Earning Management

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Submission date: 09-Aug-2019 11:28AM (UTC+0700)
Submission ID: 1158786362
File name: new_Earning_Management.pdf (259.52K)
Word count: 7338
Character count: 39034

The Associations between Earnings Management, Corporate Environmental Disclosure, Corporate Financial Performance and Corporate Governance Mechanisms

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Abstract: - The aim of the study is to investigate the associations between earnings management (DA), corporate environmental disclosure (CED), corporate financial performance (CFP), and corporate governance (CG) mechanisms. Using Partial Least Squares-Structural Equation Modelling (SEM), the study obtains empirical findings consistent with all hypotheses. DA has a positive effect on both CED and CFP; CED has a positive effect on CFP; and CG partially mediates the effect of DA on CFP. CG, as measured by institutional ownership and the number of audit committees, weakens the association between DA and CFP. However, CG, as measured by the proportion of independent commissioners, is not able to weaken the association of DA and CFP. Therefore, CG does not fully moderate the relationship between DA and CFP. It is recommended that control variables be used in order to clarify the effect of latent variables in future studies.

Key-Words: - Earnings management, corporate environmental disclosure, corporate financial performance, and corporate governance mechanism.

1 Introduction

The associations between earnings management (DA), corporate environmental disclosure (CED), corporate financial performance (CFP), and corporate governance (CG) mechanisms were the focus of this study. The study background was based on the following arguments: in order to divert the attention of supervision of stakeholders from managers' DA actions, managers will perform CED to improve good reputation of company, in turn, CFP appears better. However, CG moderates the relationship between DA and CFP. In other words, CG serves to strengthen or weaken the association between the two. CG will weaken the relationship between DA and CFP if the supervision is effective.

While separate studies about each of these variables have been conducted [1], [2], [3], [4], and [5], the relationship among them is not clear yet. A comprehensive study is required to provide empirical evidence about their association.

CFP refers to a company's ability to manage its resources. Therefore, CFP can be described as an accomplishment achieved by a company in terms of its financial size in a given period. The good or poor performance of a company can be seen in the financial statements it presents. Financial statements provide information relating to the performance of a company in a given period, and can also be used as the basis for a company's performance assessment, particularly in evaluating the managers [6].

DA actions are carried out by managers due to the incentive of improving the perception of their performance. DA actions can be intentional but still within the limits of the General Adopted Accounting Principles, for example the selection of an accounting method which is in accordance with accounting rules [7] with the goal of increasing the level of reported earnings [8]. Meanwhile, CED activities are carried out by managers in order to distract the attention of stakeholders from the supervision of DA actions [3].

CED is one form of corporate accountability to stakeholders. Forms of company responsibility exist not only for a company's internal purposes, but also forits external interests. This means that a company does not only focus on the traditional single bottom line, but on the triple bottom line. Therefore, the company aims not only to make profit, but also to improve the welfare of local communities and preserve the environment.

The implementation of corporate social responsibility (CSR), according to the [9], is a consequence of the implementation of good corporate governance (GCG) because, in principle, the framework of GCG must recognise the rights of stakeholders established by law or through mutual agreements, and encourage active cooperation between companies and stakeholders in order to create income and jobs for the sake of their long-term survival. Therefore, realising CSR is the core of the concept of GCG.

CG is a control carried out by a company through internal or external mechanisms. The implementation of CG may weaken the effect of DA on CFP if the supervision is effective. The CG practices adopted by a company may limit DA actions when the action is to indicate the CFP.

[1], [2], [3], [4], and [5] have conducted studies on DA and CED. In their study, [4] proved that the CSR activities undertaken by the sample companies comprised only DA actions, and it was therefore concluded that the greater the DA, the greater the CSR. In this case, CSR activities are part of a fortification strategy undertaken by a company's management in which managers perform moral hazards that may impact on the losses of the company. However, [5] found different results which were not in line with those found by [4]. The findings of these studies showed that, when income smoothing is used as an indicator of DA, a negative association between DA and CSR disclosure occurs. These findings are not in line with [10] that there is a positive and significant association between CSR and CFP.

