

CONFLUENCE OF BOARD MEMBERS' FINANCIAL LITERACY, CORPORATE ENVIRONMENTAL DISCLOSURE, AND FINANCIAL REPORTING QUALITY

^a Iylia Dayana Mohamed Izwan, ^b Norhidayah Binti Azman, ^c Nor Balkish Zakaria, ^d Farha Abdol Ghapar

ABSTRACT

Objective: This study aim to explores the interesting relationship between the financial literacy of board members, earnings management (EM), and corporate environmental disclosure (CED) in Malaysian listed manufacturing companies.

Theoretical framework: We mainly address the implications of this relationship for business stakeholders and for promoting a healthy economic simulation.

Research Methods: Robust sample of 258 Malaysian manufacturing listed companies from 2016 to 2021, providing 1290 firm-year observations. A noticeable negative significance is seen when the board's financial literacy variable interacts with the link between CED and EM.

Result: This study discovered a significantly positive link between CED and EM. This result implies that CED reduces EM practises when board members are financially literate.

Conclusion: These findings highlight how important it is for qualified board members to define the association between CED and earnings manipulation (EM). They stress the value of having a well-qualified board to lessen earnings manipulation and the necessity of managers responding to CED initiatives. This is pivotal for stakeholders who aspire to make well-informed decisions, build trust, and foster sustainable practices within the business ecosystem, ultimately contributing to a more resilient and prosperous economic landscape.

Keywords: board members, earnings management (EM), corporate environmental disclosure (CED) and financial reporting quality.

Received: 09/10/2023

Accepted: 08/01/2024

DOI: <https://doi.org/10.55908/sdgs.v12i1.2220>

^a Master in Forensic Accounting and Financial Criminology. Management and Science University, Malaysia, E-mail: iylia_dayana@msu.edu.my, Orcid: <https://orcid.org/0000-0003-2018-3257>

^b PhD in Management/Business. Management and Science University, Malaysia, E-mail: norhidayah_azman@msu.edu.my, Orcid: <https://orcid.org/0000-0001-8324-7137>

^c Ph.D. in Accounting and Commerce. Accounting Research Institute, Universiti Teknologi MARA, Selangor, Malaysia, E-mail: norbalkish@uitm.edu.my, Orcid: <https://orcid.org/0000-0002-1795-9854>

^d PhD degree (Economics). Universiti Poly-Tech Malaysia, Malaysia, E-mail: farha@uptm.edu.my, Orcid: <https://orcid.org/0000-0001-5972-647X>



CONFLUÊNCIA DA ALFABETIZAÇÃO FINANCEIRA DOS MEMBROS DO CONSELHO, DIVULGAÇÃO AMBIENTAL CORPORATIVA E QUALIDADE DOS RELATÓRIOS FINANCEIROS

RESUMO

Objetivo: Este estudo tem como objetivo explorar a interessante relação entre a alfabetização financeira dos membros do conselho, a gestão de ganhos (EM) e a divulgação ambiental corporativa (CED) em empresas de manufatura listadas na Malásia.

Estrutura teórica: Abordamos principalmente as implicações desta relação para as partes interessadas do setor empresarial e para a promoção de uma simulação econômica saudável.

Métodos de Pesquisa: Amostra robusta de 258 empresas da Malásia listadas de fabricação de 2016 a 2021, fornecendo 1.290 observações de ano firme. Um significado negativo notável é visto quando a variável de alfabetização financeira do conselho interage com a ligação entre CED e EM.

Resultado: Este estudo descobriu um vínculo significativamente positivo entre CED e EM. Esse resultado implica que o CED reduz as práticas da EMC quando os membros da diretoria são alfabetizados financeiramente.

Conclusão: Essas constatações destacam a importância de os membros qualificados do conselho definirem a associação entre o CED e a manipulação de ganhos (EM). Eles enfatizam o valor de ter um conselho bem qualificado para reduzir a manipulação dos ganhos e a necessidade de gerentes responderem às iniciativas de DCE. Isso é fundamental para as partes interessadas que aspiram a tomar decisões bem informadas, criar confiança e promover práticas sustentáveis no ecossistema empresarial, contribuindo, em última análise, para um cenário econômico mais resiliente e próspero.

Palavras-chave: membros da diretoria, gestão de ganhos (EM), divulgação ambiental corporativa (CED) e qualidade de relatórios financeiros.

1 INTRODUCTION

Corporate disclosure of environmental practises and their societal consequences can foster transparency and accountability, yielding economic ramifications. According to Feng et al. (2022), a company's endeavours to uphold a favourable public image can result in enhanced environmental performance, yielding economic advantages. According to He et al. (2022), the exchange of environmental data can motivate enterprises to embrace more environmentally friendly practices, decreasing pollution and resource use. As a result, this can promptly enhance the economic prosperity of the local ecosystem and the financial well-being of community residents. Increased transparency can also strengthen monetary regulatory compliance, mitigating negative environmental impacts on the community and improving the overall economic well-being. Beneish (1999) posits that manipulating earnings can affect a corporation's financial health and environmental considerations. Unscrupulous or nonviable administration can result



in fiscal instability, detrimentally impacting employees, suppliers, and society while presenting environmental hazards. Furthermore, having an company with environmentally concern increases employee awareness of their career path and their adaptability according to their job description, which indirectly improves the company's performance (Afaneh et al., 2023). Conversely, practising prudent earnings management can enhance long-term financial stability, resulting in positive outcomes for the community, such as job preservation and economic activity. Additionally, it is in line with environmental sustainability objectives. Notably, manipulating earnings can also impact a corporation's tax liability (Wali, 2021). Corporations' responsible payment of taxes adds to the public funds allocated for social programmes, infrastructure development, and community development, which may improve the general quality of life while addressing environmental issues.

Addressing environmental challenges can greatly benefit from effective governance and monitoring, especially when prioritising financial literacy (Epstein & Rob, 2004). By implementing these safeguards, companies can lessen the possibility of financial scandals, fraud, and unethical financial practices—all of which can harm the company and the environment. Boards with a strong background in finance can better make well-informed investment decisions that could support long-term financial success and economic growth, which in turn can stimulate job creation and the local economy, ultimately benefiting the community's sustainability and the environment. A board with sound financial judgement is also better at assessing and controlling financial risks (Kleffner et al., 2003). This is essential in preventing catastrophic economic events that could hurt the environment and community well-being. Recognising the correlation between these factors and responsible and ethical practises in all three domains is essential for maximising the positive impact on environmental and community well-being. Moreover, community stakeholders, government agencies, and civil society organisations can hold corporations accountable and guarantee their actions align with the community's optimal welfare.

Diverse company stakeholders greatly benefit from board members' financial literacy, corporate environmental transparency, and high-quality financial reporting. Investors and shareholders get advantages by making well-informed decisions and having access to transparent information, which ultimately increases the value of their shares (Loock, 2012). Consumers value eco-friendly business practices, which increases brand



loyalty. Employees benefit from employment stability and the opportunity to enhance their skills due to the organization's financial proficiency and consistent financial reporting. By strengthening supplier ties, suppliers may assess a company's financial health. Regulators and government agencies place their faith in firms that uphold precise reporting. Businesses that engage in transparent environmental projects have a favourable reputation in the community (Aragon et al., 2020). Moreover, these features confer a distinct advantage, enticing investors, consumers, and exceptional personnel. Furthermore, they assist in promptly identifying and reducing potential risks, thus enhancing the overall durability and prosperity of the enterprise.

In the past few decades, a notable shift in the global business environment has been characterised by an increasing focus on sustainability and corporate responsibility. During the 1990s, a notable surge in the prominence and significance of a particular phenomenon had previously possessed negligible presence (Hussain et. al., 2023, Abbas, Ahmad-Zaluki & Mehmood, 2023). Consequently, the revelation of environmental concerns has become a significant facet of corporate disclosure methodologies. This phenomenon, characterised by the intricate interplay between the business sphere and the surrounding environment, emerged as a pivotal manifestation within business interactions (Djalilov & Hartwell, 2023, Rouf & Siddique, 2023). The impetus behind this transformation can be partially elucidated by the phenomenon commonly referred to as the "green revolution" and the prevailing global apprehension, mainly manifested through environmental legislation and various advocacy organisations such as the European Environmental Bureau, Greenpeace, Friends of the Earth Europe, Climate Network Europe, and the World Wide Foundation for Nature (Parks, Della Porta & Portos, 2023). These entities have collectively fostered an awareness regarding the potentiality of an environmental catastrophe while concurrently nurturing a broader consciousness regarding matters of social inequity. According to Atkinson (1996), this transition has three potential explanations. Firstly, there has been a persistent increase in environmental awareness since the 1970s, with a notable surge in the 1990s.

