lack of empirical studies on how components of technology application are changing in the digital age. Specifically, this study focuses on accounting and finance applications, audit digital technology, digital forensics, mobile technology, whistleblowing systems, and enterprise risk management systems, outlining these as key digital transformation (DIGT) components. Building on this, it examines how integrating these DIGT components influences financial health and earnings management. Previous research has approached digital transformation through concepts such as AI, automation, machine learning, cloud computing, big data, and blockchain (Zang and Wei, 2026; Zeng and Wang, 2025; Lou et al., 2024; Fang et al., 2023). In contrast, this study emphasizes examining the direct links between these DIGT components and digital transformation outcomes, particularly in preventing earnings management tactics.

The second research gap, development of a proxy index, is an indirect measure or composite indicator. This index would assess how well the audit committee performs its job, especially its



understanding of IT issues related to digital transformation. Previous research has discussed the need for audit committees to have IT knowledge; however, it has not examined audit committees' understanding of digital transformation (Guohong et al., 2025; Ashraf et al., 2020), or how well they address earnings management or financial performance. Considering this, audit committees are expected to be more effective at reviewing and evaluating financial reports prepared with digital technology. This effectiveness ensures accuracy, transparency, and compliance with accounting standards. In addition, the third research gap focuses on assessing how effectively the audit committee can help balance the effects of digital transformation on earnings management and financial performance. Overall, recognizing these three gaps enables empirical testing of the hypothesized claim and offers a novel perspective on the role of digital transformation in mitigating earnings management and enhancing financial performance.

THEORETICAL FRAMEWORK

Socio-technical systems theory (STST), proposed by Trist and Bamforth (1951), explores how combining the strengths of people, behaviors, and organizational norms with the right tools and technology can drive organizational success. STST suggests that thriving organizations do more than adopt advanced technology they actively align human capabilities and technical assets. When the social subsystem, such as team culture and workplace rules, works in concert with the technical subsystem, like digital technology, organizations are better equipped to deliver accurate and reliable results (Yu et al., 2021; Nureen et al., 2022).

Integrating social and technical subsystems through the STST framework enhances transparency and reduces exploitation and manipulation of business data. Strong collaboration between social elements, such as managerial behavior, and technical elements, such as digital technology, minimizes information asymmetry. It limits opportunities for earnings management (Zhang et al., 2023). Studies show that this integration clarifies organizational processes and reduces the risk of financial statement manipulation (Sony and Naik, 2020). It also improves internal control, curbs opportunistic management, reduces earnings management, and enhances the reliability of financial information (Iden and Bygstad, 2025; Thomas, 2024).

Cosa and Torelli, (2024) argue that the Sociotechnical Systems Theory (STST) provides a strong basis for examining the mix of social factors, such as individuals and organizational culture, and technological factors, such as digital tools, in technology-driven financial reporting. Strong connections between people and technology standardize, regulate, and open processes. This makes it harder for managers to manipulate accounting numbers, reducing the likelihood of earnings management (Liao et al., 2023). notes that digital transformation, the adoption of digital technologies to improve processes, and can also speed up financial reporting.

In addition, this research employs agency theory established by Jensen & Meckling, (1976). This theory examines agency conflicts arising from distrust by company owners (shareholders, investors) toward agents (company management), leading to agency costs. It posits that managers and insiders possess superior knowledge of the company's condition and prospects than owners do (Bendickson et al., 2016).

Agency conflicts are addressed by applying agency theory, which identifies the audit committee as a vital governance mechanism that reduces agency conflicts by strengthening oversight, enhancing transparency, and alleviating information asymmetry between management and shareholders (Ud Din et al., 2021). The more rigorously the audit committee scrutinizes financial statement issues and internal auditor findings, the more reliable the reporting process becomes, resulting in high-quality financial statements (Pozzoli et al., 2022; Buallay and Al-Ajmi, 2019). Conversely, the audit committee's ability to mitigate agency problems hinges on its composition. Key factors include the number of audit committee members, the frequency of their meetings, and the extent of accounting, finance, legal, and industry expertise or specialization



(Bilal et al., 2023; Rezaei Pitenoei et al., 2022; Alhababsah & Yekini, 2021). As a result, the audit committee's role, especially in financial reporting assessment, supports compliance with accounting standards and timely financial disclosures, thus targeting the core of agency conflict.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Digital transformation is a process of leveraging digital technology to change the way organizations, businesses, or individuals operate. This can involve the transition from analog to digital by offering online services and creating value for the organization (Verhoef et al., 2021; Vial, 2019). Most of the time, companies that implement and drive digital transformation do so to facilitate the management of operational data and to obtain high-quality information. Emphasized by the studies of Lou et al., (2024), Fang et al., (2023), and Liao et al., (2023), leveraging digital transformation enables companies to effectively enhance operational control, improve information quality, and significantly limit earnings management practices. However, contrary to the findings of Wang and Hou, (2024), Han et al., (2023), the implementation of digital transformation has not yet limited or reduced earnings management practices. This situation arises from managers seeking ways to exploit verification procedures and manage digital transformation systems. Managers are responsible for overseeing digital transformation, which provides them with the opportunity to utilize discretionary accrual accounting to achieve their own objectives. This makes digital transformation ineffective in stopping earnings management methods.

Digital Transformation on earning management and financial performance

Digital transformation must be supported by digital technology components to change the business operations of organizations or individuals and to automatically generate timely data and reports. This automation process involves transitioning systems integrated with digital technology, thereby enhancing data processing (Reis et al., 2018). Most companies undertake digital transformation initiatives to optimize operational data management and improve information quality. Supporting this, empirical evidence from Lou et al., (2024), Fang et al., (2023), and Liao et al., (2023), indicates that such initiatives enhance operational control and can reduce earnings management. However, several studies, including those by Cai, (2026), Han et al., (2023), Jia et al., (2022), He & Xian, (2026), and Xiang & Yi, (2025), indicate that digital transformation has not yet substantially reduced earnings management practices. This can occur when authorization is still under management control. For example, verification procedures, login access without strong biometrics, and the authority to change accrual accounting methods in the digital technology system. As a result, this management authority undermines the function and role of digital transformation in limiting earnings management.

