International Journal of Scientific Research and Management (IJSRM)
||Volume||13||Issue||05||Pages||9022-9038||2025||
Website: https://ijsrm.net ISSN (e): 2321-3418
DOI: 10.18535/ijsrm/v13i05.em11

Effect of Economic, Environmental and Social disclosures on Earnings management among firms listed In East Africa Community. Does Audit committee financial expertise matter?

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Abstract

Purpose

This study examines the impact of corporate sustainability disclosures on earnings management among firms listed in the East African Community (EAC). It also explores whether audit committee financial expertise moderates the relationship between sustainability disclosures and earnings management.

Design/methodology/approach

Using a panel dataset comprising multiple firm-year observations, the study applies hierarchical regression analysis to assess the influence of economic, environmental, and social disclosures on earnings management. Additionally, it evaluates the moderating role of audit committee financial expertise in these relationships.

Research findings

The results indicate that economic and environmental disclosures significantly and positively affect earnings management, suggesting that firms may strategically use these disclosures to manipulate financial statements and present a more favorable financial position. The study further finds that audit committee financial expertise significantly moderates the relationship between economic and social disclosures and earnings management. Specifically, the presence of financial expertise strengthens the negative association between social disclosures and earnings management, reinforcing the role of strong governance mechanisms in mitigating financial misreporting. However, audit committee financial expertise does not significantly moderate the relationship between environmental disclosures and earnings management, suggesting that other governance factors may influence environmental reporting.

Practical implications

The study provides insights for investors, regulators, and policymakers in emerging markets. Regulators should enhance disclosure standards to prevent firms from using economic and environmental reporting as tools for earnings manipulation. Investors should critically assess sustainability disclosures, recognizing their potential role in earnings management. Firms should be encouraged to improve their social disclosures, as they contribute to better corporate governance and ethical financial reporting.

Originality/value

This study extends the literature on corporate sustainability disclosures and earnings management by providing empirical evidence from a developing region. The findings highlight the importance of regulatory frameworks in ensuring transparency and accountability in corporate sustainability reporting within East Africa.

1.0 Introduction

Earnings management has been a prevalent issue among listed firms in East Africa, with companies such as the National Bank of Kenya (NBK), Uchumi, Limuru Tea, Kakuzi, and CMC being implicated. For instance, in 2018, the Capital Markets Authority (CMA) imposed a Ksh113 million fine on former executives of NBK for financial misrepresentation (Standard Media, 2018). Similarly, Business Daily

(2022) reported that CMA launched an investigation into the audit firm Ernst & Young over its alleged involvement in forging Uchumi's financial statements. Another report highlighted that Kakuzi faced scrutiny over profit shifting abroad (Business Daily, 2022). Moreover, the CMA initiated investigations into Limuru Tea, a Unilever-controlled entity, for undervaluing its 696.8-acre plantation and engaging in financial misrepresentation (Business Daily, 2022).

Earnings management is often driven by opportunistic short-term strategies aimed at distorting financial reports to mislead stakeholders regarding a firm's performance or to fulfill contractual obligations (Healy & Wahlen, 1999; Dechow et al., 1996; Xie et al., 2003; Gargouri et al., 2010; Choi et al., 2018). Scholars have widely criticized these practices due to their potential to compromise a firm's long-term sustainability and erode the credibility of financial information (Ehsan et al., 2021). As a consequence, stakeholders tend to adopt a more cautious and skeptical approach toward financial reporting (Choi et al., 2013).

Empirical studies have examined the relationship between Corporate Social Disclosure (CSD) and earnings management, yet findings remain inconclusive. Some researchers suggest that CSD serves as a managerial entrenchment tool to obscure manipulative financial practices and mislead stakeholders (Gras-Gil et al., 2016). Prior et al. (2008) analyzed a sample of 593 firms across 26 countries between 2002 and 2004 and found a positive association between earnings management and CSD. According to their findings, companies engaging in earnings management often employ CSD initiatives to divert attention from questionable accounting practices and mitigate stakeholder activism. Given that CSD enhances stakeholder satisfaction (Gavana et al., 2017), managers engaged in earnings manipulation may leverage CSD to reinforce a positive corporate image and reduce scrutiny.

Conversely, other studies have reported a negative association between earnings management and CSD. Martinez-Ferrero et al. (2015) analyzed 1,960 non-financial firms across 26 countries and found that companies less engaged in earnings management were more inclined to adopt responsible business practices. Similarly, Ehsan et al. (2021) established that, among manufacturing firms in Pakistan, managers who prioritized transparent financial reporting were more likely to implement robust CSD practices. From a stakeholder theory perspective, such managers are motivated by the need to maintain credible and long-term relationships with stakeholders.

Since the audit committee (AC) oversees financial reporting, it is critical that board members possess relevant skills, financial expertise, and training to effectively scrutinize management's explanations. The Sarbanes-Oxley Act (SOX) of 2002 underscores the importance of financial expertise, stipulating that AC members must have experience in financial reporting, audit procedures, and accounting for estimates, accruals, and reserves (Dhaliwal et al., 2010). Beasley, Carcello, Hermanson, and Neal (2009) emphasize that financial expertise is a crucial qualification for AC membership.

Extant literature supports the notion that AC financial expertise is instrumental in curbing aggressive accounting practices. For example, Abbott, Parker, and Peters (2004), along with Agrawal and Chadha (2005), observed a negative correlation between the probability of financial restatement and the presence of at least one AC member with financial expertise. Similarly, Bédard et al. (2004) and Hossain, Mitra, Rezaee, and Sarath (2011) found that firms with financially experienced AC members exhibited lower levels of accrual-based earnings management. Xie, Davidson, and DaDalt (2003) further demonstrated that discretionary current accruals were negatively associated with the proportion of outside directors with corporate or investment banking backgrounds.