Consequently, widespread demands have been made for integrating the sustainable development concept into societal practises. Secondly, there has been a growing acknowledgement of the public's entitlement to access information from governmental bodies and industries. Lastly, there has been a departure from an unquestioning reliance on regulatory measures, with a preference emerging for alternative



control mechanisms. These alternative instruments aim to incentivize rather than mandate organisations to enhance their environmental performance. The escalating alterations in global climate patterns have prompted a growing recognition among the public regarding the importance of CED (Wang et. al., 2023, Hussain et. al., 2023, Abbas, Ahmad-Zaluki & Mehmood, 2023). An essential facet of this transition is implementing corporate environmental disclosure, wherein companies willingly furnish data about their environmental performance, policies, and endeavours. CED examines a company's interconnectedness with its immediate surroundings. The statement elucidates the manifestation of responsible measures undertaken by managers to enhance and safeguard the environment in its entirety, aligning harmoniously with the objectives and concerns of their respective organisations (Wang et. al., 2023, Anthony & Morrison-Saunders, 2023)

The significance of corporate environmental disclosure stems from its inherent ability to foster transparency and accountability, thereby establishing a fundamental basis for its importance. Employing a thorough and exhaustive disclosure process, corporations proffer to their various stakeholders, encompassing shareholders, consumers, employees, and regulatory bodies, an unobstructed and lucid perspective of their environmental methodologies and operations (Akhter et.al.,2023). Establishing transparency within corporate practises engenders a heightened perception of responsibility, as organisations are compelled to provide justifications for their conduct concerning the preservation of the environment. As a result, this phenomenon facilitates the establishment of trust and credibility, which are imperative for fostering enduring relationships with various stakeholders (Maswadi & Amran, 2023). In addition, the pertinence of corporate environmental disclosure within finance is experiencing a notable escalation. Investors increasingly acknowledge the significance of environmental, social, and governance (ESG) factors when assessing the enduring sustainability of corporations (Arikan et. al., 2023). The implementation of a comprehensive and resilient framework for environmental disclosure facilitates the evaluation of a company's commitment to sustainable practises, its adeptness in managing risks, and its alignment with the Environmental, Social, and Governance (ESG) criteria (de Souza Barbosa et. al., 2023).

Companies that engage in proactive disclosure of their environmental performance are more likely to attract investments, as investors are endowed with enhanced capabilities to make well-informed decisions, thereby mitigating uncertainties



linked to environmental risks. Moreover, considering the increasingly stringent environmental regulations being enacted by governments across the globe, the imperative for corporate entities to engage in environmental disclosure has become indispensable to ensure compliance with regulatory frameworks (Noor, Fazillah & Jamaludin, 2023). Organisations that opt to divulge their environmental data exhibit a tangible manifestation of their dedication towards compliance with pertinent regulations, thereby mitigating the potentiality of incurring legal and financial ramifications (Adediran, 2023). Moreover, the act of disclosing such information serves the purpose of facilitating the identification and subsequent mitigation of potential environmental hazards, thereby reducing the probability of detrimental environmental occurrences that may adversely impact both the natural surroundings and the corporate image of the organisation. Finally, in the context of a fiercely competitive market, it is worth noting that corporate environmental disclosure has the potential to bestow a significant advantage upon organisations (Wu & Li, 2023; Issa & Zaid, 2023). Organisations that exhibit high transparency regarding their environmental endeavours frequently experience a favourable brand perception and an augmented standing within the public sphere. The growing preference among consumers and businesses for environmentally responsible entities has led to an increased recognition of the significance of disclosure practises. By engaging in transparent disclosure, a company can effectively distinguish itself as a prominent leader within its industry. The acquisition of a competitive advantage can yield several advantageous outcomes, including but not limited to an expansion of market presence, heightened patronage, and enhanced brand allegiance, culminating in sustained financial viability.

The manifestation of Malaysia's dedication to accountability is discernible in the policy declarations of the Malaysian Government. In the context of the 2007 budget speech, it was proclaimed by the esteemed Malaysian Prime Minister that an obligatory mandate would be imposed upon all publicly listed companies in Malaysia to disclose their corporate sustainability endeavours (Malaysian Government, 2006). The declaration was subsequently transcribed into the stipulations for inclusion in Bursa Malaysia (2006a, 2006b, 2006c) by mandating that Malaysian enterprises furnish corporate sustainability disclosure (CSD). Hence, the dedication to offer CSD can be construed as an indication of corporations' conduct of their responsibility towards sustainability, as they align with the endeavours of the Malaysian Government, in conjunction with the collective endeavours of other nations that are likewise addressing the environmental objectives



advocated by the United Nations. Concurrently with the burgeoning interest in CSR, the significance of CED as an integral component of CSR has gained prominence. This elevation in importance can be attributed to stakeholders perceiving CED as an obligatory undertaking that all organisations must undertake. Due to this rationale, there is a growing expectation from stakeholders for companies to furnish CED to evaluate the adverse ecological consequences that may arise from their operational endeavours (Wan Mohammad, Zaini & Md Kassim, 2023). Simultaneously, organisations may also contemplate that by providing CED, they can effectively assess the ramifications of their operations on the natural surroundings and adopt pre-emptive measures to ameliorate any adverse consequences. Thus, this paper aims to investigate the impact of corporate environment disclosure on earning management and the impact of board competency in the relationship between corporate environment disclosure and earnings management in the company. Following this introduction section will be the literature review and hypothesis development. Two hypotheses were developed based on the relationship tested between CED and EM and the appearance of board competencies interaction within the relationship. Next, the methodology section will highlight the sample firms, year of study, variable measurements, and the research design and models. The findings and discussion section will table the research results. Finally, the last section concludes the overall study.

2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The literature review discusses empirical studies on the association between CED, EM, and board members' financial literacy and its impact on stakeholders.

2.1 CORPORATE ENVIRONMENTAL DISCLOSURE, EARNINGS MANAGEMENT AND BOARDS FINANCIAL LITERACY FROM STAKEHOLDERS THEORY

The Stakeholder Theory asserts that a company should consider the concerns and expectations of all its stakeholders rather than only focusing on shareholders (Freeman, 1984). In the realm of CED, a corporation that firmly adheres to stakeholder theory would provide environmental information to appease investors and fulfil the demands of environmentally aware consumers, workers, and regulatory entities (Mukhtar et al., 2023). As stakeholder theory posits that CED serves as a mechanism to fulfil diverse



stakeholders' expectations and requirements, companies implementing ample CED practices strive to meet the environmental information requirements of many stakeholders, including shareholders, consumers, workers, regulators, and the wider community. This enhances transparency and accountability, ensuring the company meets stakeholders' diverse expectations concerning environmental impact.

Stakeholder theory promotes the idea that corporations should consider stakeholders' concerns and interests when handling their financial performance (Jan et al., 2021). An excessively assertive executive management approach might jeopardise the confidence of investors, employees, and regulators who anticipate an impartial portrayal of a company's financial well-being. Stakeholders seek precise financial reporting that accurately represents the genuine financial standing of the organisation. Emphasising stakeholders in enterprise management practises ensures ethical behaviour and safeguards the confidence of the many parties that depend on the company's financial information (Moridu, 2023).

The financial literacy of boards is crucial for addressing the concerns and needs of stakeholders. An economically knowledgeable board helps to ensure that CED and EM practices align with the anticipated standards of shareholders, regulators, workers, consumers, suppliers, and the community (Al Frijat et al., 2023). These boards are more capable of certifying high-quality financial reporting, mitigating conflicts of interest, and minimising self-serving actions, which enhances stakeholders' trust in the company's governance. Thus, when examined through the lens of Stakeholder Theory, factors such as CED, EM, and boards' financial literacy are interconnected elements that influence how organisations meet the diverse needs of their stakeholders. Effective management of these components may ensure transparency, accountability, and ethical conduct, fostering stakeholder trust and satisfaction.

2.2 CORPORATE ENVIRONMENTAL DISCLOSURE AND EARNINGS MANAGEMENT

Corporate social responsibilities enable companies to address the requirements of all stakeholders. Internal stakeholders are more committed to the company's success, while external stakeholders provide positive feedback. In addition, customers will purchase the items or services, which increases the company's profit. Companies are likely to outperform their industry average when environmental, social and governance



considerations are taken into account (Kachalov and Finogenova, 2023). CED is communicating the environmental impact of a company's operations. Stakeholders gain from CED as it gives them access to information, they need on the company's environmental performance to make sound decisions (Utomo et al., 2020; Baalouch et al., 2019). Recent studies have stressed the significance of CED as a critical component of sustainability reporting (Lin & Qamruzzaman, 2023; Garca-Sánchez et al., 2020). CED is the transparent sharing of information concerning the company's environmental performance, activities, and financial implications due to management decisions (Belhaj & Damak Ayadi, 2011).

Stakeholder theory emphasises the importance of considering the stakeholders' interests in making decisions (Jensen, 2001), while managers tend to avoid socially undesirable practices such as earnings management by displaying an image of being environmentally responsible to avoid disagreements or conflicts with stakeholders (Kim et al., 2012). The management's role in earning manipulation can be improved by enhancing environmental performance and corporate social responsibility. Mahrani and Soewarno (2018) state that corporate social responsibility has a positive relationship with EM as the management uses EM to increase their profits. According to their research, the company's corporate social responsibility can be enhanced through more excellent environmental performance, thus improving management's ability to maximise profits. Disclosure reporting increases the company's operating expenses and decreases the company's profit, thereby adversely affecting investors' perceptions of declining profit (Mahrani and Soewarno, 2018). As the company spends more on corporate social responsibility disclosure, its financial performance decreases, making the management practice EM (Gargouri et al., 2010).