Earnings management refers to managers changing accounting figures to manipulate financial statement profits. Liu et al, (2024), notes that earnings management is an accounting strategy that uses assumptions and estimates, which may lead to errors and, in turn, alter accounting data, thereby reducing the accuracy of financial statements. In addition to these definitions, Scott, (2015) introduces the concept of discretionary accruals, framing earnings management as opportunistic behavior; in this context, a corporation is more likely to adopt earnings management tactics if it has greater discretionary accruals. Agency theory further contributes to this discussion by positing divergent interests between managers (agents) and owners (principals), resulting in information asymmetry and facilitating earnings management (Jensen & Meckling, 1976). Finally, applying agency theory can reduce conflicts between managers and owners (Raimo et al., 2021; Bouaine & Hrichi, 2019)

According to prior research, going digital makes it harder to track earnings (Zeng and Wang, 2025; Fang et al., 2023; Wang and Hou, 2024). This unfavorable consequence complicates



earnings tracking and the preparation of accurate financial reports. Lou et al. (2024) found that adopting digital transformation technologies can make information easier to comprehend and more effective, thereby strengthening internal controls when multiple digital technology subsystems work together. Liu et al. (2024), and Gao et al. (2022), argue that organizations can reduce unnecessary operating expenses by leveraging digital technology, leading to financial gains. Several studies (Ren & Li, 2022; Zhavoronok et al., 2022; Zhang et al. 2023; BinSaeed et al., 2023), have demonstrated that a company's finances improve significantly upon adopting digital tools, leading to increased operational efficiency, reduced costs, and enhanced financial performance. This study adds a new perspective to existing research and theory. Consequently, this study formulates the subsequent research hypotheses:

H1a : Digital transformation has a negative impact on earnings management

H1b : Digital transformation has a positive impact on financial performance

Audit committee effectiveness on earnings management and financial performance

According to agency theory, an audit committee serves as an effective governance tool to mitigate conflicts between management and shareholders. By reinforcing internal controls and overseeing financial reporting, the committee strengthens governance. Its independent review of external audit results further enhances these efforts. Collectively, such actions reduce information asymmetry, constrain earnings management, lower agency costs, and ultimately affects the improvement of financial performance (Bawuah, 2024); Namakavarani et al., 2021; (Ud Din et al., 2021); Bajra & Čadež, 2018). This means that the more effectively the audit committee reviews financial statement issues, the better the reporting process and the higher the quality of the financial statements produced.

The audit committee effectiveness (ACE) is determined by its capacity to comprehend and fulfill its responsibilities in evaluating and interpreting financial statements, as well as its coordination with management (Khelil et al., 2016), stressed that an effective audit committee is one that carefully monitors financial statement information to safeguard stakeholders. Strong control and oversight of financial reporting support the effectiveness of the audit committee (ACE). Furthermore, by ensuring compliance with accounting standards, the committee ultimately enhances financial transparency. Additionally, by reviewing and evaluating financial performance, the audit committee influences the quality of financial reporting (Pozzoli et al., 2022; Al-Jalahma, 2022; (Arfamaini & Soewarno, 2022); (Bawuah, 2024); (Bazhair, 2022).

Audit committee effectiveness (ACE), as research shows, limits management's opportunistic reporting, boosts financial reporting quality and financial performance (Bajra & Čadež, 2018); (Masmoudi, 2021); (Namakavarani et al., 2021). By increasing transparency and reducing conflicts of interest, audit committees limit earnings management and support high-quality reporting (Alsmady, 2022; Alhababsah & Yekini, 2021). Also, the committee's review of digital reports helps prevent earnings management and improves financial performance. The audit committee reviews the company's financial records, ensures regulatory compliance, and checks that internal auditor processes and accounting standards are met (Pozzoli et al., 2022; Buallay and Al-Ajmi, 2019). The committee also works with management to spot potential financial statement issues. Based on this analysis, the following research hypotheses are proposed:

H2a: The audit committee effectiveness has a negative effect on earnings management.

H2b: Audit committee effectiveness has a positive effect on financial performance.

The moderating role of Audit committee effectiveness

The audit committee plays a critical role in strengthening governance. It reviews financial reporting, oversees the application of accounting standards, and maintains internal controls.



These functions are supported by independence, expertise, and active participation in meetings. Research has shown that audit committees can curb earnings management and reduce manipulation that undermines the quality of financial reporting (Hendrati et al., 2023); (Alsmady, 2022); (Panda & Leepsa, 2017); (Machdar et al., 2017). Advances in digital technology and digital transformation have expanded the audit committee's responsibilities. Now, their role also includes access to technology, financial risk control, cybersecurity, and technology-enabled financial reporting. In the context of digital transformation, the audit committee is responsible for ensuring process integrity, strengthening internal controls, and enhancing operational efficiency and effectiveness. This includes limiting the potential for accounting manipulation through discretionary accrual practices. Therefore, the effectiveness of the audit committee serves as a governance mechanism. It reinforces the implementation of digital transformation, helping limit earnings management and improve financial performance. Based on this argument, the following hypothesis is proposed.

H2c: The audit committee effectiveness strengthens the negative relationship between digital transformation and earnings management.

H2d: The audit committee's effectiveness strengthens the positive relationship between digital transformation and financial performance.

METHODOLOGY

Sampling process

The study utilizes a quantitative methodology through purposive sampling. The data were obtained from the London Stock Exchange Group – University of Indonesia (LSEG-UI) and the Indonesian Stock Exchange (IDX). The study lasted for nine years, from 2016 to 2024, and included 3,402 observations (see Table 1). This study employed 10 sectors (energy, basic materials, industrials, consumer cyclicals, consumer non-cyclicals, healthcare, property and real estate, technology, infrastructure, and transportation and logistics) of companies listed on IDX. It does not include the financial industry because this sector has unique traits that require a more complex accounting process, especially when it comes to handling financial instruments and complying with strict rules.

Table 1 Number of observations by sector at the Indonesian Stock Exchange (IDX)

Sector in IDX	Obs	Percentage	Cumulative
Energy	450	13,23	13,23
Basic materials	576	16,93	30,16
Industrials	315	9,26	39,42
Consumer cyclicals	522	15,34	54,76
Consumer non-cyclicals	558	16,40	71,16
Healthcare	108	3,17	74,33
Property & real estate	387	11,38	85,71
Technology	135	3,97	89,68
Infrastructure	225	6,61	96,29
Transportation & logistics	126	3,70	100
Total	3.402	100	



Variables Measurement

1. Dependent Variable

We analyze two dependent variables: (1) earnings management, measured using discretionary accruals (DAC), and (2) financial performance, measured by both return on assets (ROA) and the market value of the firm, proxied by Tobin's Q.

Earnings management is assessed using discretionary accruals (DAC), which capture management intervention in accounting policies. The Jones model (Jones, 1991), referred to as **DAC_Jones**, analyzes manipulation of revenue through credit sales. The Dechow model (Dechow et al., 1995) or **DAC_Dechow**, modifies the Jones model by adjusting for changes in revenue and receivables, focusing on cash-based revenue rather than credit. The following steps are used to calculate discretionary accruals.