These findings suggest that the effectiveness of an audit committee is influenced by the collective experience of its members (Carcello et al., 2006). Accordingly, this study seeks to investigate whether audit committee financial expertise moderates the relationship between CSD and earnings management among listed firms in the East African Community (EAC). For the rest of the paper, we proceed as follows. Section 2 discusses previous literature and hypotheses development. Section 3 introduces the research method. We present the results and discussion in Section 4. Section 5 concludes our research, and we provide limitations and future studies.

2.0 Literature review

2.1 Economic disclosure and earning management

Siregar and Utama (2008) investigated governance disclosure and earnings management in Indonesia. Contrary to most findings, they discovered no significant effect of governance structures and disclosure on the extent of earnings management. Panjaitan and Suranta (2024) conducted a study to investigate the correlation between Environmental, Social Governance (ESG), and earnings management. The objective was to identify the disparity in earnings management practices between companies with ESG scores and demonstrate the variations in ESG scores among these companies. The study population consisted of all companies that possess ESG scores, while the sample specifically included 20 publicly traded manufacturing companies that reported ESG scores.

Trisnawati & Setiawati (2016) investigated the impact of Sustainability reporting on earnings management for all organizations that took part in the Indonesian Sustainability Report Award (ISRA) in 2015. This study utilized data from companies who were listed on the Indonesia Stock Exchange and registered for the Islamic Social Reporting Award (ISRA) in 2015.The user's text is empty. The ISRA 2015 event was attended by a total of 37 firms, which included 4 international companies and 1 non-listed company. Hence, the overall sample consists of 33 companies over the period of 2013 to 2015. The variables that are not influenced by other factors are economic disclosure, environmental disclosure, and social disclosure. The factors were assessed using the disclosure index of Sustainability reporting criteria provided by the Global Reporting Initiative (GRI) G4. The dependent variable was earnings management, which was measured by discretionary accruals. The findings indicate that all aspects of sustainability reporting have a statistically significant detrimental impact on earnings management.

Olagunju, *et al*. (2023) investigated the effects of sustainability reporting on the manipulation of financial earnings. This study utilized a causal research design. The study population consisted of all 112 non-financial enterprises quoted in Nigeria. The sample size for this study was 22 listed manufacturing firms, which were purposefully selected. The study spanned a duration of 7 years, specifically from 2015 to 2021. The data utilized for this study were obtained from the annual reports and sustainability reports of the chosen companies. The data utilized in this study were examined using descriptive statistics and panel regression analysis. In this study, sustainability reporting was assessed using the social, economic, and environmental disclosures index, while earnings management was evaluated by discretionary accrual and actual earnings. The analysis of the study found that sustainability reporting had a notable adverse impact on discretionary accruals and real profitability.

H_{O1}: Economic disclosure has significant effect on Earnings Management

2.2 Environmental disclosure and earning management

A study by Cho and Patten (2007) examined the association between environmental performance, environmental disclosure, and economic performance. They found that poor environmental performers compared to good ones were more likely to manage their earnings and increase their level of environmental disclosures to offset negative public perceptions. Clarkson, Li, Richardson & Vasvari (2008) found that higher levels of corporate environmental disclosure correlate with decreased levels of earnings management activities. Their study suggested that transparent environmental reporting can constrain earnings management.

De Villiers, Naiker & Van (2011) Staden explored the relationship and found that companies with poor environmental performance practice had more earnings management. They concluded that these companies use delegitimation and legitimation strategies to distract stakeholders from their poor environmental performance. Luo,Zhang, & Zhang(2021),found that firms with more carbon emissions (poor environmental behavior) had higher levels of earnings management, and these firms tended to disclose more about their environmental activities.

Gerged *et al*. (2023) investigated the potential moderating effect of internal corporate governance (CG) mechanisms on the association between an emerging economy firm's earnings management (EM) practice and its level of corporate environmental disclosure (CED). The study examined 500 firm-year observations spanning 100 Jordanian listed firms from 2010 to 2014. It found that although there is a negative correlation between CED and earnings manipulations, the associations between CG arrangements and EM are variable, potentially resulting in either a decrease or an increase in earnings manipulations in Jordan. Additionally, the CED-EM nexus was moderated by certain CG structures, including managerial and institutional ownership structures, board size, and institutional ownership.

Shang and Chi (2023) analyzed the financial implications of enterprise environmental information disclosure (EID) from the standpoint of earnings management (EM), which serves as an external indicator of the 'ethical behaviour' and 'opportunistic motivations' of EID, using a sample of listed companies in China's most polluting industries from 2009 to 2020. Internal management competency and operating environment volatility were also taken into account. Among the findings was the following: EID can restrain EM and support EID's "ethical behaviour" motivation. The impact of 'hard disclosure' on environmental matters is more conspicuous in comparison to'soft disclosure' of such information. Increased environmental uncertainty undermines the EM governance function of EID, whereas heightened management competence can strengthen this mechanism. EID inhibits EM in mature enterprises, state-owned entities, regions with low public environmental concern, and western locations.

As stated by Almubarak *et al*. (2023), companies persistently encountered a significant ethical dilemma in the form of earnings management. In order to protect themselves from stakeholders, management that engages in earnings manipulation may implement environmental, social, and governance (ESG) initiatives. Participation in ESG initiatives is occasionally perceived as a form of managerial impropriety and an attempt to obscure manipulative strategies. Consequently, the primary objective of the research was to examine the correlation between levels of earnings management and ESG disclosure within the context of publicly traded corporations in Saudi Arabia. The research examined the impact that financial distress had on the aforementioned correlation. 304 observations per company year were utilised to compile the data from 2014 to 2021. ESG disclosure had a positive and statistically significant impact on earnings management, according to the findings. Additionally, this effect was significant and positively influenced by financial distress.