On the other hand, managers who are environmentally responsible are less likely to practice EM, which may provide more accurate earnings information to the company's stakeholders (Gerged et al., 2020). Thus, managers used CED to manage the pressures and expectations exerted by various stakeholders (Patten and Trompeter, 2003). However, Prior et al. (2008) study of 593 firms in 26 countries from 2002 to 2004 found that EM positively affects corporate social responsibilities. A similar result was found in the study of 238 listed companies in Bursa Malaysia, where the CED had a positive and significant effect on the EM at a significant level of 1% (Brahmana et al., 2018). Managers who engage in earnings practices will find ways to anticipate suspicions and



actions that will threaten their position. Managers may be motivated to provide additional information in the form of environmental disclosure to cover earnings management (Julianto & Sjarief, 2016). Hence,

H1: Corporate Environment Disclosure has a positive and significant effect on Earnings Management.

2.3 THE INTERACTION EFFECT OF BOARD COMPETENCY ON CORPORATE ENVIRONMENTAL DISCLOSURE AND EARNINGS MANAGEMENT

Implementing corporate governance (CG) practices within the company serves as a mechanism to mitigate the management's self-interest. It has mostly mitigated agency conflicts within the organisation (Panda & Leepsa, 2017). Managers, driven by the need to safeguard their positions and respond to stakeholder pressures, resort to EM to advance their personal interests. The practices of EM have been identified as an agency cost that helps to address the conflict of interest between managers and stakeholders (Sun et al., 2019). According to the researchers, disclosing corporate social responsibility enhances management oversight and improves governance. The relationship between the principal and the agent, who works in the principal's best interests, results in an agency problem. Therefore, the interests of the board of directors and stakeholders must be aligned to mitigate the agency's problem and reduce the associated costs (Jensen & Meckling, 1976). Agency problems arise due to different interests between the agent and principal. According to Hassan & Ahmed (2012), the influence of CG towards financial performance is when the managers have self-interest, which affects the performance evaluation. They found that the independence of the board is important and should be based on the directors' expertise and other records rather than the overall number of the company's board members.

Financial competency is a vital aspect that aids the Chief Executive Officer (CEO) manage the company's finances (Zouari et al., 2015). The CEO and financial expert are responsible for implementing effective accounting practices and overseeing the financial reporting process (Baatwah et al., 2015). Jiang et al. (2013) found that a CEO possessing financial expertise provides higher quality earnings data. The researchers claimed that the CEO's financial expertise helped them identify and reduce the real EM trend. In their study, Baatwah et al. (2015) found a negative relationship between the CEO's financial expertise and EM operations. Hence, a CEO with a financial background or experience



in finance is most likely to put the expertise to work to increase reporting accuracy. A company's performance is significantly related to CG and EM, and the practice of good CG restricts EM practices (Kumari & Pattanayak, 2017). Moreover, board competency has been significantly associated with EM, where the board expertise developed the company's good governance (Chtourou, 2001). However, the study by Ghazalat et al. (2017) on 114 service and industrial firms listed on the Amman Stock Exchange found that board competency is negatively correlated with earnings management. According to the researchers, to fulfil the directors' tasks effectively, they should possess a diverse range of talents and experiences on a personal level. Directors with a high level of competency would be more effective at constraining and monitoring managerial opportunistic behaviours (Ghazalat et al., 2017). Hence,

H2: Board Competency has a significant interaction effect on the relationship between Corporate Environment Disclosure and Earnings Management.

3 RESEARCH METHOD

This study examines the influence of CED towards EM with the interaction of board competency. The area sampling method by focusing on manufacturing companies is utilised for this study. The population comprises Malaysian listed companies in Bursa Malaysia, while the sample comprises all manufacturing companies. The initial sample size is 361 businesses from 2016 to 2021. This study removed companies without annual reports, resulting in a final sample of 258 companies.

This study focuses on the environmental disclosure practices of listed companies in the Malaysian manufacturing sector, an essential contributor to the Malaysian economy. This sector is vital as it plays a substantial role in contributing to the overall Malaysian economy. Based on Malaysia External Trade Statistics (2021), the manufacturing sector constituted a significant proportion of Malaysia's total exports in 2021, amounting to 86.6%. The expenditure on environmental protection within the sector has increased significantly over the past decade. In 2020, the manufacturing sector in Malaysia continued to hold its position as the second largest contributor to Malaysia's Gross Domestic Product (GDP), which makes up 22.3% of the total (Department of Statistics Malaysia, 2021). According to the same analysis, the manufacturing sector has been one of the most resilient during COVID-19, seeing a modest decrease of 2.5% in 2020 compared to the overall economy's decline of 5.6%.



3.1 VARIABLES' MEASUREMENT

3.1.1 Earnings Management

The primary dependent variable in this study is the EM. We use secondary data retrieved from the Refinitiv Eikon Datastream. This study measures EM using discretionary accruals and real proxies, which are accrual-based and real-based earnings management. The accrual-based earnings model used in this study will be the Kothari and Modified Jones models. The Modified Jones estimates the non-discretionary accruals and consequent residuals. However, Kothari et al. (2005) emphasised that discretionary accruals might increase when a company is growing using the Modified Jones model. Hence, Kothari et al. (2005) include the Return on Asset (ROA) to control extreme operating performance. Consequently, the calculation for EM under Modified Jones and Kothari Model are as follows:

Modified Jones Model:

$$\frac{TACC_t}{TA_{t-1}} = \beta_0 + \beta_1 \frac{1}{TA_{t-1}} + \beta_2 \frac{\Delta REV_t - \Delta REC_t}{\Delta TA_{t-1}} + \beta_3 \frac{PPE_t}{TA_{t-1}} + \varepsilon_t \quad (1)$$

Kothari Model:

$$\frac{TACC_t}{TA_{t-1}} = \beta_0 + \beta_1 \frac{1}{TA_{t-1}} + \beta_2 \frac{\Delta REV_t - \Delta REC_t}{\Delta TA_{t-1}} + \beta_3 \frac{PPE_t}{TA_{t-1}} + \beta_4 ROA_{t-1} + \varepsilon_t \quad (2)$$

Source: Adapted from Kothari et al. (2005)

Based on the models above, $TACC_t$ is the total accruals computed as the company's net income before extraordinary items for the year less cash flows from operations, divided by the company's total assets prior period, TA_{t-1} is the total assets prior period, which is t-1, ΔREV_t is the change in sales revenues of firm in year t, and ΔREC_t is the change in accounts receivables. PPE_t / TA_{t-1} is the property, plant and equipment of the firm at the end of the year divided by TA_{t-1} , ROA_{t-1} is the return on assets prior period, which is the earnings before extraordinary items scaled by lagged of total assets; β_0 β_1 β_2 β_3 β_4 are estimated parameters, and ε_t is the residual or error term that represents this study proxy for discretionary accruals.



3.1.2 Corporate Environmental Disclosure

The independent variable in this study is CED, and content analysis of the environmental disclosure from the sustainability report and annual report of companies is used. Based on previous studies, this study used a 4-point scale, as shown in Table 1. The 4-point scale is modified based on Sulaiman et al. (2014) and Wiseman (1982), who used it to evaluate the quality of environmental disclosures provided by companies in their reports. The scale provides a standardised approach for assessing the quality of environmental disclosure, which can assist stakeholders in evaluating the company's environmental effects and performance. The scale enables easy comparison between listed companies and identifies trends and changes in disclosure practices. A higher score on the scale indicates better environmental disclosure quality, which can highlight the company's commitment to sustainability reporting and transparency. In this study, corporate environmental disclosure quality is calculated as the total quality score by the company with a maximum of 123 points (41 items x 3) for the quality score for the 41 items.

Table 1: 4-point scale

Score	Column Heading
0	No disclosure and/or discussion related to environmental issue.
1	Company disclosed in general terms and no quantitative information.
2	Company disclosed is clear and detail on the impact of the company or its policies, but no quantitative information provided.
3	Quantitative and/or monetary information disclosed. The impact of environment was clearly defined in actual physical quantities or monetary terms.

Source: adapted from Sulaiman et al. (2014) and Wiseman (1982).

3.1.3 Board Competency

Board competency data is gathered from the annual report in the director's profile. It represents directors with expertise in the accounting field. It is described as directors who possess education or any professional qualification in accounting or have more than three years of experience working in accounting-related fields such as accounting, taxation, finance, or auditing. (Busirin et al., 2016; Azmi et al., 2013). Two proxies of board competency are used in this study, which are denoted as 1 or 0, as 1 represents the number of board members with experience or professional qualification (BODCptncy1) in accounting fields (Garcia-Sanchez et al., 2017; Johl et al., 2015) and the percentage of directors with financial expertise (BODCptncy2) to the total board size (Yunos et al.,



2011). Hence, in this study, board competency is the interaction of the relationships between CED and EM.

3.1.4 Control Variable

Following past research and working to improve the goodness of the regression model, we have included the control variables in this study. Corporate governance and EM in previous studies frequently used firm size as the control variable. The firm size is calculated as the natural logarithm (LN) for the company's total assets. Firm size can influence environmental disclosure, corporate governance compliance, and the performance of the company (Alipour et al., 2019; Yin & Wang, 2017). Additionally, firm size is essential in determining good governance practices, as larger firms perform better (Bhatt & Bhatt, 2017) due to their ability to diversify their risks (Abdul Wahab et al., 2007). In Sincerre et al. (2016), researchers controlled firm size in their study, as larger firms are more complex and could be a factor in managing a company's earnings. Firm growth is the control variable in this study, and it is important to be controlled as it detects the presence of EM better than uncontrolled (Collins et al., 2017). Failure to control the variable may lead to a biased estimation of EM. It is measured by changes in total assets over the previous year (Asgari et al., 2015; Debnath, 2017; Iqbal et al., 2015) and changes in revenue over previous sales (Christina & Alexander, 2019). Growth is important, as high firm growth will engage in higher EM (Madhogarhia et al., 2009). This is where it can produce moral hazard effects, making firms engage in higher risk (Asgari et al., 2015). Furthermore, directors may employ accounting discretion in ensuring the interests of shareholders are compatible, which makes firm growth important to firms' management, depending on how management uses accounting discretion (Gorganlidavaji & Vakilifard, 2014). The results of their study concluded that there is a negative association between that firm's growth opportunity and EM.