- 1) Calculating total accrual (TACC)

$$TACC_{i,t} = NI_{i,t} - CFO_{i,t}$$

- 2) Calculating non-discretionary accrual (NDA) using the Jones, (1991) model

$$TACC_{i,t} / TA_{i,t-1} = \alpha_1 (1 / TA_{i,t-1}) + (\Delta REV_{i,t} / TA_{i,t-1}) + \alpha_3 (PPE_{i,t} / TA_{i,t-1}) + \varepsilon_{i,t}$$

Calculating non-discretionary accruals (NDAC) using the Modified Jones model and developed by Dechow et al., (1995).

$$NDAC_{i,t} = \alpha_1 (1 / TA_{i,t-1}) + \alpha_2 ((\Delta REV_{i,t} - \Delta REC_{i,t}) / TA_{i,t-1}) + \alpha_3 ((PPE_{i,t}) / TA_{i,t-1}) + \varepsilon_{i,t}$$

- 3) Calculating discretionary accrual (DAC). Discretionary accrual can be calculated after obtaining the total accrual value (TACC) and the non-discretionary accrual value (NDAC). Here is the formula to calculate discretionary accrual (DAC).

$$DAC_{i,t} = (TACC_{i,t} / TA_{i,t-1}) - NDAC_{i,t}$$

Where $TACC_{i,t}$ is total accrual at year t , NI is net income, $CFO_{i,t}$ is cashflow from operation, $TA_{i,t-1}$ is the total assets at year $t-1$, $\Delta REV_{i,t}$ is the change in revenue in year t , $\Delta REC_{i,t}$ is the change in receivable in year t , $PPE_{i,t}$ is property, plant, and equipment, and ε (error) is the residual value or the value for DAC.

The second dependent variable is financial performance (FINP), which reflects the effective use of asset resources to increase revenue. We first measure financial performance using return on assets (ROA), abbreviated **FINP_ROA**, which is net income divided by total assets (Guo et al., 2023; Ren & Li, 2022; Zhai et al., 2022; Peng and Tao, 2022). Next, financial performance using Tobin's Q abbreviated **FINP_TBQ**. Measured Tobin's Q is calculated as the market value of equity plus total debt divided by total assets (Wang and Xia, 2024; Ji et al., 2022).

2. Independent variable

Our dependent variable is digital transformation (**DIGT**), identified through content analysis by quantifying the frequency of related words and phrases in annual reports. The stages of analyzing digital transformation:

- 1) We selected components and keywords by reviewing prior literature (Yang et al., 2025; Lou et al., 2024; Li et al., 2023; Guo et al., 2023; Ren & Li, 2022; Zhai et al., (2022); Zhang et al., 2023; Wang and Xia, 2024; Ji et al., 2022; Zhang et al., (2023)), yielding 9 components and 102 keywords relevant to digital transformation in earnings management and financial performance (see Appendix 1).



- 2) We extract annual reports, use NVIVO application to convert keywords into numerical counts, and manually verify these frequencies.
- 3) Measure variable digital transformation as the natural logarithm of the keyword count to normalize the distribution and reduce the effects of extreme values (Fang et al., 2023; Ji et al., 2022; Wang and Xia, 2024; He et al., 2023; Gao et al., 2022).

3. Moderating variable

The moderating variable used is audit committee effectiveness (ACE). This variable is measured using a dummy variable in the ACE Index. Each ACE Index is matched with audit committee information in the annual report. If they match, it is assigned a value of 1; otherwise, it is assigned a value of 0. Here is the calculation of the ACE Index.

$$ACE = \frac{\text{The number of ACE indexes that meet the criteria}}{\text{Total ACE Index (Maximum 8)}}$$

Table 2. The index of Audit Committee Effectiveness (ACE)		
ACE	Description of audit committee indexes	References
Memb	The audit committee must have at least three members, with one serving as the chairperson. The chairperson must be an independent commissioner	Nassir Zadeh et al., (2023) Ghafran et al., (2022) Bajra and Čadež, (2018)
Meet	The audit committee is required to hold regular meetings at least once every 3 months, totaling at least 4 meetings per year	Ghafran et al., (2022) Bajra and Čadež, (2018)
ACF	The audit committee must have members who possess formal qualifications and substantial practical experience in accounting, financial reporting, or financial management	Nassir Zadeh et al., (2023) Ghafran et al., (2022) Bajra and Čadež, (2018)
ITD	At least one member of the audit committee must possess expertise and a clear understanding of information technology as it relates to digital transformation	Beulen & Bode, (2021) Ashraf et al., (2020)
Legal	At least one member must have legal expertise, preferably as a law graduate	Alhababsah and Yekini, (2021)
Expert	The audit committee must have at least one member with specialized expertise or extensive experience in the same industry as the company operates.	Alhababsah and Yekini, (2021) Pozzoli et al., (2022)
Gend	The audit committee must ensure gender diversity by including at least one woman among its members	Bilal et al., (2023) Ud Din et al., (2021)
Exect	The audit committee must include at least one executive member from the company's management, whose involvement helps facilitate understanding of the company's condition.	Haza et al., (2024) Norman et al., 2011).

4. Control Variable

Based on prior literature, we consider various factors that can influence earnings management and financial performance, including digital transformation and audit committee effectiveness. These may also be affected by other factors, such as: Audit quality (AUQ) is defined as a binary



variable: companies audited by a Big 4 public accounting firm are assigned a value of 1, while those audited by a non-Big 4 public accounting firm are assigned a value of 0 (Zahid et al., 2022). Additionally, the Covid-19 pandemic (COVID) is included as a control variable to account for the pandemic period in the research (Santos et al., 2021; Altig et al., 2020; Szczygielski et al. 2021). Another factor is leverage (LEV), defined as total debt divided by total assets, which assesses the company's ability to meet obligations for asset purchases using debt (Lou et al., 2024; Liu et al., 2024). Company size (SIZE) is defined as the natural logarithm of total company assets (Lou et al., 2024; Liu et al., 2024). Company age (AGE), defined as the number of years from a company's establishment to the year of observation in this study, is also examined (Han et al., 2023; Guo et al., 2023; Peng and Tao, 2022). The status of incurring losses (LOSS) or profits (PROFIT) is also considered, with loss-making companies assigned the number 1 and profitable ones the number 0 (Han et al., 2023). Company growth (GROWTH) is defined as the current year's sales (REVi,t) minus the previous year's sales (REVi,t-1), divided by the previous year's sales (REVi,t-1) (Liu et al., 2024). The operating cash flow ratio (OCFR) is defined as the operating cash flow divided by current liabilities, measuring a company's ability to generate cash from operating activities sufficient to cover its current liabilities (Liu et al., 2024; Peng and Tao, 2022). The analysis further distinguishes the technology sector (TEKNO) using dummy variables to identify high- and low-technology companies (Wang and Hou, 2024; Li et al., 2023). The industrial sector (INDUST) variable is a dummy that classifies companies by profile, distinguishing between high and low-profile industrial companies (Suttipun & Yordudom, 2022). Year effect (YEAR) is a dummy variable for each year in the observation period, controlling for annual variation, including changes in digital transformation driven by development, technology adoption, or innovation that differ across years (Han et al., 2023).