Gerged *et al*. (2020) examined the relationship between earnings management (EM) and corporate environmental disclosure (CED) in Kuwait, an emerging market within the Gulf Cooperation Council (GCC). The study examined the CED-EM nexus utilising panel data from companies listed on the Kuwaiti stock exchange between 2010 and 2014. A fixed-effects model was implemented for this purpose. Further estimations of a two-stage least-squares (2SLS) model and a generalised method of moments model were performed in order to mitigate any apprehensions pertaining to endogeneity issues. The results indicated the existence of a significant and negative correlation between CED and EM. Further, finding revealed that managers who prioritise environmental responsibility were less inclined to implement EM practices in Kuwait.

Shahwan and Esra'a (2021) investigated the potential moderating effect of earnings management on the relationship between the disclosure of social and environmental costs and financial performance. The objective of this study was achieved through the utilisation of primary data obtained from the Amman Stock Exchange and a quantitative research approach. A questionnaire was utilised to gather data from a representative sample of 127 companies for the study. The findings of the research indicated that the disclosure of social and environmental costs had a substantial and positive effect on the financial performance of the companies.

Brahmana *et al*. (2018) found that corporate environmental disclosure significantly affect earnings management. A correlation between CED and EM was investigated in the study. 238 publicly traded companies across three distinct sectors—construction, technology, and trading—were the primary sources of attention. From 2008 to 2014, the research was carried out. Based on the findings, CED had a significant and positive impact on the EM.

Panjaitan and Suranta (2024) conducted a study to investigate the relationship between Environmental, Social Governance (ESG), and earnings management. The objective was to identify variations in earnings management amongst companies with ESG scores and demonstrate the disparities in ESG scores among these companies. The hypotheses were examined using SPSS 24. The study's findings suggest that organisations with a high score effectively reduce risk by applying earnings management.

H_{O2}: Environmental disclosure has significant effect on Earnings Management

2.3 Social disclosure and earnings management

Empirical research has looked into the potential relationship between social disclosure and earnings management. These studies generally probe whether companies might manipulate earnings and concurrently increase social disclosure as a means of mitigating negative perceptions. Maas & Rosendaal, (2016) investigate this relationship and found that firms tend to increase their voluntary social disclosures when they have managed their earnings. These firms leverage increased social disclosure as a strategy for masking their earnings management activities and maintaining a positive public image.

A study by Gallego-Álvarez, Manuel Prado-Lorenzo, & García-Sánchez, (2011), suggested that social disclosure is used as a tool to legitimize earnings management practices. In their research, they found that companies with higher levels of corporate social responsibility disclosure also had higher levels of discretionary accruals.
Sun, Salama, Hussainey and Habbash(2010) found that companies with higher earnings management tend to provide greater social disclosure. The authors suggest that such companies use social disclosure as a way to divert stakeholder attention away from their earnings manipulation activities.
Roychowdhury and Watts (2007) didn't find any significant relationship between social disclosure and earnings management, emphasizing the need to consider other firm-specific factors that could impact the relationship. Overall, the empirical literature provides mixed findings.
Ningsih *et al*. (2023) posit that the act of earnings manipulation is frequently linked to the fabrication of public data presented in sustainability reports. Consequently, the objective of this research was to investigate the correlation between sustainability social reporting practices and earnings management within the Indonesian context. During the period 2010–2021, the study utilised 408 firm-year observations from publicly traded companies in Indonesia to examine the hypothesis. Standard error estimates were incorporated into the fixed effect regression analyses. The authors determined the degree to which earnings management impacts sustainability reporting practices by analysing the financial statements and sustainability reports of their respective companies during a specified time period.
Pakawaru and colleagues (2021) the link between corporate social responsibility (CSR) and earnings management remains a source of contention. Several prior research have found that CSR is a factor in earnings management. Others, on the other hand, demonstrated the opposite. As a result, the study sought to evaluate the impact of CSR disclosure on earnings management, as well as the impact of earnings management on CSR disclosure. This research was carried out with mining businesses listed on the Indonesia Stock Exchange (IDX) between 2016 and 2019. Multiple linear regression analysis was used to analyse the research data. Financial statements, annual reports, and sustainability reports were used to collect the data. According to the findings, there was a positive association between CSR disclosure and earnings management. This study also revealed that the CSR disclosure and earnings management relationship model is recursive.
According to Faisal *et al*. (2018), the association between corporate social responsibility disclosure (CSRD) and earnings management (EM) is inconclusive. The study looked at the relationship between CSRD and EM. The sample for this study was 479 annual reports from publicly traded Indonesian companies. The two-stage least squares (2SLS) approach was used to test the connection between CSRD and EM. The data suggested that organisations with a high CSRD are less likely to control earnings. Furthermore, the findings revealed that the interaction between CSRD and EM can be seen as a substitution mechanism.
Christina and Alexander (2019, February) investigated the impact of corporate governance and CSR disclosure on earnings management practice. Corporate governance is measured by the board of directors, the independent board of directors, and institutional ownership. The study's population comprised of 94 non-financial enterprises that were listed on the Indonesia Stock Exchange between 2014 and 2016. Purposive sampling was performed, and multiple regression was used to test the hypothesis. The study found that corporate governance has no effect on earnings management and that corporate social reporting has a negative impact on earnings management.
Borralho *et al*. (2022) posited that organisations might disclose corporate social responsibility (CSR) initiatives on purpose to offset the scrutiny of stakeholders regarding atypical reporting practices and to mitigate for earnings management. Nevertheless, the manner in which CSR dimensions contribute to these practices can vary, and the extent to which these impacts are influenced can be contingent upon particular business contexts. This research examined the distinct impact of environmental, social, and governance (ESG) disclosure elements on earnings management in family-owned businesses as opposed to non-family businesses. For the analysis, data pertaining to listed companies in France and Spain from 2009 to 2018 were utilised, given that both of these code law nations have concentrated ownership. The results demonstrated that not all ESG dimensions are equally essential for reducing earnings management and that the family or non-family status of a company influences the relationship between ESG disclosure and earnings management.
In their study, Laksmi and Kamila (2018) examined the impact of earnings management and sound corporate governance on the disclosure of corporate social responsibility (CSR) for seventeen state-owned companies that were listed on the Indonesia Stock Exchange between 2013 and 2015. The researchers