Leverage is a tool used to access debt financing for a company, and it is defined as the ratio of total liabilities to total assets. The tendency for firms to control their earnings is more remarkable when they have a higher level of financial leverage (Akhtar et al., 2021). In the study of Brahmana et al. (2018), there is no relation between leverage and earnings management, which means that an increase in leverage does not affect earnings management. However, a study by Sincerre (2016) revealed that enterprises with a high level of leverage are incentivised to manipulate their earnings to violate loan



contracts. High-leverage companies manipulate earnings higher to avoid technical default or downwards to highlight the firm's financial difficulties and thus obtain better terms in contract renegotiations, according to Dechow et al. (2000). When relationships are more substantial, leverage will be higher. Furthermore, companies with a higher level of leverage are more likely to exceed debt agreements, which influences improving earnings management (Reyna, 2018). As a result, the leverage is under the control variable. The last control variable in this study is leverage, a tool to access debt financing for the firm. Leverage is the ratio of total debt to total assets (Alipour et al., 2019; Bose et al., 2018). In the study of Sincerre et al. (2016), researchers discovered that firms with high leverage have incentives to manipulate earnings to violate the debt contract. Hence, leverage is an essential variable in the study. Andrikopoulos & Kriklani (2013) found that the disclosure of environmental information is costly, and the liquidity constraints of companies with high financial leverage negatively tend to reduce the amount of environmental information disclosed.

3.2 DATA ANALYSIS

Panel data is used in this research, and it was conducted to examine the relationship between variables while controlling the firm characteristics using multiple regression. The data applied a logarithmic transformation to control the distribution's skewness and kurtosis. Multicollinearity exists when there is a linear relationship between the explanatory to avoid the problem of multicollinearity among independent variables, Variance Inflation Factors (VIF) are used. The acceptable average VIF is 10 or below (Yahaya et al., 2022; Yusoff et al., 2022). In this study, before conducting the regression analysis, econometric problems had been identified. Issues of heteroscedasticity and autocorrelation have been identified through tests. Heteroskedasticity and the autocorrelation phenomenon may lead to the inefficiency of the coefficient model. The Wald test for heteroskedasticity and the Wooldridge test for autocorrelation were conducted. However, the results of the Wooldridge test for autocorrelation are not deemed reliable for a short period of time. This study's data is six years, from 2016 until 2021. Hence, the autocorrelation issue could be overlooked in short-panel data

In general, the pooled Ordinary Least Squares (OLS) model, Fixed-Effect (FE) model, and Random-Effect (RE) model are common techniques for estimating the panel data. The OLS model is tested to evaluate the relationship between dependent and



independent variables. Though the OLS estimator is consistent, it is inefficient due to heteroskedasticity and autocorrelation. Due to this, tests of the FE and RE models were conducted. To determine whether the FE model or the RE model is better, a Hausman test was conducted. The model-adjusted standard error can correct the heteroskedasticity problems and autocorrelation; however, according to Wintoki et al. (2012), the bias relating to endogeneity still exists as the FE and RE models control the unobserved heterogeneity. The endogeneity problem needs to be accounted for in the models, which are caused by time-invariant endogenous variables, measurement errors, and reverse causality, which often take place in the finance research field. To solve the issues and improve the accuracy of this research, the generalised method of moment (GMM) estimation technique is deemed suitable to give minimum errors, which will control the problems of endogeneity, autocorrelation, heteroskedasticity, and omitted variable biases. Hence, this study used a valid procedure and instrument to ensure the results is reliable and accurate. Sargen was conducted to ensure the validity of the instrument

3.3 EMPIRICAL MODEL

To investigate the influence of CED on EM, we use the following multiple regression model: Two empirical models are proposed in this study. The first model is on the influence of CED on EM. The model is as follows:

$$EM = \beta_0 + \beta_1 CED_{it} + \beta_2 SIZE_{it} + \beta_3 GRWTH_{it} + \beta_4 LEV_{it} + \varepsilon_{it} \quad (3)$$

Second model is on the interaction of board competency (BODCptncy) on CED and EM. Model as follow:

$$EM = \beta_0 + \beta_1 CED_{it} + \beta_2 (CED_{it} * BODCptncy_{it}) + \beta_3 BODCptncy_{it} + \beta_4 SIZE_{it} + \beta_5 GRWTH_{it} + \beta_6 LEV_{it} + \varepsilon_{it} \quad (4)$$

Sources; Author own sources

4.0 FINDINGS

4.1 DATA AND DESCRIPTIVE ANALYSIS

Table 2 presents the descriptive statistics of the sample observations' dependent, independent, and control variables. About the mean value of the dependent variable,



which is accrual earnings management Modified Jones (AEMJ), it is 0.0122, while the lower mean is 0.0074 under accrual earnings management Khotari (AEMK), with a range of 0.1530 to 0.1981 and -0.1251 to 0.1721, respectively. Meanwhile, real earnings management is proxied by abnormal production costs (ABPRO), whose mean value is 0.0132 with a range of -0.2992 to 0.3451, while the mean of abnormal operating cash flows (ABCFO) is 11.7858 with a range of 10.7201 to 12.5932. Then, the mean value of abnormal discretionary expenses (ABDIS) is -1.3042, ranging from -0.3113 to -2.6176. The independent variable in this study is CED, with a mean value of 0.2510 and a range of 0.0081 to 0.6260. It shows that companies reporting on CED are only 0.81%, while the maximum reporting by the company towards CED is recorded at 62.6%. The average reporting among the listed manufacturing companies is only 25.1%, which means many companies only report on the surface or to meet the requirements of Bursa Malaysia. This indicates the detailed reporting of environmental issues among listed manufacturing companies is still low.

Lastly, on the three control variables that consist of firm size (SIZE), firm growth (GRWTH), and firm leverage (LEV), The mean of natural log assets is 12.8922, with a range of 10.8190 to 16.1158. Growth (GRWTH) is between 2.5575 and 6.1030, with a mean of 4.4207. The leverage (LEV) ratio is between 0.0021 and 0.6120, with a mean value of 0.1970, which implies that the listed manufacturing companies do not rely on high leverage. Normality is an essential assumption before analysis to ensure the accuracy and reliability of tests (Tabachnick & Fidell, 2013). In the normality test for a large sample size (more than 200), the variable can be determined by its skewness and kurtosis (Pallant, 2010). In this study, to ensure the variables control the distribution's skewness and kurtosis, a logarithmic transformation is applied. The result shows that the distribution of skewness and kurtosis is acceptable, according to the rule of thumb. Zikmund (2003) states that the acceptable values of skewness and kurtosis for a normal distribution are zero and ± 3 , respectively. However, it depends on the sample size. According to Kline (2005), if the sample size is large, the normality assumption will be violated if the value of skewness is more than ± 3 and the value of kurtosis is more than ± 8 .



4.2 CORRELATION ANALYSIS AND MULTICOLLINEARITY TEST

Table 3 shows the Pearson correlation matrix among the variables used in this study. The table shows the correlation matrix for the dependent and independent variables to evaluate the multicollinearity assumption. The results show all proxies among all variables are significantly correlated against CED, except for abnormal production costs (ABPRO) at the 1% significance level. The variance inflation factor (VIF) has been tested, and the result shows no multi-collinearity. The VIF in this study is between 1 and 2. Moreover, the mean VIF of this study is 1.53, which is less than 10, which indicates an absence of perfect multicollinearity in the model (Yahaya et al., 2022; Yusoff et al., 2022).



Table 2: Descriptive statistics of all variables, N=1548

Variable	Denotation	Mean	Median	Min	Max	SD	Skewness	Kurtosis
Accrual earnings management Modified Jones	AEMJ	0.0122	0.0056	0.1530	0.1981	0.0807	0.2711	3.1127
Accrual earnings management Kothari	AEMK	0.0074	0.0032	-0.1251	0.1721	0.0692	0.3823	3.0419
Abnormal production cost	ABPRO	0.0132	-0.0005	-0.2992	0.3451	0.1545	0.2058	2.8694
Abnormal operating cash flows	ABCFO	11.7858	11.8523	10.7201	12.5932	0.4563	-0.5804	2.9730
Abnormal discretionary expenses	ABDIS	-1.3042	-1.2494	-2.6176	-0.3113	0.5306	-0.4683	3.1681
Corporate Environmental Disclosure	CED	0.2510	0.2276	0.0081	0.6260	0.1303	0.4069	2.2989
Firm Size	SIZE	12.8922	12.7753	10.8190	16.1158	1.2574	0.5761	2.9843
Firm Growth	GRWTH	4.4207	4.4180	2.5575	6.1030	0.7724	-0.1260	2.8141
Firm Leverage	LEV	0.1970	0.1626	0.0021	0.6120	0.1604	0.7441	2.7720

Sources; Author own sources

Table 3: Correlations coefficients.