5. Baseline model

The quantitative methodology used in the multiple regression model to test the research hypotheses is demonstrated in two models:

Model-1;

A multiple regression model to test the effect of digital transformation on earnings management, and moderated by audit committee effectiveness.

$$DAC_{i,t} = \alpha_0 + \alpha_1 DIGT_{i,t} + \alpha_2 ACE_{i,t} + \alpha_3 DIGT_{i,t} * ACE_{i,t} + \sum \alpha_i CONTROL_{i,t} + \sum \gamma_i Years_{i,t} + \sum \zeta_i Indust_{i,t} + \varepsilon_{i,t} \quad (1)$$

Model-2:

A multiple regression model to test the effect of digital transformation on financial performance, and moderated by audit committee effectiveness.

$$FINP_{i,t} = \beta_0 + \beta_1 DIGT_{i,t} + \beta_2 ACE_{i,t} + \beta_3 DIGT_{i,t} * ACE_{i,t} + \sum \beta_i CONTROL_{i,t} + \sum \eta_i Years_{i,t} + \sum \lambda_i Indust_{i,t} + \varepsilon_{i,t} \quad (2)$$



Table 3. Variable descriptions		
Variable	Definitions	References
DAC	Discretionary accruals as a proxy for measuring earnings management using the Jones model (DAC_Jones) and Dechow model (DAC_Dechow)	Zeng et al., (2023) Fang et al., (2023) Jones (1991) Dechow et al. (1995)
FINP	Financial performance, measured by return on assets (FINP_ROA), by net profit divided by total assets and Tobina's Q (FINP_TBQ), by the market value of equity plus debt and divided by total assets.	Guo et al., (2023) Ren & Li, (2022) Zhang et al., (2023) Wang and Xia, (2024) Ji et al., (2022)
DIGT	Digital transformation, measure, the natural logarithm of total frequency keywords text related to digital transformation, as expressed in the annual report	Wang and Xia, (2024) Han et al., (2023) Ji et al., (2022)
DIGT_Dummy	Dummy digital transformation, the measurement is given a score of 1 if the DIGT Median ≥ 1 , and 0 otherwise.	Zhang et al., (2023)
ACE	The audit committee effectiveness, by ACE Index	Hazzaa et al., (2024) Bilal et al., (2023) Ghafran et al., (2022)
AUQ	Audit quality, measured by a dummy; if the firm uses Big4 auditors, the value is 1; otherwise, it is 0.	Kharuddin et al. (2021)
COVID	The year of the COVID-19 pandemic	Pozzoli et al., (2022)
LEV	Leverage, ratio of total liabilities to total assets	Liu et al., (2024)
SIZE	Firm size, natural logarithms of total assets	Liu et al., (2024)
AGE	Firm age, natural logarithm of company age years	Guo et al., (2023)
LOSS	If a firm incurs a loss, the value is 1; otherwise, it is 0	Han et al., (2023)
GROWTH	Company growth, analyzed from revenue (REV), is calculated with the formula $REV_{i,t} - REV_{i,t-1} / REV_{i,t-1}$.	Liu et al., (2024) Han et al., (2023)
OCFR	Operating Cash Flow Ratio is the company's ability to generate operating cash flow to meet short-term obligations. Operating cash flow divided by current liabilities	Yang et al., (2025) Liu et al., (2024) Peng and Tao, (2022)
TECHNO	Technology sector, if the firm is in the technology sector, the value is 1 and 0; otherwise, it is 0.	Simms and Frishammar, (2024)
INDUST	If a firm in the industrial sector operates with exceptionally high levels of accuracy and precision, it must also manage complexity and maintain a low tolerance for errors. If the firm has a high profile, the value is 1, and 0 otherwise (low profile).	Suttipun and Yordudom, (2022) Liu et al., (2024)
YEAR	The effect of year change on research from 2016 – 2024)	Ji et al., (2022)

RESULTS AND THEIR ANALYSIS

Descriptive statistics

Table 4, Panel A, presents all the data for the research variables in descriptive statistics.



Discretionary accruals (DAC), as measured by DAC_Jones and DAC_Dechow, serve as a proxy for the earnings management variable. This descriptive data demonstrates that earnings management has the lowest values of 0.032 and 0.031 and the highest values of 0.090 and 0.102. Even though these statistics are rather modest, they nonetheless show that earnings management is happening using DAC accounting. If the data is small and negative, it means that discretionary accruals have been reduced, indicating less potential earnings management as measured by DAC.

The financial performance variables (FINP), represented by FINP_TBQ and FINP_ROA, show minimum values of 0.024 and -0.659, respectively, and maximum values of 5.863 and 0.667, respectively. The data shows that the financial performance proxy with Tobin's Q (FINP_TBQ) reveals that some companies have relatively low market prices compared to their asset values. The observed discrepancy indicates that investors evaluate the company's current position and future prospects differently. On the other hand, financial performance measured by Return on Assets (ROA) provides a perspective on the potential shifts in the company's profitability. Some companies show negative ROA, indicating financial losses, while others may generate significant revenue. Then the digital transformation variable shows a range from 0.301 to 1.580. The observed spectrum indicates that some organizations show limited digital progress, while others show more.

Table 4. Statistical summary

Variable	Obs	St.Dev	Mean	Min	p50	p25	p75	Max
DAC_Jones	3,402	0.019	0.054	0.032	0.049	0.039	0.066	0.090
DAC_Dechow	3,402	0.019	0.056	0.031	0.052	0.042	0.066	0.102
TBQ	3,402	0.721	0.989	0.024	0.801	0.539	1.181	5.863
ROA	3,402	0.106	0.024	-0.659	0.024	-0.008	0.066	0.667
DIGT	3,402	0.229	1.172	0.301	1.204	1.041	1.342	1.580
DTDummy	3,402	0.500	0.504	0.000	1.000	0.000	1.000	1.000
ACE	3,402	0.121	0.423	0.143	0.429	0.286	0.571	0.714
AUQ	3,402	0.479	0.356	0.000	0.000	0.000	1.000	1.000
COVID	3,402	0.416	0.222	0.000	0.000	0.000	0.000	1.000
LEV	3,402	0.206	0.308	0.003	0.276	0.138	0.449	0.888
AGE	3,402	0.210	1.493	0.301	1.531	1.380	1.643	2.076
LOSS	3,402	0.452	0.286	0.000	0.000	0.000	1.000	1.000
GROWTH	3,402	0.266	0.013	-0.999	0.046	-0.084	0.158	0.886
SIZE	3,402	0.720	12.580	10.179	12.587	12.082	13.070	14.675
OCFR	3,402	0.828	0.399	-2.978	0.210	0.012	0.606	4.324
TECHNO	3,402	0.201	0.042	0.000	0.000	0.000	0.000	1.000

Correlation Coefficients

Table 5 shows that both models consistently detect earnings management, indicating they capture the same construction. Furthermore, the correlation matrix reveals both positive and negative relationships among variables, with different significance levels. Notably, DAC_Jones and DAC_Dechow are highly correlated ($r = 0.95$), showing that both proxies reflect the same aspect of earnings management. For financial performance (ROA), it is strongly and negatively correlated with earnings management (DAC_Jones: -0.18; DAC_Dechow: -0.24). This suggests that better-performing firms may manage earnings less, possibly due to prudent reporting practices. Nonetheless, unobserved factors, such as industry or incentives, may influence this link. Additionally, digitalization (DIGT) and digital transformation (DT_Dummy) are weakly but positively related to earnings management, suggesting that technology adoption could enable more flexible reporting. Yet, the causal link is unclear, as digitalization might increase



transparency or create new opportunities for manipulation. Regarding governance, audit committee effectiveness (ACE) and audit quality (AUQ) show strong negative relationships with earnings management, suggesting that better monitoring reduces manipulation. Still, endogeneity remains an issue, as firms with strong governance may differ in unobserved ways, making causal inference difficult.