[11] state that if GCG has an impact on the relationship between DA and CFP, then that influence is simply "at least in part merely cosmetic". Assuch, it needs to be pared further in order to gain insight into the actual relationships between the variables.

Mixed findings and arguments of previous studies indicates that the theoretical building of the associations among the variables is not robust yet. The current study aims to fill the knowledge gap by providing more empirical evidence of these relationships.

The study will determine whether: 1) DA has a positive effect on CED, 2) DA has a positive effect on CFP, 3) CED has a positive effect on CFP and, 4) CG moderates the association between DA and CFP. The study is different with the previous one in case that it proposes a comprehensive model of these relationship. The current study contributes to the establishment of the theoretical building of the associations among the variables and has practical implications for stakeholders when making decisions.

2 Problem Formulation

The population is composed of manufacturing companies listed on the Indonesian Stock Exchange (BEI) during the period 2013 to 2015. This study used a purposive sampling method in obtaining study samples. The criteria for obtaining the sample were as follows: the companies published audited financial statements and annual reports during the period 2013 to 2015, the financial statements were reported using Rupiah as the currency, and the data sets used in the main analysis consisted of the time series data of 132 firm-years from 44 manufacturing companies. Some of the companies were not included in the sample due to a lack of information for the given period.

CFP was used as the dependent variable, while DA and CED were used as independent variables, and CG was used as a moderator of the relationship between DA and CFP. DA was measured using discretionary accrual proxies, developed by [12]. The discretionary accrual was calculated using the following equations:

$$\mathbf{TACC_{it} = NI_{it} - CFO_{it}} \ldots\ldots\ldots\ldots\ldots\ldots \mathbf{(1)}$$

Where :

TACCit : total accrual of company i in the year t

NIit : net income cash from the operating activities of company i in the year t

CFOit : cash flow from the operating activities of company i in the year t

$$\mathbf{TACC_{it}/TA_{it-1}} = \boldsymbol{\beta_1}\left(\mathbf{1/TA_{it-1}}\right) + \boldsymbol{\beta_2}\left(\mathbf{(\Delta REV_{it} - \Delta REC_{it})/TA_{it-1}}\right) + \boldsymbol{\beta_3}\left(\mathbf{PPE_{it}/TA_{it-1}}\right) + \boldsymbol{\beta_4}\left(\mathbf{ROA_{it}/TA_{it-1}}\right) + \mathbf{e} \ldots \mathbf{(2)}$$

Where :

$TACC_{it}$: total accrual of company i in the year t (resulting from Equation 1, above)

TA_{it-1} : total assets of company i at the end of the year t-1

ΔREV_{it} : earnings change of company i in the year t

ΔREC_{it} : net receivable change of company i in the year t

PPE_{it} : property, plant and equipment of company i in the year t

ROA_{it-1} : return on assets of company i at the end of the year t-1

$$\mathbf{NDACC_{it}} = \boldsymbol{\beta_1}\left(\mathbf{1}/\mathbf{TA_{it-1}}\right) + \boldsymbol{\beta_2}\left((\mathbf{\Delta REV_{it}} - \mathbf{\Delta REC_{it}})/\mathbf{TA_{it-1}}\right) + \boldsymbol{\beta_3}\left(\mathbf{PPE_{It}}/\mathbf{TA_{it-1}}\right) + \boldsymbol{\beta_4}\left(\mathbf{ROA_{it-1}}/\mathbf{TA_{it-1}}\right) + \mathbf{e}\ldots\ldots(3)$$

Where:

$NDACC_{it}$: non-discretionary accrual of company i in the year t

TA_{it-1} : total assets of company i at the end of the year t-1

ΔREV_{it} : earnings change of company i in the year t

ΔREC_{it} : net receivable change of company i in the year t

PPE_{it} : property, plant and equipment of company i in the year t

ROA_{it-1} : return on assets of company iat the end of the year t-1

e : error

$$\mathbf{DACC_{it}} = \left(\mathbf{TACC_{it}}/\mathbf{TA_{it-1}}\right) - \mathbf{NDACC_{it}}\ldots\ldots\ (4)$$

Where:

$DACC_{it}$: discretionary accrual of company i in the year t

$TACC_{it}$: total accrual of company i in the year t (resulting from Equation 1, above)

TA_{it-1} : total assets of company i at the end of the year t-1

$NDACC_{it}$: non-discretionary accrual of company i in the year t (resulting from Equation 3, above)

This study used CSR disclosure items from the Environmental Category of annual reports in the Global Reporting Initiative index (GRI) to measure the CED variable. The environmental category of the GRI is further divided into nine sub-categories with 30 items. CFP was proxied by ROA, that is, the proportion of net income after tax to total assets. Institutional ownership, which compares the total institutional stock ownership to the total outstanding shares, was used to represent CG. The board of commissioners composition is the ratio of independent commissioners to the total board of commissioners. Audit committee size was measured by the number of audit committee members in a given accounting period.

2.1 Signalling Theory

Signalling theory explains a company's motivation to present information for the benefit of the capital market, as stated by [13]. Signalling theory describes how managers give a signal to parties that have an interest in a company in order to reduce information asymmetry. Companies may use CED to reduce information asymmetry and to act as a signal to stakeholders that the company has good information. The signal, thus, may attract investors and build the corporate image.

CED is a type of CSR activity which has the powerful incentive of providing a signal about the management quality [14]. As a result, the company gains a good reputation among the capital and debt markets [3]. Moreover, [14] found that the quality of financial reporting is a signal to financial market participants and shareholders, or other stakeholders, indicating that the management are able to control the environmental and social risks of their company.

2.2 Agency Theory

Agency theory describes the association between the shareholders, as the principal, and management, as the agent, of a company. Management is the party contracted by shareholders to carry out activities in their interest [15]. In addition, [15] argue that the principal-agent relationship leads to differences in interests because, in principle, humans will seek to maximise utilities for their own benefit.

The emergence of differences of interest between the company management (agent) and owners (principal) may provide opportunities for managers to perform DA and there by mislead company owners regarding the company's economic performance. Such differences of interest can also cause a conflict of interest. The conflict arises when an agent cannot meet the wishes of the principal, leading to agency costs, meaning costs incurred by the principal to monitor the agent [15].

2.3 Stakeholder-Legitimacy Theory

Stakeholder theory states that a company is not an entity that operates solely for its own sake, but it must provide benefits to all stakeholders. The support of stakeholders has a strong influence on the success of a company, so stakeholders should be taken into consideration in the disclosure of information in the financial statements of a company. A company therefore takes on social and environmental responsibility in an effort to maintain its relationship with its stakeholders.

According to [16], stakeholder theory concerns the relationship between stakeholders and the information received. A study conducted by [17] showed that a company must seriously consider making attempts to build and maintain good relationships with its stakeholders. A company's stakeholders represent social and environmental elements and without their presence a company cannot survive long.

2.4.1 The Effect of DA on CED

DA is an action taken by a manager that raises or lowers the reported earnings of the unit for which he/she is responsible without any relation to the increase or decrease in the company's profitability in the long term [18]. Managerial actions which deliberately change the actual value of a company's assets, transactions, or financial position have negative consequences for the employees, shareholders, and communities in the corporate environment, the public, and the reputation, occupational security, and career continuity of the managers [19].

In order to protect the position of managers in a company, maintain the capital flow from external parties, and ensure optimum performance, managers can use DA actions to create a positive reputation among the external parties. This argument is in line with the views presented by [4], which state that CSR disclosure can be used as a form of protection or fortification for managers who perform DA. Increasing the number of DA actions undertaken can motivate managers to seek the positive perception of various groups of shareholders and stakeholders through CSR disclosure activities. Through CSR disclosure, a company is expected to build a positive image.