	AEMJ	AEMK	ABPRO	ABCFO	ABDIS	CED	SIZE	GRWTH	LEV
AEMJ	1.0000								
AEMK	0.8293***	1.0000							
ABPRO	-0.0359	0.1482***	1.0000						
ABCFO	0.1800***	0.03750	0.0674***	1.0000					
ABDIS	0.1341***	0.0309	-0.2253***	0.1409***	1.0000				
CED	-0.1016***	-0.0998***	-0.0200	0.1322***	-0.0763***	1.0000			
SIZE	-0.1207***	-0.1640***	0.1121***	0.3462***	-0.2630***	0.3000***	1.0000		
GRWTH	-0.0246	-0.0661***	0.1023***	0.3920***	-0.1453***	0.2455***	0.6936***	1.0000	
LEV	0.0017	0.1551***	0.2267***	0.0945***	-0.1170***	0.1148***	0.1953***	0.1539***	1.0000

Sources: Author own sources

Note: *** significant at 99% significance level

AEMJ is the residual value of discretionary accrual by Modified Jones Model; AEMK is the residual value of discretionary accrual include ROA by Kothari Model; ABPRO is the residual value of abnormal production cost; ABCFO is the residual value of abnormal operating cash flow; ABDIS is the residual value of discretionary expenses; CED is the total index score by companies; SIZE is the natural log of total assets; GRWTH is the changes in total assets over the previous year total assets ; LEV is the ratio of total liabilities to total assets.



4.3 CORPORATE ENVIRONMENTAL DISCLOSURE AND EARNINGS MANAGEMENT

The result in Table 4 provides evidence that CED is positive and significant, with an accrual EM change of 1 percent under Modified Jones and Kothari at a 5 percent significance level. The significant difference may be due to some companies having extreme operating performance, which in the Kothari model is controlled (Kothari et al., 2005). In this study, natural earnings management (REM) is proxied by Abnormal production costs (ABPRO), Abnormal operating cash flows (ABCFO), and Abnormal discretionary expenses (ABDIS). REM had a mixed result, with ABPRO as positive and significant at a 5% level and ABCFO being negative and significant at a 5% level. The first hypothesis in this study is to predict that the company level of disclosure of environmental information will be positively related to EM practices. The result primarily supports the hypothesis, as AEMJ, AEMK, and ABPRO are positive and significant. Hence, the result of EM is in line with Brahmana et al. (2018) and Prior (2008).

Table 4: The relationship between CED and EM

Variables	AEMJ	AEMK	ABPRO	ABCFO	ABDIS
CED	0.8518*** (0.3230)	0.8035** (0.3137)	0.0852** (0.0423)	-0.2533** (0.1008)	-0.2400 (0.1468)
SIZE	0.0243 (0.0319)	0.0167 (0.0278)	-0.0202 (0.0211)	0.1485*** (0.0408)	0.0297 (0.0644)
GRWTH	-0.0007 (0.0068)	-0.0019 (0.0058)	0.0110 (0.0068)	-0.0307** (0.0150)	-0.0440 (0.0737)
LEV	-0.9764*** (0.3157)	-0.5690** (0.3025)	0.2763** (0.1235)	-0.3100** (0.1551)	-0.6892 (0.5044)
Constant	-0.3455 (0.4000)	-0.3087 (0.3528)	0.1463 (0.2520)	2.4886*** (0.8459)	-0.7354 (0.7557)
Observations	1290	1290	1290	1290	1290
Groups/Instruments	17/258	17/258	73/258	19/258	49/258
AR(2)	0.2300	0.3160	0.2320	0.2520	0.2230
Hansen Statistic	0.1320	0.1480	0.1780	0.3190	0.1980
Prob > F	0.0000	0.0120	0.0000	0.0000	0.0000

Sources: Author own sources

Note: ***, ** and * significant at 1%, 5% and 10% significance level respectively.

AEMJ is the residual value of discretionary accrual by Modified Jones Model; AEMK is the residual value of discretionary accrual include ROA by Kothari Model; ABPROD is the residual value of abnormal production cost; ABCFO is the residual value of abnormal operating cash flow; ABDIS is the residual value of discretionary expenses; CED is the total index score by companies; SIZE is the natural log of total assets; GRWTH is the changes in total assets over the previous year total assets ; LEV is the ratio of total liabilities to total assets.



Table 5: The interaction of Board Competency on CED and EM

Variables	AEMJ		AEMK		ABPRO		ABCFO		ABDIS	
CED	2.4411**	2.9980**	1.8335**	1.4380**	-0.1201**	1.5296***	1.8822**	0.2773	1.1187**	-0.6410***
	1.0602	1.3438	0.8210	0.6881	0.0578	0.5261	0.8274	0.1952	0.5037	0.2442
CED*BODCptncy1	-0.9162**		-0.7340**		0.0541**		-0.8245**		-0.4753**	
	0.3786		0.3335		0.0220		0.3548		0.2070	
CED*BODCptncy2		-6.8618**		-3.7782**		-4.2411***		-1.6070***		1.4947**
		3.6776		1.8007		1.5362		0.5688		0.7152
BODCptncy1	0.2704**		0.1994**		-0.0159**		0.3401**		0.1737**	
	0.1315		0.0980		0.0072		0.1367		0.0800	
BODCptncy2		2.3038**		0.8617		1.8635***		0.4150**		0.0932
		1.0668		0.5550		0.5475		0.2081		0.2301
SIZE	0.0226	0.0601	0.0015	0.0026	-0.0092	-0.0285	0.1036	0.1400***	-0.0474	-0.0353
	0.0435	0.0373	0.0338	0.0313	0.0074	0.0183	0.0601	0.0410	0.0536	0.0302
GRWTH	0.0086	0.0114	0.0163	0.0134	0.0080	0.0172	-0.0585	-0.0303**	-0.0213	0.0164
	0.0128	0.0172	0.0135	0.0475	0.0064	0.0101	0.0663	0.0149	0.0576	0.0117
LEV	-0.3418	-0.6468	-0.0936	-0.1701	0.0630	0.8316***	-0.1059	-0.2936	-0.5669***	-0.1194
	0.2903	0.3469	0.3057	0.1798	0.0527	0.1577	0.2941	0.1569	0.2142	0.1125
Constant	-0.9647	-1.6712	-0.5650	-0.3979	0.1144	-0.5264	1.3906	2.4612***	-0.1004	-0.2493
	0.7673	0.6517	0.5470	0.3825	0.0829	0.3188	1.2861	0.8801	0.5916	0.4100
Observations	1290	1290	1290	1290	1290	1290	1290	1290	1290	1290
Groups/Instruments	18/258	20/258	18/258	27/258	74/258	36/258	47/258	21/258	47/258	51/258
AR(2)	0.0790	0.1390	0.3620	0.1210	0.4130	0.3880	0.3990	0.2810	0.0810	0.1480
Hansen Statistic	0.2150	0.2050	0.1970	0.0890	0.3700	0.1720	0.1810	0.3180	0.2020	0.1350
Prob > F	0.0260	0.0000	0.0970	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: ***, ** and * significant at 99%, 95% and 90% significance level respectively.

AEMJ is the residual value of discretionary accrual by the Modified Jones Model; AEMK is the residual value of discretionary accrual, including ROA by the Kothari Model;

ABPROD is the residual value of abnormal production cost; ABCFO is the residual value of abnormal operating cash flow; ABDIS is the residual value of discretionary expenses; CED is the total index score by companies; CED * BODCptncy1 is the interaction of CED and existence of board directors with accounting field; CED * BODCptncy2 is the interaction of CED and percentage of board directors with accounting field; SIZE is the natural log of total assets; GRWTH is the changes in total assets over the previous year total assets; LEV is the ratio of total liabilities to total assets.

Sources: Author own sources



4.4 THE INTERACTION OF BOARD COMPETENCY ON CED AND EM

The interaction effect is to examine if having an accounting field director on the board has an effect on the CED and EM relationships. The company provides superior quality profits statistics by having a financial specialist on its board (Jiang et al., 2013). The interaction of CED and presence board with accounting field (CED * BODCptncy1) and CED and percentage of directors on board with accounting field (CED * BODCptncy2) is significant, as shown in Table 5. At 5%, the interaction of BCptncy and CED has a negative and substantial affect on AEMJ, AEMK, ACBFO, and ABDIS. The interaction between BODCptncy2 and CED is also negative and significant at the 5% level for both accrual earnings, AEMJ and AEMK, and at the 1% level for ABPRO and ABCFO. This indicates that the relationship between the board and the accounting field is weaker. This could be because corporations may manipulate their earnings utilizing genuine earnings practices, which are difficult for regulators to identify. The interplay of BODCptncy1 and CED, on the other hand, has a positively and significantly influence on ABPRO. Furthermore, when a percentage of the board is in the accounting sector and interacts with CED, it has a good and significant influence on ABDIS. This demonstrates that having an accounting board reduces the manipulation of production costs, and having a certain percentage of directors in this sector reduces the manipulation of discretionary expenses. This could be because the director has a professional education or is involved in accounting or finance. The director must follow accounting ethics, which requires them to be honest and accountable when reporting information. This implies that board competence and CED have a considerable influence on EM, either strengthening or weakening the relationship. This meant that having CED reporting and directors in the accounting area would have an impact on the company's EM practices. As a result, in this investigation, hypothesis 2 is accepted.