Table 5. Correlation matrix`

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) DAC_Jones	1														
(2) DAC_Dechow	0,95	1													
(3) TBQ	-0,02	-0,03	1												
(4) ROA	-0,18	-0,24	0,22	1											
(5) DIGT	0,09	0,10	0,05	0,02	1										
(6) DT_Dummy	0,08	0,08	0,03	0,01	0,78	1									
(7) ACE	-0,15	-0,19	0,07	0,09	0,12	-0,12	1								
(8) AUQ	-0,07	-0,09	0,11	0,21	0,07	-0,07	0,14	1							
(9) COVID	0,02	0,03	-0,03	-0,08	0,02	-0,07	0,01	-0,01	1						
(10) LEV	0,15	0,18	0,13	-0,16	0,20	-0,15	0,00	-0,01	-0,05	1					
(11) AGE	-0,08	-0,10	-0,04	0,06	0,08	-0,10	0,12	0,10	0,03	-0,03	1				
(12) LOSS	0,18	0,24	-0,09	-0,62	0,05	-0,03	-0,07	-0,15	0,10	0,15	-0,02	1			
(13) GROWTH	0,02	0,01	0,05	0,22	0,01	-0,02	0,02	0,05	-0,13	-0,01	-0,04	-0,23	1		
(14) SIZE	-0,22	-0,25	-0,04	0,21	0,10	-0,10	0,28	0,38	0,00	0,03	0,03	-0,24	0,09	1	
(15) OCFR	-0,26	-0,34	0,22	0,31	0,07	-0,04	0,09	0,17	0,02	-0,07	0,01	-0,27	0,06	0,11	1

Hypothesis testing

1. Results testing digital transformation on earnings management

This study examines panel data and, to select the appropriate regression model, evaluates several criteria, including the Chow and Hausman Tests. The Chow Test results show a p-value of less than 0.05 ($p < 0.05$), indicating that the Fixed Effects Model (FEM) is better than the Common Effects Model (CEM). Furthermore, the Hausman Test produces a p-value below 0.05, suggesting the FEM is preferable to the Random Effects Model (REM). Together, these findings indicate that individual effects are correlated with the independent variable, which contradicts the assumption of the Random Effects Model. Although the study emphasizes FEM analysis, it also presents test results for CEM and REM to facilitate comparison across regression models and to highlight any significant differences.

Panel A of Table 6 shows the results of hypothesis testing (H1a). Digital transformation (DIGT) has a positive and significant effect on earnings management, as measured by DAC_Jones and DAC_Dechow. The analysis used three models: CEM, REM, and FEM. In all models, digital transformation does not reduce earnings management; rather, it increases the



likelihood of earning management. Although digital transformation improves operational efficiency and information access, it also gives management more discretion to manipulate accounting figures.

The results show that digital transformation has a positive impact on earnings management, in line with previous research stating that earnings management drives earnings management (He & Xian, (2026), and Xiang & Yi, (2025), thus digital transformation positively impacts earnings management (Cai, 2026; Han et al., 2023; Jia et al., 2022). However, the analysis of these findings indicates that companies listed on the IDX are still in the early stages of their digital transformation. Weak control systems cause management to focus more on the managerial level, allowing them to apply discretionary accruals based on digital data, thereby undermining the role of digital transformation in reducing earnings management practices.

Table 6. Testing of DIGT, ACE on earning management (H1a and H2a)						
Panel A. The impact of digital transformation (DIGT) and audit committee effectiveness (ACE) on earnings management. Testing was conducted using three models: the CEM, REM, and FEM.						
Variable	CEM		REM		FEM	
	DAC Jones	DAC Dechow	DAC Jones	DAC Jones	DAC Dechow	DAC Jones
DIGT	0.018*** (10.702)	0.020*** (11.905)	0.016*** (7.850)	0.016*** (8.097)	0.014*** (5.688)	0.013*** (5.604)
ACE	-0.025*** (-9.688)	-0.033*** (-12.742)	-0.021*** (-5.653)	-0.028*** (-7.511)	-0.013** (-2.448)	-0.020*** (-3.901)
AUQ					0.001 (0.558)	0.001 (0.677)
COVID					-0.003* (-1.953)	-0.001 (-0.993)
LEV					0.006*** (2.850)	0.009*** (4.822)
SIZE					-0.001 (-0.564)	-0.003 (-1.203)
AGE					-0.004 (-0.417)	-0.01 (-1.069)
LOSS					0.001 (1.104)	0.002** (2.032)
GROWTH					0.003** (2.512)	0.002** (2.362)
OCFR					-0.006*** (-13.245)	-0.008*** (-18.221)
TECHNO					0.003 (0.278)	0.023** (2.172)
Constant	0.048*** (22.426)	0.051*** (23.875)	0.049*** (18.292)	0.053*** (19.857)	0.072** (2.193)	0.101*** (3.274)
INDUST	Yes	Yes	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	3,402	3,402	3,402	3,402	3,402	3,402
Adj R-sq	0.067	0.093	0.141	0.188	0.095	0.157
F-statistic	25.486	35.935	180.160	236.700	17.551	30.508
Sig. F-stat.	0.000	0.000	0.000	0.000	0.000	0.000



Panel B: Robustness test results from the sensitivity test of digital transformation on earnings management for 378 companies and 3,402 observations. The sensitivity test for H1a and H2a, replacing the DIGT variable with DIGT_Dummy. The testing was conducted using three models (CEM, REM, and FEM)

Variable	CEM		REM		FEM	
	DAC Jones	DAC Dechow	DAC Jones	DAC Jones	DAC Dechow	DAC Jones
DIGT_Dummy	0,007*** (9,058)	0,007*** (9,939)	0,005*** (6,387)	0,005*** (6,570)	0,003*** (4,149)	0,003*** (4,080)
ACE	-0,024*** (-9,329)	-0,032*** (-12,309)	-0,020*** (-5,432)	-0,027*** (-7,274)	-0,013** (-2,426)	-0,020*** (-3,876)
Constant	0,065*** (45,638)	0,069*** (49,080)	0,064*** (35,798)	0,068*** (38,095)	0,080** (2,428)	0,108*** (3,506)
CONTROL	Yes	Yes	Yes	Yes	Yes	Yes
INDUST	Yes	Yes	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	3,402	3,402	3,402	3,402	3,402	3,402
Adj R-sq	0.058	0.082	0.126	0.184	0.090	0.153
F-statistic	25.486	35.935	180.160	236.700	17.551	30.508
Sig. F-stat.	0.000	0.000	0.000	0.000	0.000	0.000

Panel C: Robust regression model (RRG) for DIGT and DIGT_Dummy are combined into a single model to test earnings management. This test demonstrates the robust influence of digital transformation and internal control (ICFEL) on earnings management (H1a and H2a).