followed the guidelines set forth by the Global Reporting Initiative (GRI). This research utilized secondary data and employs the purposive sampling technique. The findings of the study suggest that there are notable positive impacts of state ownership, audit committee membership, and managerial ownership on the disclosure of corporate social responsibility in Indonesian state-owned enterprises.

H_{O3}: Social disclosure has significant effect on Earnings Management

2.4 Audit committee financial expertise and earnings management

The study by Choi, Kim, and Zang (2020) sought to investigate the impact of audit committee financial expertise on earnings management practices within Korean firms. The primary objective was to determine if audit committees with higher financial expertise could mitigate aggressive earnings management. The researchers employed a sample of publicly listed Korean firms and conducted regression analyses to explore the relationship between the level of financial expertise on audit committees and earnings management, measured through discretionary accruals. The study revealed a significant negative association between audit committee financial expertise and earnings management. Firms with audit committees possessing greater financial knowledge demonstrated lower levels of earnings management, indicating that financial expertise enhances the monitoring and control over financial reporting (Choi, Kim, & Zang, 2020).

One seminal study by Abbott, Parker, and Peters (2004) aimed to determine whether the financial expertise of audit committee members is associated with reduced earnings management. The study utilized a sample of U.S. firms and employed a multiple regression analysis to test the relationship between the proportion of financial experts on the audit committee and various measures of earnings management. Abbott et al. (2004) found that firms with a higher percentage of financial experts on their audit committees exhibited lower levels of earnings management, suggesting that financial expertise contributes to more effective oversight and reduced manipulation of financial statements.

Similarly, a study by Bedard and Johnstone (2004) investigated the impact of audit committee financial expertise on the quality of financial reporting. The researchers used a combination of survey data and financial statement analysis to assess the relationship between audit committee composition and earnings management practices. Their findings indicated that financial expertise within the audit committee significantly reduced the likelihood of earnings management, underscoring the importance of having knowledgeable individuals on the audit committee to ensure financial reporting integrity.

Carcello and Neal (2000) provided further evidence on the influence of audit committee financial expertise. They examined firms listed on the New York Stock Exchange (NYSE) and found that those with financially experienced audit committee members were less likely to engage in earnings management. Their study employed a cross-sectional research design and logistic regression analysis, revealing that financial experts on the audit committee play a crucial role in limiting aggressive earnings management practices.

Cohen, Krishnamoorthy, and Wright (2004) focused on the interaction between audit committee financial expertise and other corporate governance mechanisms. They used a sample of firms from various industries and applied a structural equation modeling approach to analyze the data. The results indicated that financial expertise on the audit committee not only directly influences earnings management but also interacts with other governance factors, such as board independence and internal controls, to enhance overall financial reporting quality.

Klein (2002) analyzed the effect of audit committee financial expertise on earnings management in the context of the Sarbanes-Oxley Act (SOX) reforms. The study used a longitudinal design to examine pre- and post-SOX periods and found that the implementation of stricter regulations, coupled with enhanced financial expertise on audit committees, led to a significant decrease in earnings management activities. Klein’s research highlighted the effectiveness of regulatory changes in amplifying the impact of audit committee expertise on financial reporting quality.

Xie, Davidson, and DaDalt (2003) questioned the uniform effectiveness of financial expertise in audit committees. They found that while financial expertise generally reduced earnings management, its effectiveness varied depending on the firm's size and industry. The study utilized a sample of publicly traded firms and employed a multivariate analysis to explore these variations, suggesting that the context in which financial expertise is applied can influence its impact on earnings management.

Ghosh and Moon (2009) aimed to examine the role of audit committee financial expertise in managing earnings within Indian firms. The research sought to determine whether a higher level of financial knowledge among audit committee members could effectively reduce earnings management practices.The researchers utilized a sample of 200 publicly listed Indian firms and conducted regression analyses to explore the relationship between audit committee financial expertise and earnings management. Earnings management was assessed through discretionary accruals, while financial expertise was measured based on the qualifications and experience of audit committee members.The results indicated that financial expertise within audit committees had a significant negative impact on earnings management. Firms with more financially knowledgeable audit committees exhibited lower levels of discretionary accruals, suggesting that such expertise enhances the committee's ability to monitor and control earnings manipulation (Ghosh & Moon, 2009).

H_{O4}: Audit committee financial expertise moderates the relationship between:

i. *Economic disclosure and earnings management*
ii. *Environmental disclosure and earnings management*
iii. *Social disclosure and earnings management*

3.0 Sample size and data

The target population for this study was all listed firms in the East Africa Community. The firms are listed across four securities and stock exchanges comprising of the Nairobi Securities Exchange, Uganda Securities Exchange, Dar es Salaam Stock Exchange and the Rwanda Stock Exchange. The selection of the firm was based on three criteria: First the firm should have operated throughout the study period. Second availability of complete data. Third, cross-listed firms were only considered from their country of incorporation, where consolidated reports were used. Data of this research was secondary in nature and it was extracted from the firm’s audited annual reports that were downloaded from firms’ websites and the African Financials. Our final sample was 715 firm-year observations representing 65 firms over the period between 2013-2023.