4.5 DISCUSSION

Adopting and integrating disclosure practices within an organisational framework can yield favourable outcomes, primarily by mitigating the inclination towards earnings management. The provision of extensive and lucid information pertaining to financial performance, operations, and accounting policies by corporations enables stakeholders, including regulators, analysts, and investors, to acquire an enhanced understanding of the company's financial endeavours. The heightened level of scrutiny has the potential to



dissuade management from participating in earnings management tactics that are more easily discernible (Hussain et al., 2023; Abbas, Ahmad-Zaluki & Mehmood, 2023). Furthermore, implementing a consistent and transparent disclosure policy elucidates the market's anticipations regarding the organisation's financial performance (Parks, Della Porta & Portos, 2023). When an organisation undertakes a commitment to a particular standard of performance, it may experience a sense of duty to fulfil those expectations rather than resorting to earnings management to achieve immediate objectives (Wang et al., 2023). Engagement in earnings management activities that encompass fraudulent or deceptive practices can potentially subject a company and its management to many legal and regulatory hazards, including but not limited to monetary fines, penalties, and litigation proceedings. Enhanced disclosure practices serve as a mechanism for companies to mitigate potential risks by fostering adherence to accounting standards and regulations (Djalilov & Hartwell, 2023; Rouf & Siddique, 2023). Furthermore, the provision of transparent and thorough disclosure has the potential to foster a sense of trust and bolster investor confidence. Investors' inclination to offer sustained backing to a company is heightened when they perceive its financial reporting to be characterised by transparency and integrity. This, in turn, serves to diminish the allure of resorting to earnings management tactics as a means to enhance immediate outcomes.

A company's corporate environment and its effect on disclosure and earnings management are heavily influenced by the qualifications of its board of directors because competent board directors are responsible for providing effective supervision of the management team of a company (Wang, Zhang & Ullah, 2023). They are able to evaluate the management's strategies, decisions, and actions, including those associated with financial reporting and disclosure. Their expertise ensures compliance with legal and ethical standards in corporate practices. In addition, directors with financial knowledge are better able to comprehend complex financial transactions, accounting principles, and potential earnings management strategies. This knowledge enables them to identify financial reporting irregularities, thereby decreasing the likelihood of deceptive practices (Munisi, 2023). Competent directors are more likely to uphold the organisation's ethical standards and principles. Ethical leadership encourages transparent disclosure practices and discourages revenue management strategies that may mislead investors or stakeholders. Experienced board directors are able to accurately assess financial risks and recognise early warning signals of potential earnings management issues (Abd Majid &



Jaaffar, 2023). Their capacity to identify and mitigate risks can contribute to a more precise and transparent disclosure procedure (Karajeh, 2023). Finally, board members with regulatory expertise are well-versed in financial reporting requirements, ensuring that the organisation complies with applicable regulations. Compliance is required for accurate and timely disclosure and to avoid legal and reputational hazards associated with earnings management (Nasir, 2023).

5 CONCLUSIONS

Disclosure practises can benefit a corporation by deterring earnings management and addressing environmental issues. Transparent disclosure practises in corporations foster accountability and trustworthiness, which is essential for financial and environmental sustainability. This reduces legal and reputational concerns, benefiting the firm and environment. Such practises promote long-term growth and value generation, meeting the growing requirement for environmental responsibility. Corporate environmental disclosure practises aim to increase transparency and eliminate earnings management. Companies must provide stakeholders with accurate and complete financial information, consider environmental impact, and subject financial statements to regulatory oversight and independent audits to maintain financial reporting integrity and reduce earnings management incentives. The indispensability of board directors' competency lies in their capacity to influence the corporate milieu and foster transparent disclosure while mitigating the prevalence of earning management practices. Directors possessing a multifaceted range of expertise, imbued with ethical values, and guided by a long-term outlook have the potential to foster trust among various stakeholders, mitigate financial risks, and significantly augment the organisation's overall prosperity.

Corporate Environmental Disclosure, Earnings Management, and Board Financial Literacy can have beneficial and detrimental implications on the community and public. Environmental disclosure encourages firm environmental transparency. This helps communities and the public hold firms responsible for their environmental practices. Public access to environmental information helps consumers, investors, and community members make better decisions. However, some firms deceive the public about their environmental effect through greenwashing. Moreover, incomplete, or misleading disclosure can prevent the public from making educated decisions, which might harm the environment. Ethical earnings management helps a firm create and retain



employment, helping the local economy. In contrast, transparent earnings management ensures corporations pay their fair share of taxes, which helps public budgets and community development. However, financial Instability: Unethical or aggressive earnings management can cause layoffs, economic downturns, and communal harm. Besides, earnings management to decrease tax responsibilities can diminish government income, lowering community services and infrastructure. Financially literate boards may better manage and oversee the firm and its stakeholders, decreasing the risk of financial malfeasance and crises. Financial knowledge also helps boards make educated investment decisions that support sustainable growth, job creation, and community development. This study also highlights some practical implications. The first is to the authorities or regulators, as the effectiveness of the board members may ensure the quality of reporting environmental information, and ensuring compliance with regulations is vital to avoid legal issues and penalties. Second, stakeholders' and investors' high-quality environmental reporting may enhance their confidence in the company's ethics. Having board members' financial literacy may increase the quality of the information reported. Lastly, as an academician and practitioner, this study offers insight to scholars and researchers in corporate governance and corporate environmental disclosure while providing business recommendations.



REFERENCES

- Afaneh, J. A. A., Al Doghan, M. A., Aliane, N., & Abdelwahed, N. A. A. (2023). Green Hrm Practices and Quality of Corporate Performance: the Avenues Towards Green Business. *Journal of Law and Sustainable Development*, 11(11), e1666-e1666.
- Akhtar, M., Yusheng, K., Haris, M., Ain, Q. U., & Javaid, H. M. (2021). Impact of financial leverage on sustainable growth, market performance, and profitability. *Economic Change and Restructuring*, 1-38.
- Alipour, M., Ghanbari, M., Jamshidinavid, B., & Taherabadi, A. (2019). Does board independence moderate the relationship between environmental disclosure quality and performance? Evidence from static and dynamic panel data. In *Corporate Governance (Bingley)* (Vol. 19, Issue 3). <https://doi.org/10.1108/CG-06-2018-0196>
- Andrikopoulos, A., & Kriklani, N. (2013). Environmental Disclosure and Financial Characteristics of the Firm: The Case of Denmark. *Corporate Social Responsibility and Environmental Management*, 20, 55–64. <https://doi.org/10.1002/csr.1281>
- Asgari, M. R., Pour, A. A. S., Zadeh, R. A., & Pahlavan, S. (2015). The relationship between firm's growth opportunities and firm size on changes ratio in retained earnings of listed companies in Tehran Stock Exchange. *International Journal of Innovation and Applied Studies*, 10(3), 923–931.
- Azmi, N. A., Samat, O., Zakaria, N. B., Yusof, M. M. (2013). Audit committee attributes on audit fees: The impact of Malaysian code of corporate governance (MCCG) 2007. *Journal of Modern Accounting and Auditing*, 9(11), 1442–1453.
- Atkinson, A. B. (1996). The case for a participation income.
- Abbas, Y. A., Ahmad-Zaluki, N. A., & Mehmood, W. (2023). Community and environment disclosures and IPO long-run share price performance. *Journal of Financial Reporting and Accounting*.
- Akhter, F., Hossain, M. R., Elrehail, H., Rehman, S. U., & Almansour, B. (2023). Environmental disclosures and corporate attributes, from the lens of legitimacy theory: A longitudinal analysis on a developing country. *European Journal of Management and Business Economics*, 32(3), 342-369.
- Anthony, S. J., & Morrison-Saunders, A. (2023). Analysing corporate forest disclosure: How does business value biodiversity?. *Business Strategy and the Environment*, 32(1), 624-638.
- Arikan, M., Kara, M., Masli, A., & Xi, Y. (2023). Political euphoria and corporate disclosures: An investigation of CEO partisan alignment with the president of the United States. *Journal of Accounting and Economics*, 75(2-3), 101552.
- Adediran, A. O. (2023). Disclosing corporate diversity. *Va. L. Rev.*, 109, 307.
- Abd Majid, N., & Jaaffar, A. H. (2023). The Effect of Women's Leadership on Carbon Disclosure by the Top 100 Global Energy Leaders. *Sustainability*, 15(11), 8491.