This argument is also supported by the study conducted by [3]. Based on the above discussion and previous study results, the first proposed hypothesis was as follows:

H1: DA has a positive and significant effect on CED

2.4.2 The Effect of DA on CFP

Financial statements can be used as a tool to measure company performance. A financial statement informs company owners about the condition of their companies. The managers of a company have ample scope to use certain policies and methods in the preparation of financial statements. This encourages managers to carry out DA in order to increase corporate earnings. Managers conduct DA by intervening in the preparation of financial statements based on accrual accounting and fundamental factors. This will affect CFP in the future. Meanwhile, CED activities are carried out by managers in order to distract the attention of stakeholders from the supervision of DA actions [3]. Managers will perform CED to improve good reputation of company, in turn, CFP appears better, so CED is a mediating effects of the relationship between DA and CFP.

In their studies,[1] and [2] found evidence that DA has a positive and significant effect on CFP. Based on these arguments and the results of these studies, the second hypothesis of this study was:

H2a: DA has a positive and significant effect on CFP.

H2b: CED has a significant of mediating effects of the relationship between DA and CFP.

2.4.3 The Effect of CED on CFP

CED is closely related to the efforts made by a company to meet its responsibilities to stakeholders. Corporate responsibility is not only focused on organisational interests, but also on the external interests of society. Companies implementing CSR well will attract public sympathy for the company’s products, there by increasing corporate portability and ultimately improving CFP [4].

[10] proved that CSR disclosure has a positive and significant effect on CFP. Thus, the above arguments and study findings led to the third hypothesis of the study:

H3: CED has a positive and significant effect on CFP.

2.4.4 The Moderating Effect of CG on the Association between DA and CFP

Managers have the incentive to undertake DA actions. This involves managers selecting accounting policies of a certain standard in order to maximise their performance. DA occurs due to the pressure or encouragement of managers to achieve optimal financial performance. CG is a control measure undertaken by a company. Thus, the CG practices of a company will create strong control mechanisms which limit the ability of management to practice DA when the action is to indicate the CFP. Many studies have concluded that CG mechanisms could affect the DA behaviour of managers [20], [21]. Hence, CG moderate the association between DA and CFP.

CG mechanisms can be split into two categories: external and internal mechanisms. Institutional ownership is an example of an external CG mechanism, while the board of commissioners composition and audit committee size are internal CG mechanisms. Institutional ownership refers to the ratio of shareholdings held by institutional investors in outstanding shares [22]. The current research focuses on institutional ownership because the object of the research is manufacturing company. Most of manufacturing companies in Indonesia are indicated by the family ownership

[23].

With regard to DA, [11] proves that the company profitability was significantly reduced by the presence of institutional ownership. That companies with a large proportion of institutional ownership are more likely to act in the interests of investors. Institutional ownership has the ability to control management through effective process supervision. As such, the greater proportion of institutional ownership, the more effective the surveillance and, therefore, the weaker the association between DA and CFP. The board of commissioners is a representative of the shareholders and is tasked with overseeing the management of the company. The composition of the board of commissioners is expected to play an important role in aligning the interests of managers and shareholders.

The argument essentially is that if the board of commissioners composition is positively associated with CFP, then the proportion of independent commissioners should beinversely proportional to DA [22]. The board of commissioners has a fairly strong influence on management, so the higher the proportion of independent commissioners on the board, the tighter the supervision; this means a higher proportion of independent commissioners can weaken the relationship between DA and CFP. This argument is supported by the study conducted by [24], which found evidence that the board of commissioners plays an independent role in monitoring the CEO so as to limit the propensity of opportunistic actions performed by managers. Similar findings were reported by [25].