3.1 Measurement of variables

Table 1: Measurement of variables

Variable	Category	Symbol	Measurement	Source
Earnings Management	Dependent Variable	EM	modified Jones model	Dechow *et al.*, 1995
Economic disclosure	Independent variable	ECON	CSD index	GRI4
Environmental disclosure	Independent variable	ENVI	CSD index	GRI4
Social disclosure	Independent variable	SOCI	CSD index	GRI4
Audit Committee financial expertise	Moderating variable	ACFE	Number audit committee members with financial expertise	Badolato, Donelson & Ege, (2014).
Firm size	Control variable	FS	Natural logarithm of total assets.	Raimo *et al.*, 2020; Al-Najjar and Kilincarslan (2016).

Leverage	Control variable	LEV	Ratio of the book value of debt over the book value of equity.	Raimo *et al.*, 2020; Al-Najjar and Kilincarslan (2016).
Firm age	Control Variable	FA	current year's log minus the incorporation year.	(Loderer & Waelchli, 2010).
Firm performance	Control variable	ROA	Net income divided by net assets.	Al-Najjar and Kilincarslan (2016).

3.2 Regression models

The following section presents the measurement of the variables of the study which are earnings management as the dependent variable and economic disclosure, environmental disclosure, social disclosure as independent variables and audit committee financial expertise as moderator.

Model 1. Testing the effect of the control variables on Earnings Management.

$$EM_{it} = \beta_0 + \beta_1 FS_{it} + \beta_2 LEV_{it} + \beta_3 FA_{it} + \beta_4 ROA_{it} + \varepsilon_{it}$$

Model 2. Testing the effect of independent variable on Earnings Management.

$$EM_{it} = \beta_0 + C + \beta_1 ECON_{it} + \beta_2 ENVI_{it} + \beta_3 SOCI_{it} + \varepsilon_{it}$$

Model 3. Testing the effect of the moderator (Audit committee financial expertise) on the outcome variable (Earnings Management).

$$EM_{it} = \beta_0 + C + \beta_1 ECON_{it} + \beta_2 ENVI_{it} + \beta_3 SOCI_{it} + \beta_4 ACFE_{it} + \varepsilon_{it}$$

Model 4. Introducing the first interaction term between economic disclosures and audit committee financial expertise.

$$EM_{it} = \beta_0 + C + \beta_1 ECON_{it} + \beta_2 ENVI_{it} + \beta_3 SOCI_{it} + \beta_4 ACFE_{it} + \beta_5 ECON * ACFE_{it} + \varepsilon_{it}$$

Model 5. Introducing the second interaction term between environmental disclosures and audit committee financial expertise.

$$EM_{it} = \beta_0 + C + \beta_1 ECON_{it} + \beta_2 ENVI_{it} + \beta_3 SOCI_{it} + \beta_4 ACFE_{it} + \beta_5 ECON * ACFE_{it} + \beta_6 ENVI * ACFE_{it} + \varepsilon_{it}$$

Model 6. Introducing the third interaction term between social disclosures and audit committee financial expertise.

$$EM_{it} = \beta_0 + C + \beta_1 ENVI_{it} + \beta_2 SOCI_{it} + \beta_3 ECON_{it} + \beta_4 ACFE_{it} + \beta_5 ECON * ACFE_{it} + \beta_6 ENVI * ACFE_{it} + \beta_7 SOCI * ACFE_{it} + \varepsilon_{it}$$

4.0 Findings and Discussion

4.1 Descriptive statistics

The descriptive statistics for the research variable over the period 2013 to 2023 are presented in table 1 as shown below.

Table 2: Summary Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
EM	715	.0316329	.3376265	-1.015912	.976693
FA	715	1.470013	.384888	0	2.103804
FS	715	7.767341	1.647555	4.04914	12.96864
FP	715	.0713753	.3483157	-8.18046	.7726612
FL	715	2.315173	5.951875	-25.90048	96.61061
ECO	715	.3557289	.2385377	0	.9230769
ENVI	715	.1473339	.1795663	0	.859375
SOCI	715	.2547552	.196816	0	.8
ACFE	715	2.709091	1.843108	0	7

Source: Researcher 2024

The descriptive statistics for the untransformed data are presented in Table 2. The mean value of earnings management is 0.0316329, which indicates that, on average, firms slightly engage in earnings manipulation. However, the standard deviation of 0.3376265 signifies a notable variation among firms. The minimum value is -1.015912, and the maximum is 0.976693, showing that while some firms significantly underreport earnings, others overreport them, leading to a wide range of practices in earnings management.

The firm age variable, measured in its logarithmic form, has a mean of 1.470013. This suggests that the firms in the dataset are relatively well-established on average. The standard deviation of 0.384888 reflects moderate variability in the age of the firms. The minimum value of 0 represents newly established firms, while the maximum value of 2.103804 indicates the presence of older firms in the sample. The spread of values highlights the inclusion of both new and long-standing firms, providing a broad perspective on the age distribution within the dataset.

The firm size variable, also measured logarithmically, has a mean of 7.767341. This suggests that the firms in the sample tend to be relatively large. The standard deviation of 1.647555 indicates significant variability in firm sizes. The minimum value of 4.04914 and the maximum value of 12.96864 demonstrate a wide range of firm sizes, from smaller to very large firms. This considerable range suggests that the dataset encompasses firms of various sizes, which can provide insights into how firm size affects other variables such as performance and leverage.

With a mean of 0.0713753, firm performance on average is slightly positive. The standard deviation of 0.3483157 shows moderate variability among firms. The performance ranges from a minimum of -8.18046 to a maximum of 0.7726612, indicating that while some firms experience significant negative performance, others perform quite well, contributing to a broad performance spectrum.