- Al Frijat, Y. S., Albawwat, I. E., & Elamer, A. A. (2023). Exploring the mediating role of corporate social responsibility in the connection between board competence and corporate financial performance amidst global uncertainties. *Corporate Social Responsibility and Environmental Management*.
- Aragòn-Correa, J. A., Marcus, A. A., & Vogel, D. (2020). The effects of mandatory and voluntary regulatory pressures on firms' environmental strategies: A review and recommendations for future research. *Academy of Management Annals*, 14(1), 339-365.
- Bursa Malaysia. (2006a), "Bursa Malaysia CSR Framework", available at: <http://www.bursamalaysia.com/market/sustainability/frameworks/bursamalaysias-csr-framework/> (accessed 10 April 2014).
- Bursa Malaysia. (2006b), "Ace Market Listing Requirements", available at: <http://www.bursamalaysia.com/market/regulation/rules/listingrequirements/ace-market/listing-requirements> (accessed 10 April 2014).
- Bursa Malaysia. (2006c), "Main Market Listing Requirements", available at: <http://www.bursamalaysia.com/market/regulation/rules/listingrequirements/main-market/listing-requirements> (accessed 10 April 2014).
- Baalouch, F., Ayadi, S. D., & Hussainey, K. (2019). A study of the determinants of environmental disclosure quality: evidence from French listed companies. *Journal of Management and Governance*, 23, 939-971.
- Baum, C.F., Schaffer, M.E. and Stillman, S. (2003) 'Instrumental Variables and GMM: Estimation and Testing', *The Stata Journal*, 3(1), pp. 1-31. doi:10.1177/1536867X0300300101.
- Belhaj, M., & Damak-Ayadi, S. (2011). Financial performance, environmental performance and environmental disclosure : the case of Tunisian firms Montacer Belhaj and Salma DamakAyadi. *Journal of Finance and Accounting*, 2(3), 248-269.
- Beneish, M. D. (1999). The detection of earnings manipulation. *Financial Analysts Journal*, 55(5), 24-36.
- Bhatt, P. R., & Bhatt, R. R. (2017). Corporate Governance and Firm Performance in Malaysia. *Corporate Governance*, 17(5), 896-912. <https://doi.org/10.1108/CG-03-2016-0054>
- Bose, S., Khan, H. Z., Rashid, A., & Islam, S. (2018). What drives green banking disclosure? An institutional and corporate governance perspective. *Asia Pacific Journal of Management*, 35(2), 501-527. <https://doi.org/10.1007/s10490-017-9528-x>
- Brahmana, R. K., Tan, M. Y., & You, H. W. (2018). Corporate environmental disclosure and earning management. *International Journal of Green Economics*, 12(3-4), 308-321.
- Busirin, M. F., Zakaria, N. B., Azmi, N. A., & Hermawan, A. (2016). Has the board been effective enough to look after the earnings manipulation exercise? *International Journal of Economics and Management*, 10(Specialissue2), 463-481.



- Collins, D. W., Pungaliya, R. S., & Vijh, A. M. (2017). The effects of firm growth and model specification choices on tests of earnings management in quarterly settings. *Accounting Review*, 92(2), 69–100. <https://doi.org/10.2308/accr-51551>
- Christina, S., & Alexander, N. (2019). Corporate Governance, Corporate Social Responsibility Disclosure and Earnings Management. 73, 62–65. <https://doi.org/10.2991/aicar-18.2019.14>
- Chtourou, S. M. (2001). Corporate Governance and Earnings Management Sonda. *International Business Research*. <https://doi.org/10.5539/ibr.v5n1p216>
- Debnath, P. (2017). Assaying the Impact of Firm's Growth and Performance on Earnings Management: An Empirical Observation of Indian Economy. *International Journal of Research in Business Studies and Management*, 4(2). <https://doi.org/10.22259/ijrbsm.0402003>
- Dechow, P. M., & Skinner, D. J. (2000). Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting horizons*, 14(2), 235–250.
- Drukker, D.M. (2003) 'Testing for Serial Correlation in Linear Panel-data Models', *The Stata Journal*, 3(2), pp. 168–177. doi:10.1177/1536867X0300300206.
- Djalilov, K., & Hartwell, C. A. (2023). The spirit is willing, but the institutions are weak: disclosure of corporate social responsibility and the financial sector in transition. *Eurasian Business Review*, 13(2), 385–427.
- de Souza Barbosa, A., da Silva, M. C. B. C., da Silva, L. B., Morioka, S. N., & de Souza, V. F. (2023). Integration of Environmental, Social, and Governance (ESG) criteria: their impacts on corporate sustainability performance. *Humanities and Social Sciences Communications*, 10(1), 1–18.
- Epstein, M. J., & Roy, M. J. (2004). Improving the performance of corporate boards: Identifying and measuring the key drivers of success. *Journal of General Management*, 29(3), 1–23.
- Feng, Y., Akram, R., Hieu, V. M., & Hoang Tien, N. (2022). The impact of corporate social responsibility on the sustainable financial performance of Italian firms: Mediating role of firm reputation. *Economic research-Ekonomska istraživanja*, 35(1), 4740–4758.
- Freeman, R.E. (1984) *Strategic Management: A Stakeholder Approach*. Pitman, Boston.
- Garcia-Sanchez, I.-M., Ferrero, J. M., & Emma Garcia-M. (2017). Gender diversity, financial expertise and its effects on accounting quality. *Management Decision*, 55(2), 347–382.
- García-Sánchez, I. M., Aibar-Guzmán, B., Aibar-Guzmán, C., & Azevedo, T. C. (2020). CEO ability and sustainability disclosures: The mediating effect of corporate social responsibility performance. *Corporate Social Responsibility and Environmental Management*, 27(4), 1565–1577.



- Gargouri Y, Hajjem C, Larivière V, Gingras Y, Carr L, Brody T, et al. (2010) Self-Selected or Mandated, Open Access Increases Citation Impact for Higher Quality Research. *PLoS ONE* 5(10): e13636. <https://doi.org/10.1371/journal.pone.0013636>
- Gerged, Ali Meftah, Al-Haddad, L. M., & Al-Hajri, M. O. (2020). Is earnings management associated with corporate environmental disclosure?: Evidence from Kuwaiti listed firms. *Accounting Research Journal*, 33(1), 167–185. <https://doi.org/10.1108/ARJ-05-2018-0082>
- Jensen, M. C. (2003). Paying people to lie: The truth about the budgeting process. *European Financial Management*, 9(3), 379-406.
- Ghazalat, A. N. M., Islam, M. A., Noor, I. B. M., & Abu Haija, A. A. (2017). Does the competency attributes of board members' enhance the monitoring of earning management? Evidence from a developing country. *Corporate Board: Role, Duties and Composition*, 13(1-1), 100-108.
- Gorganlidavaji, J., & Vakilifard, H. (2014). The Effect of Firm Size and Growth Opportunity on Accounting Discretion and its Relationship with Future Stock Return (Management Opportunism Test). *European Online Journal of Natural and Social Sciences*, 3(3), 511–521.
- Hansen, L.P. (1982) 'Large Sample Properties of Generalized Method of Moments Estimators', *Econometrica*, 50(4), pp. 1029–1054. doi:10.2307/1912775.
- Hussain, M. J., Tian, G., Ashraf, A., Khan, M. K., & Ying, L. (2023). Chief executive officer ability and corporate environmental sustainability information disclosure. *Business Ethics, the Environment & Responsibility*, 32(1), 24-39.
- Issa, A., & Zaid, M. A. (2023). Firm's biodiversity initiatives disclosure and board gender diversity: A multi-country analysis of corporations operating in Europe. *Business Strategy and the Environment*.
- Iqbal, A., Xianzhi, Z., & Jebran, K. (2015). Corporate Governance and Earnings Management : A Case of Karachi Stock Exchange Listed Companies. *Indian Journal of Corporate Governance*, 8(2), 103–118. <https://doi.org/10.1177/0974686215602367>
- Jan, A. A., Lai, F. W., Draz, M. U., Tahir, M., Ali, S. E. A., Zahid, M., & Shad, M. K. (2021). Integrating sustainability practices into islamic corporate governance for sustainable firm performance: From the lens of agency and stakeholder theories. *Quality & Quantity*, 1-24.
- Johl, S. K., Kaur, S., & Cooper, B. J. (2015). Board Characteristics and Firm Performance: Evidence from Malaysian Public Listed Firms. *Journal of Economics, Business and Management*, 3(2), 239–243. <https://doi.org/10.7763/joebm.2015.v3.187>
- Julianto, M., & Sjarief, J. (2016). Analisis pengaruh kinerja lingkungan, manajemen laba, ukuran perusahaan, dan profitabilitas terhadap pengungkapan lingkungan pada perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia. *Jurnal Akuntansi*, 9(2), 147-171.



He, Z., Cao, C., & Feng, C. (2022). Media attention, environmental information disclosure and corporate green technology innovations in China's heavily polluting industries. *Emerging Markets Finance and Trade*, 58(14), 3939-3952.

Kachalov, D., & Finogenova, Y. (2023). Enhancing Investment Attractiveness through ESG Ratings: A Sustainable Development Perspective in the Banking, Electric Utilities and IPP Industries. *Journal of Law and Sustainable Development*, 11(1), e0258-e0258.

Kim, Y., Park, M. S., & Wier, B. (2012). Is earnings quality associated with corporate social responsibility? *Accounting Review*, 87(3), 761–796.

Kline, D. M., & Berardi, V. L. (2005). Revisiting squared-error and cross-entropy functions for training neural network classifiers. *Neural Computing & Applications*, 14, 310-318.

Kleffner, A. E., Lee, R. B., & McGannon, B. (2003). The effect of corporate governance on the use of enterprise risk management: Evidence from Canada. *Risk Management and Insurance Review*, 6(1), 53-73.

Kumari, P., & Pattanayak, J. K. (2017). Linking earnings management practices and corporate governance system with the firms' financial performance: A study of Indian commercial banks. *Journal of Financial Crime*, 24(2), 223–241. <https://doi.org/10.1108/JFC-03-2016-0020>

Karajeh, A. I. (2023). The moderating role of board diversity in the nexus between the quality of financial disclosure and dividends in Jordanian-listed banks. *Asia-Pacific Journal of Business Administration*, 15(4), 553-571.

Lin, J., & Qamruzzaman, M. (2023). The impact of environmental disclosure and the quality of financial disclosure and IT adoption on firm performance: Does corporate governance ensure sustainability? *Frontiers in Environmental Science*.