Variable	(01)	(02)	(03)	(04)	(05)	(06)
	DAC Jones	DAC Dechow	DAC Jones	DAC Jones	DAC Dechow	DAC Jones
DIGT	0.016*** (6.206)	0.017*** (7.593)	0.016*** (6.432)	0.018*** (7.962)	0.014*** (6.100)	0.015*** (8.044)
DIGT_Dummy	0.002** (2.169)	0.002** (2.052)	0.003** (2.376)	0.002** (2.307)	0.001 (1.267)	0.001 (1.204)
ACE	-0.028*** (-10.148)	-0.034*** (-13.977)	-0.026*** (-9.373)	-0.032*** (-13.000)	-0.014*** (-5.426)	-0.019*** (-8.712)
Constant	0.669*** (17.093)	0.639*** (14.738)	0.673*** (17.894)	0.644*** (15.424)	2.128*** (41.411)	2.210*** (42.692)
CONTROL	Yes	Yes	Yes	Yes	Yes	Yes
INDUST	Yes	Yes	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	3,402	3,402	3,402	3,402	3,402	3,402
Adj R-sq	0.073	0.110	0.079	0.120	0.218	0.350
F-statistic	25.211	39.377	25.151	39.76	48.433	92.536
Sig. F-stat.	0.000	0.000	0.000	0.000	0.000	0.000

*t statistics in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$*

Table 6, Panel B reports the results of the robustness and sensitivity tests, replacing the DIGT variable with DIGT_Dummy. The results show positive and significant coefficients at the



1% level across all models (CEM, REM, and FEM). These results are highly robust statistically. This evidence shows that digital transformation, while improving business efficiency, simultaneously widens the space for managerial opportunism by increasing complexity and information asymmetry in financial reporting. This may be due to the ineffective implementation of digital transformation, even tho the components and items of digital transformation have been disclosed in the annual report. Even with oversight that has not yet been fully implemented, digitization plays a greater role in expanding managerial discretion than in boosting transparency, leading to a positive rather than a negative relationship. Thus, digitalization does not necessarily reduce earnings management practices.

Table 6, Panel C, presents a regression with DIGT and DIGT_Dummy to assess if digital transformation changes earnings management. The results show that digital transformation significantly increases earnings management, demonstrating a robust positive effect. Han et al., (2023), similarly find that digital transformation does not limit management's discretion in financial reporting and can even expand it. Vial, (2019), also notes that digital transformation changes processes, structures, and decision-making rights, rather than enforcing financial discipline. These changes increase system complexity and managerial authority, allowing greater use of discretionary accruals. The results provide clear evidence against the hypothesis that digital transformation reduces earnings management. Therefore, hypothesis (H1a), which posited a negative effect, is decisively rejected.

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2. Results test of audit committee effectiveness on earnings management (H2a)

Table 6, Panels A and B, presents the results of testing hypothesis H2a, which posits that audit committee effectiveness (ACE) negatively and significantly affects earnings management. All models tested cross-sectional earnings management (CEM), real earnings management (REM), and financial reporting manipulation (FRM) yield negative and significant coefficients, with the fixed effects model (FEM) showing significance at the 5% level for discretionary accruals measured using the Jones model (DAC_Jones) and at the 1% level for the Dechow model (DAC Dechow). These results indicate that greater audit committee effectiveness constrains managers' ability to engage in opportunistic behavior, supporting hypothesis H2a.

Table 6, Panel C, further supports these findings and indicates that an effective Audit Committee Environment (ACE) can mitigate earnings management. Thus, the results of this study underscore the importance of strengthening the audit committee's role within the corporate governance framework to reduce opportunistic behavior and bolster stakeholder confidence. Further research is recommended to examine additional factors that may enhance supervisory effectiveness, such as the characteristics of audit committee members or the quality of external audits.



The results of the H2a test support the agency theory proposed by Jensen & Meckling (1976), which states that an agency relationship arises when one person (the principal) grants another (the agent) the authority to make decisions. The audit committee, as part of corporate governance, safeguards shareholders' interests by effectively overseeing financial reporting and reducing agency conflicts (Machdar et al., 2017). A competent audit committee reviews and controls financial reporting in accordance with accounting regulations, thereby limiting earnings management and enhancing transparency of financial information. This study confirms previous findings that audit committee effectiveness (ACE) significantly reduces earnings management (Alsmady, 2022); (Panda & Leepsa, 2017), as seen in the negative effect of ACE on DAC. Thus, ACE, with extensive knowledge in accounting, finance, and IT can help organizations mitigate earnings management.

3. Results test of digital transformation on financial performance (H1b)

We tested hypothesis H1b as shown in Table 7, Panels A, B, and C, which examines the impact of digital transformation on financial performance. Panels A (CEM, REM) and Panel B (REM) provide evidence that DIGT has a positive and significant impact on financial performance. These findings indicate that companies that effectively implement DIGT in their operations can enhance operational efficiency and effectiveness, expand markets, drive business innovation, and improve the efficiency of digital data-based management, thereby reducing operational costs. This leads to better operational performance and drives higher revenue. The findings of this study corroborate the theories that support socio-technical systems, which assert that digital transformation facilitates technology use and enhances corporate processes and services. This, in turn, increases the company's profits (Iden & Bygstad, 2025; Zhang et al., 2023). Meanwhile, the FEM in Table 7 (Panel A, Panel B), shows that digital transformation does not affect financial performance. We analyze that this is due to the long-term benefits of digital transformation. Meanwhile, the implementation costs appear at the beginning, so they have not yet been reflected in the financial performance during the observation period. In addition, the FEM model has limitations in analyzing differences in type and kind across companies, as it fails to account for company characteristics when controlling for fixed factors such as management quality, organizational culture, innovation capability, and the long-term benefits of digital transformation. This condition causes its influence to appear statistically insignificant.

Table 7, Panel C, combines the digital transformation variables (DIGT and DIGT_Dummy) into a single testing model with a robust regression model (RREG). The goal is to observe the robustness of significance. These results indicate that DIGT_Dummy does not have a significant impact on financial performance. Meanwhile, the DIGT variable has a positive and significant impact on financial performance. The evidence indicates that the more effective the implementation of DIGT, the greater the improvement in operational efficiency, thereby optimizing asset utilization, strengthening the company's competitiveness, and supporting hypothesis H1b. The results of this study are consistent with previous research that shows digital transformation significantly and positively affects financial performance (Zhang et al. 2023; BinSaeed et al., 2023; Meena et al., 2023; Ren & Li, 2022; Zhavoronok et al., 2022). The study supports other studies that indicate the adoption of digital technology can enhance the strategic effectiveness and efficiency of a business by enabling cost management, accelerating the transformation of operational processes, and ultimately improving financial performance (Wang and Xia, 2024; Guo et al., 2023; Ji et al., 2022).