In carrying out its duties, the board of commissioners may form committees that can assist in the implementation of its work. One of these is the audit committee, which has the separate task of assisting the board of commissioners to fulfil its responsibility in providing overall supervision. The audit committee should be composed of individuals who are independent and not involved with the daily tasks of overseeing company management, and who have the experience necessary to carry out their supervisory function effectively. One of the few main reasons for this independence is top reserve integrity and objectivity in preparing the reports and recommendations submitted by the audit committee [22], as independent individuals tend to be more fair and impartial in dealing with a problem.

Thus, the larger the size of the audit committee, the more it will improve the quality of surveillance [26], there by weakening the relationship between DA and the CFP. This is supported by the findings of [27], which state that the members of the audit committee who are experienced in the field of finance can decrease DA. Based on the above evidence, the fourth hypothesis proposed in this study was:

H4a: The higher the proportion of institutional ownership (INST) of a company, the weaker the effect of DA on CFP.

H4b: The greater the independence of the board of commissioners composition (BOARD) of a company, the weaker the effect of DA on CFP.

H4c: The larger the audit committee of a company, the weaker the effect of DA on CFP.

3 Problem Solution

This study employed the Moderated Mediation Partial Least Square-Structural Equation Modelling (PLS-SEM) approach using Warp PLS version 4.0. However, PLS can also be used to analyse secondary data [28], [29], [30]. This statistical analysis method was chosen as it offers three advantages [31]. First, the component-based technique PLS-SEM works well with a small sample size and does not require normality of data. Second, SEM analysis is able to simultaneously examine multiple dependences, as in the model employed in this study. Third, The technique applies a different procedure for analysing data contained in the measurement models, structural models, and the overall models [32].

The objects of this study were manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the period 2013 to 2015. Based on data obtained from the IDX, of the 496 companies listed in the study period, 141 companies were engaged in the manufacturing industry. The manufacturing industry is divided into three sectors: 63 companies in the Basic Industry and Chemical, 41 companies in the Miscellaneous Industry, and 37 companies in the Consumer Goods Industry. In accordance with the sample criteria, 44 companies were determined as the final sample of the study with three years' observation (132 firm-years).

In this section, the study's descriptive statistics of all variables are presented below:

Table1. Descriptive Statistics

Variables	CFP	DA	CED	INST	BOA RD	COM ITEE
Mean	0.118	0.130	0.329	0.664	0.412	3.129
Std. Dev.	0.115	1.431	0.061	0.274	0.129	0.399
Min	0.001	-0.614	0.267	0.104	0.250	3.000
Max	0.564	16.168	0.533	0.990	0.800	5.000
Observation	132	132	132	132	132	132

Source: Result output using WarpPls 4.0

Table 1 above is the summary of all variables used in the study. The result reveals that the average signed discretionary accruals is 0.130. This implies that on the average the sample firms manage accruals upward (income-increasing accruals). Further, the average value of the corporate financial performance is 0.118, ranging from 0.001 to 0.564. This is a lower value since the highest corporate financial performance amounts to 0.564.

The average of board composition (independent outside commissioners) is 0.412 with the minimum of 0.250 and a maximum of 0.800. The result indicates that there is a strong presence of independent outside commissioners on the board of commissioners of our sample firms. Institutional shareholding averages 0.664, ranging from the values of 0.104 and 0.990 of total equity ownership. This implies that almost wholly firms owned by institutional owners, others are substantially owned by individual investors.

The average of the audit committee score of the sample firms is as high as 3.129 with ranged from 3 to 5 committees. Corporate environmental disclosure represents an average of 0.329 with the minimum disclosure of 0.267 and a maximum score of disclosure is 0.533. The result indicates that our sample firms have quite impressive in doing corporate social responsibility activities.