Loock, M. (2012). Going beyond best technology and lowest price: on renewable energy investors' preference for service-driven business models. *Energy Policy*, 40, 21-27.

Madhogarhia, P., Sutton, N. K., & Kohers, T. (2009). Earnings management practices among growth and value firms. *Applied Financial Economics*, 19(22), 1767–1778. <https://doi.org/10.1080/09603100903018745>

Mahrani, M., & Soewarno, N. (2018). The effect of good corporate governance mechanism and corporate social responsibility on financial performance with earnings management as mediating variable. *Asian Journal of Accounting Research*, 3(1), 41–60. <https://doi.org/10.1108/ajar-06-2018-0008>

Maswadi, L., & Amran, A. (2023). Does board capital enhance corporate social responsibility disclosure quality? The role of CEO power. *Corporate Social Responsibility and Environmental Management*, 30(1), 209-225.

Malaysian Government. (2006), Budget 2007, Ministry of Finance, Malaysia, Putrajaya.



- Moridu, I. (2023). The Role Corporate Governance in Managing Financial Risk: A Qualitative Study on Listed Companies. *The ES Accounting And Finance*, 1(03), 176-183.
- Mukhtar, B., Shad, M. K., Woon, L. F., Haider, M., & Waqas, A. (2023). Integrating ESG disclosure into the relationship between CSR and green organizational culture toward green Innovation. *Social Responsibility Journal*.
- Munisi, G. (2023). Does board structure influence firm disclosure? Evidence from selected sub-Saharan Africa countries. *Accounting*, 9(3), 153-168.
- Nasir, A. M. (2023). Relationship in Principle between Corporate Governance, Intellectual Capital Disclosure and Firm Performance. *FUDMA Journal of Accounting and Finance Research [FUJAFR]*, 1(1), 65-76.
- Noor, N. H. M., Fazillah, T. M., & Jamaludin, N. A. (2023). Corporate Social Responsibility (Csr) Disclosure And Corporate Reputation Of Malaysian Bank: Adapting The Bursa Malaysia's Framework. *Insight Journal*.
- Pallant, J. (2010). *SPSS survival manual: A step by step guide to data analysis using SPSS* (4th ed.). Australia: Allen & Unwin Book Publishers.
- Parks, L., Della Porta, D., & Portos, M. (2023). 7. Environmental and climate activism and advocacy in the EU. *Handbook on European Union Climate Change Policy and Politics*, 98.
- Panda, B., & Leepsa, N. M. (2017). Agency theory: Review of theory and evidence on problems and perspectives. *Indian journal of corporate governance*, 10(1), 74-95.
- Patten, D. M., & Trompeter, G. (2003). Corporate responses to political costs: an examination of the relation between environmental disclosure and earnings management. *Journal of Accounting and Public Policy*, 22(1), 83-94.
- Prior, D., Surroca, J. and Tribó, J.A. (2008) 'Are socially responsible managers really ethical? Exploring the relationship between earnings management and corporate social responsibility', *Corporate Governance: An international Review*, Vol. 16, No. 3, pp.160–177.
- Reyna, J. M. S. M. (2018). The effect of ownership composition on earnings management Evidence for the Mexican stock exchange. *Journal of Economics, Finance and Administrative Science*. <https://doi.org/10.1108/JEFAS-01-2017-0011>
- Rouf, M. A., & Siddique, M. N. E. A. (2023). Theories applied in corporate voluntary disclosure: a literature review. *Journal of Entrepreneurship and Public Policy*, 12(1), 49-68.
- Sarafidis, V. (2009) GMM Estimation of Short Dynamic Panel Data Models With Error Cross-Sectional Dependence, MPRA Paper. 25176. University Library of Munich, Germany. Available at: <https://ideas.repec.org/p/pramprapa/25176.html> (Accessed: 22 May 2022).



- Sincerre, B. P., Sampaio, J. O., Famá, R., & Dos Santos, J. O. (2016). Emissão de dívida e gerenciamento de resultados. *Revista Contabilidade e Finanças*, 27(72), 291–305. <https://doi.org/10.1590/1808-057x201601660>
- Sun, D. Q., Ma, X. Y., Wang, D. J., & Li, J. J. (2019). Principal–agent problem for returns handling in a reverse supply chain with one manufacturer and two competing dealers. *Applied Mathematical Modelling*, 66, 118-140.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Experimental designs using ANOVA* (Vol. 724). Belmont, CA: Thomson/Brooks/Cole.
- Utomo, M. N., Rahayu, S., Kaujan, K., & Irwandi, S. A. (2020). Environmental performance, environmental disclosure, and firm value: empirical study of non-financial companies at Indonesia Stock Exchange. *Green Finance*, 2(1), 100-113.
- Wali, K. (2021). The detection of earnings management through a decrease of corporate income tax. *Future Business Journal*, 7(1), 1-12.
- Wahab, E. A. A., How, J. C., & Verhoeven, P. (2007). The impact of the Malaysian code on corporate governance: Compliance, institutional investors and stock performance. *Journal of Contemporary Accounting & Economics*, 3(2), 106-129.
- Wang, H., Wang, S., Wang, J., & Yang, F. (2023). Does business strategy drive corporate environmental information disclosure?. *Journal of Environmental Planning and Management*, 66(4), 733-758.
- Wang, Z., Zhang, J., & Ullah, H. (2023). Exploring the Multidimensional Perspective of Retail Investors' Attention: The Mediating Influence of Corporate Governance and Information Disclosure on Corporate Environmental Performance in China. *Sustainability*, 15(15), 11818.
- Wan Mohammad, W. M., Zaini, R., & Md Kassim, A. A. (2023). Women on boards, firms' competitive advantage and its effect on ESG disclosure in Malaysia. *Social Responsibility Journal*, 19(5), 930-948.
- Wintoki, M.B., Linck, J.S., Netter, J.M., 2012. Endogeneity and the dynamics of internal corporate governance. *J. Financ. Econ.* 105 (3), 581–606.
- Wu, H., & Li, J. (2023). The relationship between environmental disclosure and financial performance: Mediating effect of economic development and information penetration. *Economic research-Ekonomska istraživanja*, 36(1), 116-142.
- Yahaya, A., Mahat, F., Yahya, M. H., & Matemilola, B. T. (2022). Liquidity risk and bank financial performance: an application of system GMM approach. *Journal of Financial Regulation and Compliance*, 30(3), 312-334.
- Yin, J., & Wang, S. (2017). The effects of corporate environmental disclosure on environmental innovation from stakeholder perspectives. *Applied Economics*, 50(8), 905–919. <https://doi.org/10.1080/00036846.2017.1346362>



Yusoff, Z. Z. M, Bahrudin, N. Z., Ismail, I., Bujang, I. Yahya, N. C. & Sundram, V. P. K. (2022) Quantitative Research Methods, MLSCA Asian Academy Petaling Jaya, 3rd Edition.

Zikmund, W. G. (2003) Business research methods. 7th edn. Mason, Ohio: Thomson/South-Western



Source details

Journal of Law and Sustainable Development

Open Access ⓘ

Scopus coverage years: from 2019 to 2023

Publisher: FACMED - Faculty of Medical and Juridical Sciences

E-ISSN: 2764-4170

Subject area: Social Sciences: Law Social Sciences: Development

Environmental Science: Management, Monitoring, Policy and Law

Source type: Journal

CiteScore 2022 ⓘ
0.6

SJR 2022 ⓘ
0.206

SNIP 2022 ⓘ
0.198

[View all documents >](#) [Set document alert](#) [Save to source list](#)

[CiteScore](#) [CiteScore rank & trend](#) [Scopus content coverage](#)

Improved CiteScore methodology

CiteScore 2022 counts the citations received in 2019-2022 to articles, reviews, conference papers, book chapters and data papers published in 2019-2022, and divides this by the number of publications published in 2019-2022. [Learn more >](#)

CiteScore 2022

0.6 = $\frac{30 \text{ Citations 2019 - 2022}}{50 \text{ Documents 2019 - 2022}}$

Calculated on 05 May, 2023

CiteScoreTracker 2023 ⓘ

1.2 = $\frac{437 \text{ Citations to date}}{364 \text{ Documents to date}}$

Last updated on 05 January, 2024 • Updated monthly

CiteScore rank 2022 ⓘ

Category	Rank	Percentile
Social Sciences		
Law	#536/885	39th
Social Sciences		
Development	#241/298	19th
Environmental Science		
Management, Policy and Law	#342/384	11th

[View CiteScore methodology >](#) [CiteScore FAQ >](#) [Add CiteScore to your site](#)

About Scopus

[What is Scopus](#)

[Content coverage](#)

[Scopus blog](#)

[Scopus API](#)

[Privacy matters](#)

Language

[日本語版を表示する](#)

[查看简体中文版本](#)

[查看繁體中文版本](#)

[Просмотр версии на русском языке](#)

Customer Service

[Help](#)

[Tutorials](#)

[Contact us](#)

ELSEVIER

[Terms and conditions ↗](#) [Privacy policy ↗](#)

All content on this site: Copyright © 2024 Elsevier B.V. ↗, its licensors, and contributors. All rights are reserved, including those for text and data mining, AI training, and similar technologies. For all open access content, the Creative Commons licensing terms apply.

We use cookies to help provide and enhance our service and tailor content. By continuing, you agree to the use of cookies ↗.