Table 7. DIGT, ACE on Financial Performance (H1b, H2b)

Panel A. The impact of digital transformation, audit committee effectiveness on financial performance. Testing was conducted using three models (CEM, REM, FEM).

Variable	CEM		REM		FEM	
	FINP TBQ	FINP ROA	FINP TBQ	FINP ROA	FINP TBQ	FINP ROA
DIGT	0,194*** (8,495)	0,220*** (8,395)	0,083*** (3,779)	0,094*** (3,783)	0,019 (1,170)	0,025 (1,347)
ACE	0,305*** (8,564)	0,355*** (8,671)	0,278*** (6,006)	0,317*** (6,034)	0,354*** (9,498)	0,397*** (9,301)
AUQ					0,109*** (10,127)	0,122*** (9,864)
COVID					-0,024** (-2,410)	-0,026** (-2,200)
LEV					0,561*** (42,710)	0,605*** (40,214)
SIZE					-0,168*** (-11,162)	-0,219*** (-12,709)
AGE					-0,265*** (-3,874)	-0,329*** (-4,208)
LOSS					-0,086*** (-15,040)	-0,095*** (-14,549)
GROWTH					0,042*** (5,571)	0,044*** (5,035)
OCFR					0,093*** (30,778)	0,105*** (30,436)
TECHNO					-0,184** (-2,369)	-0,196** (-2,209)
Constant	0,699*** (23,752)	0,670*** (19,811)	0,792*** (24,605)	0,779*** (21,328)	3,158*** (14,142)	3,836*** (15,002)
INDUST	Yes	Yes	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	3402	3402	3402	3402	3402	3402
Adj R-sq	0,062	0,062	0,1184	0,1148	0,495	0,477
F-statistic	23,65	23,406	316,97	315,12	196,249	184,368
Sig. F-stat.	0,000	0,000	0,000	0,000	0,000	0,000

Panel B: Robustness test results from the sensitivity test of digital transformation using DT_Dummy variable, audit committee effectiveness on financial performance for 378 companies and 3,402 observations. The sensitivity test for H1b and H2b, replacing the DIGT variable with DIGT_Dummy. The testing was conducted using three models (CEM, REM, and FEM)

Variable	CEM		REM		FEM	
	FINP TBQ	FINP ROA	FINP TBQ	FINP ROA	FINP TBQ	FINP ROA
DIGT_Dummy	0,061*** (6,105)	0,068*** (5,944)	0,009 (1,117)	0,009 (0,998)	-0,002 (-0,366)	-0,003 (-0,471)
ACE	0,318*** (8,884)	0,369*** (8,994)	0,280*** (6,032)	0,319*** (6,055)	0,353*** (9,467)	0,396*** (9,264)
CONTROL	Yes	Yes	Yes	Yes	Yes	Yes
INDUST	Yes	Yes	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes	Yes	Yes



Constant	0,881***	0,876***	0,875***	0,873***	3,181***	3,868***
	(45,293)	(39,220)	(37,982)	(33,285)	(14,270)	(15,148)
Obs.	3402	3402	3402	3402	3402	3402
Adj R-sq	0,053	0,052	0,1054	0,1024	0,495	0,477
F-statistic	19,725	302,76	300,61	196,104	184,187	19,725
Sig. F-stat.	0,000	0,000	0,000	0,000	0,000	0,000

Panel C: Testing model with a robust regression model (RREG) for DIGT and DIGT_Dummy are combined into a single model to test financial performance. This test demonstrates the robust influence of digital transformation and internal control (ICFEL) on earnings management (H1b and H2b).

Variable	(01)	(02)	(03)	(04)	(05)	(06)
	FINP TBQ	FINP ROA	FINP TBQ	FINP ROA	FINP TBQ	FINP ROA
DIGT	0,206***	0,225***	0,187***	0,205***	0,101***	0,107***
	(5,828)	(5,743)	(5,482)	(5,421)	(5,506)	(5,805)
DIGT_Dummy	0,003	0,004	-0,006	-0,006	-0,008	-0,009
	(0,169)	(0,223)	(-0,394)	(-0,352)	(-1,006)	(-1,183)
ACE	0,331***	0,370***	0,255***	0,282***	0,376***	0,390***
	(8,597)	(8,685)	(6,807)	(6,789)	(18,372)	(18,922)
Constant	0,669***	0,639***	0,673***	0,644***	2,128***	2,210***
	(17,093)	(14,738)	(17,894)	(15,424)	(41,411)	(42,692)
CONTROL	Yes	Yes	Yes	Yes	Yes	Yes
INDUST	Yes	Yes	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	3402	3402	3402	3402	3402	3402
Adj R-sq	0,063	0,063	0,114	0,114	0,693	0,718
F-statistic	21,79 4	21,824	37,327	37,472	384,506	433,688
Sig. F-stat.	0,000	0,000	0,000	0,000	0,000	0,000

t statistics in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4. Results test of audit committee effectiveness on financial performance (H2b)

Table 7, Panels A, B, and C, illustrates the findings of testing H2b. This test examines how well an audit committee performs and how it affects financial performance. All models (CEM, REM, FEM) indicate that the audit committee's effectiveness has a positive, substantial influence on financial performance. The significance level is $p < 0.01$ (1%). The results of this study show that the audit committee effectively reviews and oversees financial reporting. They achieve this through good governance practices, such as improving internal controls, financial report controls, and compliance with regulations and accounting standards. The audit committee also reviews the results of internal and external audit findings for follow-up. Their work helps create transparency and efficiency, which can lead to better financial performance. Consequently, the findings of this study corroborate hypothesis H2b. This hypothesis posits that the audit committee's effectiveness substantially enhances the company's financial performance.

The results of this study are consistent with previous research indicating that the audit committee, as a component of corporate governance, plays a critical role in reviewing and evaluating financial performance (Bouaine & Hrichi, 2019); (Bawuah, 2024); (Bazhair, 2022) Al-Ahdal et al., 2023). Furthermore, the presence of an audit committee motivates management to fulfill its responsibilities and accelerates the issuance of high-quality financial statements



Shamsuddin & Alshahri, (2022)). Consistent with other studies (Bajra & Čadež, 2018, Ud Din et al., 2021), audit committee effectiveness has a significant positive impact on the quality of financial reporting by constraining opportunistic behavior and thereby enhancing financial performance.