The mean firm leverage is 2.315173, indicating that on average, firms have a moderate level of debt. However, the high standard deviation of 5.951875 points to significant variability in leverage levels among firms. The minimum value of -25.90048 suggests some firms have net cash positions, while the maximum value of 96.61061 indicates that some firms are highly leveraged, resulting in a wide range of leverage ratios.

The mean score for economic disclosures is 0.3557289, showing that firms, on average, disclose a moderate amount of economic information. The standard deviation of 0.2385377 suggests there is variability in the extent of these disclosures. With a range from 0 to 0.9230769, it is evident that some firms do not disclose any economic information, while others disclose extensively, highlighting diverse disclosure practices.

The mean value for environmental disclosures is 0.1473339, indicating that environmental information disclosure is relatively low among firms. The standard deviation of 0.1795663 reflects moderate variability in disclosure levels. The minimum value is 0, and the maximum value is 0.859375, showing that while some firms do not engage in environmental disclosures, others provide significant information, reflecting a range of environmental transparency.

The mean score for social disclosures is 0.2547552, suggesting that firms tend to disclose a low amount of social information. The standard deviation of 0.196816 indicates moderate variability in these disclosures. The range from 0 to 0.8 signifies that some firms do not engage in social disclosures at all, while others disclose extensively, indicating a wide range of practices.

The mean number of audit committee members with financial expertise is 2.709091, indicating that most firms have several members with financial expertise on their audit committees. The standard deviation of 1.843108 reflects considerable variability in the expertise levels across firms. The minimum value of 0 and the maximum value of 7 show that while some firms have no financial experts on their audit committees, others have up to seven, demonstrating a wide range of audit committee expertise.

4.2 Correlation analysis

The purpose of correlation analysis is to understand the nature and magnitude of the relationship between research variables. The pairwise correlation coefficients for the study variables are presented in table 3. The positive correlation between earnings management and firm age ($r = 0.2410$, $*p < 0.05$) suggests a moderate positive relationship. This indicates that older firms tend to engage more in earnings management practices, and this result is statistically significant at the 5% level. There is a very strong positive correlation between earnings management and firm size ($r = 0.9308$, $*p < 0.05$). This significant relationship suggests that larger firms are more likely to engage in earnings management, with the result being highly statistically significant at the 5% level. The correlation between earnings management and firm performance is moderately positive (r = 0.2979, *p < 0.05), indicating that better-performing firms are somewhat more likely to engage in earnings management, and this relationship is statistically significant at the 5% level. The correlation between earnings management and firm leverage is very weak (r = 0.0323), and not statistically significant. This suggests that the level of debt in a firm has little to no relationship with its earnings management practices.

The correlation between earnings management and economic disclosures (GRI) is positive (r = 0.1085, *p < 0.05), indicating that firms with more economic disclosures tend to have slightly higher earnings management. This relationship is statistically significant at the 5% level, though the effect size is small. There is a positive correlation between earnings management and environmental disclosures (GRI) (r = 0.1469, *p < 0.05), suggesting that firms with higher levels of environmental disclosures are more likely to engage in earnings management. This relationship is statistically significant at the 5% level. The correlation between earnings management and social disclosures (GRI) is also positive (r = 0.0878, *p < 0.05), but weak. This suggests that while there is a slight positive relationship between social disclosures and earnings management, the effect is minimal and statistically significant at the 5% level. The correlation between earnings management and audit committee financial expertise is very weak (r = 0.0091) and not statistically significant. This suggests that the level of financial expertise in the audit committee does not have a notable impact on earnings management practices.

Table 3: Pairwise Correlation Matrix

	EM	FA	FS	FP	FL	ECO	ENVI	SOCI	ACFE
EM	1.0000								
FA	0.2410*	1.0000							
FS	0.9308*	0.0163	1.0000						
FP	0.2979*	0.5705*	0.0408	1.0000					
FL	0.0323	0.0044	0.0520	0.0009	1.0000				
ECO	0.1085*	0.2229*	-0.0422	0.2855*	0.0028	1.0000			
ENVI	0.1469*	0.2394*	-0.0098	0.4041*	0.0018	0.5067*	1.0000		
SOCI	0.0878*	0.1628*	-0.0327	0.3235*	0.0027	0.7772*	0.6985*	1.0000	
ACFE	0.0091	-0.0138	0.0262	-0.0049	0.7141*	-0.0511	-0.0265	-0.0489	1.0000

*p<.05

Source: Researcher, 2024

4.3 Regression Analysis

In this paper, four hypotheses were evaluated to assess the relationship between disclosures and earnings management among listed firms in East Africa. The first three hypotheses tested the effect of economic, environmental, and social disclosures on earnings management. The last hypothesis examined the moderating effect of audit committee financial expertise on the relationship between disclosures and earnings management. The regression results show that economic disclosures have a significant positive effect on earnings management ($\beta 1 = 0.0818$, $\rho<0.05$). Hence, H01 was rejected. This finding is consistent with prior studies by Leuz & Wysocki (2016), Salem et al. (2021), and Yuan et al. (2022). The results suggest that increased economic disclosures create opportunities for management to manipulate earnings to present the company in a favorable light. Consequently, a unit increase in economic disclosure leads to a 0.0818-unit increase in earnings management.