3.1 Test Results of the Effect of DA on CED

Table 2 reports that the effect of DA is found to be significantly (p = 0.015) and positively (0.133) associated with CED, margin at 5 percent level. Hence, this finding supports Hypothesis 1. This suggests that the more managers perform DA activities, the greater the motivation of managers to seek positive the perceptions of stakeholders through CED activities. CED, as a CSR action, is a signal that is intended to divert the attention of shareholders from monitoring earnings manipulation to other parties.

This finding is in accordance with [4], whostated that managers may take discretionary measures to manage earnings in an effort to convey favourable or unfavourable information about the future prospects of a company to the stock market. Income manipulation may indicate to investors the possibility of better revenue and cash flow in the future. As a result of the asymmetry of market information, companies can use their financial statements to signal to investors that they have some lucrative information. Managers, therefore, have an incentive to voluntarily disclose additional accounting information as a signal to attract existing or potential investors and to enhance the company's image, especially when they attempt to perform DA.

In line with these findings, [14] commented that the use of CED as one of a company's CSR activities is related to a signal regarding the quality of its management. High quality companies tend to use social and environmental accounting in order to shift away from traditional financial reporting. On the other hand, low quality companies choose not to disclose social and environmental accounting information, and tend to be consistent in reporting accounting information that is limited by (traditional) standards. Good corporate social performance enables companies to enhance their reputation among the capital markets and debt markets. DA puts the future prospects of the company at risk; outsiders (investors and stakeholders) will take firm action against the manager if substantial evidence of DA is detected. From a manager's point of view, CED is a method of diverting shareholder attention from issues which may lead to them being punished.

Similarly, [3] explained that managers involved in DA tend to realise that voluntary environmental disclosure can be used to maintain the legitimacy of the organisation, especially with regard to social and political stakeholders. The CED Initiative provides channels to inform stakeholders about broader corporate interests and accountability for behaving in a socially responsible manner. In addition, stakeholder-legitimacy theory can be viewed as a way of communicating, in a community-organisational relationship, so as to gain community support. Managers, having control in the decision-making process, have an incentive to use such a strategy to meet the expectations of other stakeholder groups. Therefore, the motivation for corporate social and environmental disclosure is to divert stakeholders' attention from detecting DA activities. This argument is supported by the studies conducted by [3] and [4].

3.2 Test Results of the Effect of DA on CFP

As presented in Table 2, DA is found to have a positive impact on CFP. This positive impact (0.092) is marginally significant at the 10 percent level (p = 0.065). Hence, this result is consistent with the findings of [1] and [2]. Again, this implies that the more managers involved in DA actions, the better the CFP. Furthermore, this finding supports Hypothesis 2.

The following is an argument related to the theory of the relationship between DA and CFP. Agent conflicts occur when managers (agents) take opportunistic actions, such as DA, to maximise their own interests. In addition, managers should use financial reporting to transmit relevant information about the firm's economic performance as a basis for external parties, if they do so in the interest of the company's performance. However, since economic examination is in fact imperfect, managers have an incentive to manage earnings opportunistically. Therefore, DA uses the actual accounting earnings reliability as an indicator of the company's financial and economic performance. According to [15], agency theory suggests that managers with lower-level ownership are more motivated to produce a reliable accounting profit report that reflects the true economic value of the firm. [15] also predicted that external directors with little shareholding in the company have less incentive to limit managers. As a result, managers may provide a signal to stakeholders, affecting their decision-making.

3.3 Test Results of the Effect of CED on CFP

As shown in Table 2, the results of hypothesis testing analysis reveal that CED has a positive effect (0.238) on CFP, at a marginally significant level of 1 percent ($p < 0.001$). Therefore, Hypothesis 3 is supported. This result means that the more CED activities performed by a company, the better its CFP in the near future. This finding is consistent with those of [10].