5. Results of testing the audit committee effectiveness as a moderating variable

Table 8 presents the results of assessing how well the audit committee moderated the relationships between digital transformation and earnings management (H2c) and between digital transformation and financial performance (H2d). Testing Hypothesis (H2c) shows that the interaction between audit committee effectiveness and digital transformation (ACE*DGT) does not have a big influence on earnings management. The results indicate the ACE*DT_WORD coefficient is negative, suggesting the audit committee's effectiveness does not enhance the correlation between digital transformation and earnings management. This implies that the committee primarily assesses the financial reporting process rather than overseeing it or participating in the company's digital transformation. Thus, hypothesis H2c, which posits that the audit committee's effectiveness worsens the link between digital transformation and earnings management, is not supported.

Hypothesis H2c (Tabel 8, FEM-1, and FEM-2) provides empirical evidence that the existence and effectiveness of the audit committee have not yet strengthened digital transformation in reducing earnings management practices based on accounting discretion. As Bawuah, (2024), Bajra & Čadež, (2018), note, the audit committee still primarily serves as a regulatory compliance mechanism rather than a substantive oversight function. Research by Ghafran et al., (2022), suggests that discretionary earnings management remains complex and concealed within the flexibility of accounting standards, making it difficult to detect through formal audit committee procedures. These conditions limit the committee's information access and weaken its ability to influence top management, thereby preventing the enhancement of digital transformation's supervisory role in earnings management.

Hypothesis testing (H2d) examines whether audit committee effectiveness moderates the link between digital transformation and financial performance. The statistical results (Table 8, FEM-3, and FEM-4) show that the interaction between audit committee effectiveness and digital transformation (ACE*DGT) has a positive and significant effect on financial performance. This result shows that audit committee effectiveness strengthens the link between digital transformation and financial performance. Thus, hypothesis (H2d) is supported and accepted.

The positive and significant interaction between audit committee effectiveness (the audit committee's capacity to monitor processes and promote compliance) and digital transformation (the implementation of digital technologies to improve business functions) (ACE*DGT) suggests that robust oversight facilitates more controlled, accountable, and value-driven digital implementation. Effective audit committees ensure that digital investments and strategies are efficient and aligned with organizational objectives, thereby optimizing their impact on financial performance, as measured by Return on Assets (ROA, a profitability ratio showing how efficiently assets generate earnings) and Tobin's Q (the ratio of a firm's market value to the replacement cost of its assets). Consequently, the audit committee serves as a catalyst that maximizes the contribution of digital transformation to improved financial performance.



Table 8. Audit committee effectiveness as a moderating variable

The audit committee effectiveness moderates the relationships among digital transformation, earnings management and financial performance

Variable	REM-1 DAC Jones	REM-2 DAC Dechow	REM-3 FINP ROA	REM-4 FINP TBQ	FEM-1 DAC Jones	FEM-2 DAC Dechow	FEM-3 FINP ROA	FEM-4 FINP TBQ
DIGT	0,017*** (3,582)	0,018*** (3,973)	0,119*** (3,234)	0,160*** (3,796)	0,016*** (2,821)	0,017*** (3,224)	0,106*** (2,856)	0,145*** (3,409)
ACE	(0,006) (-0,465)	(0,011) (-0,884)	0,629*** (6,094)	0,781*** (6,580)	(0,008) (-0,504)	(0,008) (-0,557)	0,613*** (5,774)	0,754*** (6,201)
ACE*DIGT	-0,007 (-0,607)	-0,008 (-0,765)	0,209** (2,546)	0,292*** (3,091)	-0,005 (-0,378)	-0,010 (-0,866)	0,217*** (2,606)	0,299*** (3,134)
AUQ					0,001 (0,561)	0,001 (0,685)	0,110*** (10,160)	0,122*** (9,907)
COVID					-0,003* (-1,958)	-0,001 (-1,006)	-0,025** (-2,450)	-0,026** (-2,249)
LEV					0,006*** (2,841)	0,009*** (4,805)	0,560*** (42,695)	0,604*** (40,207)
SIZE					-0,001 (-0,546)	-0,002 (-1,160)	0,166*** (-11,038)	0,216*** (-12,566)
AGE					(0,004) (-0,424)	(0,010) (-1,084)	0,268*** (-3,923)	0,333*** (-4,268)
LOSS					0,001 (1,107)	0,002** (2,038)	0,086*** (-15,034)	0,095*** (-14,545)
GROWTH					0,003** (2,521)	0,003** (2,383)	0,043*** (5,639)	0,045*** (5,118)
OCFR					0,006*** (-13,248)	0,008*** (-18,238)	0,093*** (30,723)	0,105*** (30,381)
TECHNO					0,003 (0,284)	0,024** (2,187)	-0,180** (-2,324)	-0,191** (-2,157)
INDUST					-0,005 (-0,290)	-0,006 (-0,419)	-0,078 (-0,710)	-0,042 (-0,333)
_cons	0,108*** (10,364)	0,118*** (12,161)	2,317*** (18,528)	2,616*** (17,940)	0,070** (2,071)	0,096*** (3,032)	3,038*** (13,338)	3,671*** (14,081)
INDUST	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	3402	3402	3402	3402	3402	3402	3402	3402
R-sq	0,411	0,539	0,526	0,503	0,187	0,297	0,555	0,540
Adj R-sq	0,408	0,536	0,523	0,500	0,183	0,293	0,496	0,479
F-statistic	586,89	107,380	409,010	382,420	16,676	29,018	187,135	176,155
Sig. F-stat.	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

t statistics in parentheses; * p<0.10, ** p<0.05, *** p<0.01

CONCLUSION

The study's findings indicate that DIGT does not prevent corporations from employing earnings management strategies. Most of the companies on the IDX that employ DIGT are in the creation and adaptation phase of digital technology. They put a lot of emphasis on cutting operational costs, speeding up operations through automation, and integrating data into digitalization. Regulating financial reporting fraud and limiting discretionary accrual accounting



are not presently high priorities because of DIGT. Also, managers often keep an eye on and oversee how DIGT is used. DIGT mostly makes systems that handle access and data validation better. In this case, managers have a chance to make strategic changes to how they handle earnings. Because of this, DIGT does not try to cease earnings management. When you test how DIGT affects financial performance, you find that it has a big and good influence. These results show that DIGT can help a business make more money by making its operations cheaper.

The results of the experiments that follow show that ACE has a big and bad effect on earnings management. These results show that ACE helps limit earnings management tactics and improve financial performance. This study shows that ACE can check and control discretionary accrual accounting, which limits the ways companies can manage their earnings. Additionally, ACE has a big indirect effect on improving financial performance. The moderation test of ACE interacting with ACE*DIG showed that opportunistic management practices went down, which lowered earnings management and improved the company's financial performance. The results of this study show that DIGT greatly improves data automation, speeds up business processes, makes operations possible in real time, and encourages innovation in the workplace. We think that using DIGT will improve the company's financial performance. However, when ACE is added to DIGT, it can stop accounting mistakes and fraud, as well as limit the ways that managers can manipulate earnings since they are acting in their own best interests.

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