Similarly, the results indicate a significantly positive association between environmental disclosures and earnings management ($\beta 2 = 0.0661$, $\rho<0.05$). Therefore, H02 was rejected. The findings align with previous studies by Flammer (2013), Sun et al. (2010), and Christofi et al. (2012). The regression results indicate that a unit increase in environmental disclosures increases earnings management by 0.0661 units. The results suggest that outside directors play an important monitoring role in public companies. However, management may be incentivized to engage in earnings management to align financial performance with the positive environmental narrative they are promoting. By manipulating earnings, companies can create a perception of financial stability and profitability that supports their claims of being environmentally responsible, thereby enhancing their reputation and attracting environmentally conscious investors (Wedari et al., 2021).

Regarding social disclosures, the regression results illustrate a negative and significant effect on earnings management ($\beta 3$ = -0.084, $\rho<0.05$). Thus, H03 was rejected. The results are supported by previous empirical studies (Hess, 2008; Muttakin et al., 2015; Choi et al., 2013). The findings suggest that a unit increase in social disclosures leads to a 0.084 decrease in earnings management. These disclosures typically include information on labor practices, community engagement, human rights, and social equity. Companies providing detailed social disclosures commit to higher standards of ethical behavior and corporate governance, discouraging earnings manipulation. Transparent social reporting aligns financial reporting with ethical and social commitments, reducing the likelihood of deceptive financial practices (Dhaliwal et al., 2011).

Finally, the moderating effect of audit committee financial expertise was examined. The results indicate that audit committee financial expertise significantly moderates the relationship between economic disclosures and earnings management (β = -1.125, $\rho<0.05$), leading to the rejection of H04a. Figure 1 illustrates that earnings management is minimal when there is high audit committee financial expertise and high economic disclosures. The presence of financially knowledgeable audit committees enhances corporate governance and transparency, mitigating accounting irregularities Asri, (2024). Moreover, economic disclosures increase transparency, acting as a deterrent to earnings management due to heightened scrutiny from investors and regulators (Healy & Palepu, 2001).

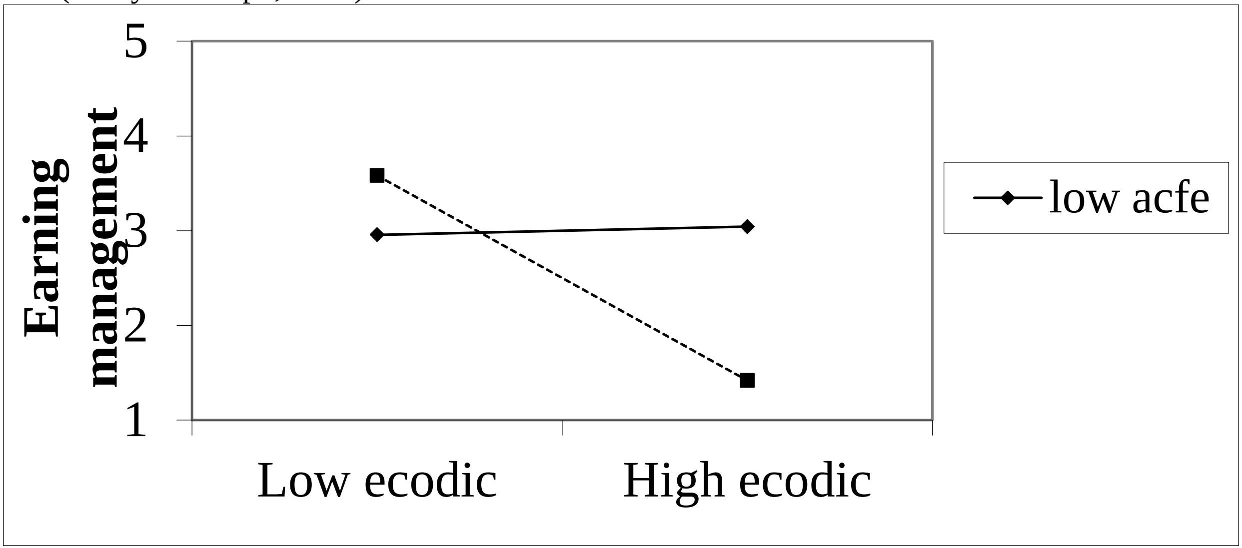

Figure 1: Modgraph for economic disclosure

However, the results indicate that audit committee financial expertise does not moderate the relationship between environmental disclosures and earnings management (β = -0.0546, $\rho>0.05$). Consequently, H04b was accepted.

On the other hand, audit committee financial expertise significantly moderates the relationship between social disclosures and earnings management (β = 0.0786, $\rho<0.05$), leading to the rejection of H04c. Figure 2 suggests that earnings management is lower when social disclosures are minimal, but audit committee financial expertise is high. Strong financial oversight compensates for the lack of social disclosures by ensuring rigorous scrutiny of financial reports (Carcello et al., 2006). Even when social disclosures are limited, the presence of a knowledgeable audit committee mitigates earnings manipulation, as any attempt to distort earnings is likely to be detected and corrected (Krishnan & Visvanathan, 2008).

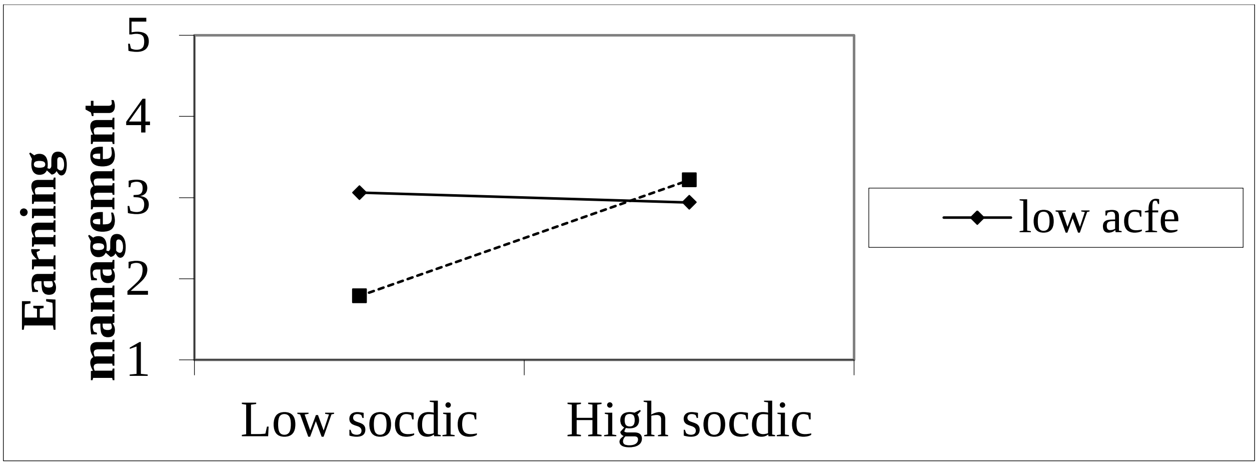

Figure 2: Modgraph for social disclosures

Table 4: Hierarchical regression model

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
EM	Coef.	Coef.	Coef.	Coef.	Coef.	Coef.
CONSTANT	.005(0.019)	.004(0.016)	.004(0.017)	-.017(0.017)	-.020(0.018)	-.017(0.017)
FA	.043(0.010)**	.045(0.010)**	.045(0.010)**	.040(0.010)**	.037(0.010)**	.035(0.011)**
FS	.961(0.008)**	.963(0.008)**	.963(0.008)**	.964(0.008)**	.964(0.008)**	.965(0.008)**
FP	.243(0.015)**	.226(0.015)**	.226(0.015)**	.227(0.015)**	.229(0.015)**	.228(0.015)**
FL	-.018(0.009)**	-.019 (0.008)**	-.048(0.011)**	-.048(0.011)**	-.048(0.011)**	-.047(0.011)**
ECO	-	.082(0.023)**	.082(0.023)**	.067(0.023)**	.059(0.024)**	.043(0.025)**
ENVI	-	.066(0.019)**	.065(0.019)**	.075(0.019)**	.085(0.020)**	.074(0.021)**
SOCI	-	-.084(0.026)**	-.083(0.026)**	-.089(0.026)**	-.089(0.026)**	-.060(0.029)**
ACFE	-	-	-.039(0.011)**	-.512(0.169)**	-.531(0.169)**	-.499(0.170)**
ECO*ACFE	-	-	-	-.415(0.127)**	-.593(0.179)**	-1.125(0.297)**
ENVI*ACFE	-	-	-	-	.267(0.189)	-.054(0.237)
SOCI*ACFE	-	-	-	-	-	.775(0.342)**
sigma_u	.13179708	.10958684	.10987655	.10394593	.10499122	.09941072
sigma_e	.17170177	.17184802	.16825702	.1655937	.16517941	.16425904
Rho	.37075219	.2890944	.29895679	.28265441	.28775532	.26808322
R^2	0.9428	0.9499	0.9492	0.9495	0.9494	0.9498
Δ-R^2	-	0.0071	-0.0007	0.0003	-0.0001	0.0004
Chi2	16739.55	16408.89	16831.90	16937.53	17031.16	16909.6
Prob > chi2	0.000	0.000	0.000	0.000	0.000	0.000
No obs	585	585	585	585	585	585
**p<0.05; Standard error (Std. Err) in parentheses						

Source: Researcher (2024)

5.0 Conclusion and recommendation

This study investigated the impact of sustainability disclosures on earnings management among firms listed in the East African Community (EAC), while also examining the moderating role of audit committee financial expertise. Utilizing secondary data, the study applied regression analysis to assess the relationships between the key research variables. The findings indicate that economic, environmental, and social disclosures all have a significant effect on earnings management, with economic and environmental disclosures exhibiting a positive association, while social disclosures demonstrated a negative relationship. These results underscore the role of sustainability disclosures in influencing financial reporting practices among listed firms in the EAC.

Furthermore, the study explored the moderating role of audit committee financial expertise in the relationship between sustainability disclosures and earnings management. The findings reveal that audit committee financial expertise significantly moderates the relationship between economic and social disclosures and earnings management, reinforcing the importance of financial expertise in enhancing transparency and reducing opportunistic reporting. However, no significant moderating effect was found between audit committee financial expertise and environmental disclosures, suggesting that environmental reporting may be influenced by other governance mechanisms beyond financial expertise.

These findings contribute to the growing body of literature by demonstrating that sustainability disclosures play a crucial role in corporate financial reporting practices. Additionally, the results emphasize the need for firms to strengthen audit committee financial expertise to enhance governance effectiveness, particularly in managing the impact of economic and social disclosures on earnings management.

There are important implications from these findings for corporate governance practices. Policymakers and regulators should encourage firms to enhance sustainability disclosures as a mechanism to improve transparency and reduce earnings management. Additionally, firms should prioritize appointing financially knowledgeable individuals to audit committees, as their expertise strengthens monitoring mechanisms and mitigates opportunistic financial reporting. However, the findings suggest that audit committee expertise alone may not be sufficient in regulating environmental disclosures, highlighting the need for complementary governance mechanisms.

There are limitations to this study. First, the study focused exclusively on firms listed within the EAC, and the findings may not be generalizable to other regions with different corporate governance structures and regulatory environments. Second, the study measured earnings management using a probabilistic model, which may not capture all instances of financial misreporting. Future studies may consider firms that have been explicitly identified by regulators as engaging in earnings management. Additionally, future research should explore other attributes of audit committees, as well as potential mediating and moderating factors, to gain deeper insights into the complex dynamics of sustainability disclosures and financial reporting practices.

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