The relevance of the study findings and theories is described in the following argument. [33] and [34] argue that by engaging in social responsibility actions a firm can send a positive signal to a diverse group of stakeholders. Previous stakeholder theory states that, even though CSR activities are costly, the company will be able to receive another reduction in explicit costs in the future. This is in line with [35], [36], and [37], who state that CSR actions and activities are expected to improve relationships with shareholders and other stakeholder groups. Building a company's reputation is a corporate strategy used to maintain relationships with different stakeholders and increase access to capital finance. In other words, CSR has a positive relationship with the financial and economic performance of a company.

Testing the Significance of Mediating Effects

Using WarpPLS, one can test the significance of the mediating effect of a variable, in this case CED, which is hypothesised to mediate the relationship between two other variables, in this case DA and CFP, by using [38] and [31] criteria. The procedure is outlined below:

First, two models must be built. The first model should feature a path from DA to CFP, without the inclusion of CED in the model. The second model should feature a path from DA to CFP, from DA to CED, and from CED to CFP. This is known as a "triangle"-looking model [39].

The mediating effect will be significant if the three following criteria are met: 1) In the first model, the path between DA → CFP (Path c) is significant. 2) In the second model, the path between DA → CED (Path a) is significant. 3) In the second model, the path between CED → CFP (Path b) is significant.

In the second model, the path between CED → CFP controls for the effect of DA. The effect of DA on CFP in the second model is irrelevant for this mediation significance test. Nevertheless, if the effect of DA on CFP in the second model is insignificant, this would indicate that the case is one of "perfect" mediation. On the other hand, if the effect of DA on CFP in the second model is significant, this would show that the case is one of "partial" mediation. This, of course, assumes that the three criteria for mediating effect significance are met. Generally, the weaker the effect of DA on CFP in the second model, the more "perfect" the mediation is, providing these three criteria are met [39].

The test results of the mediation model are presented in the appendix. The model estimation results indicate that the criteria of goodness of fit have been met, the values of Average R-square (ARS) and Average Path Coefficient (APC) are statistically significant, and the value of Average Variance Inflation Factor (AVIF) is smaller than 5 [39]. These results are presented in Table 2.

Table 2. Hypothesis Testing Results (Mediating Effect)

Path	Direct Effect Coefficient	Direct Effect p-value	Indirect Effect Coefficient	Indirect Effect p-value	Remark
DA→ CED			0.133	0.015**	H1 is accepted
CED → CFP			0.238	< 0.001***	H2 is accepted
DA→ CFP	0.140	0.020**	0.092	0.065*	H3 is accepted
Model Fit Indicators					
Average Path Coefficient (APC)	0.139	0.012**	0.157	0.003***	
Average R-square (ARS)	0.019	0.020**	0.039	0.012***	
Average Variance Inflation Factor (AVIF)	1.000		1.152		

Source: Processing results of PLS, 2017

Note: *, **, and *** indicate significance (one-tailed) at the 0.10; 0.05; and 0.01 levels, respectively.

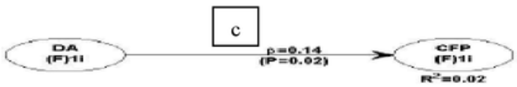

Fig 1. First Model in a Mediating Effect Significance Test (Direct Effect of DA on CFP)

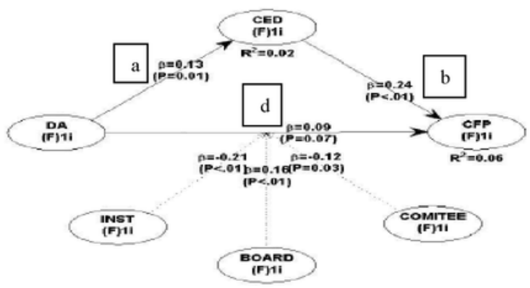

Fig 2. Second Model in a Mediating Effect Significance Test (Indirect effect of DA on CFP through CED) and Moderated MediationPLS-SEM

The results show that the coefficient of the direct effect of DA on CFP in the first model is 0.14 and significant (p = 0.02). In the second model, the results show that the coefficient of the indirect effect of DA on CFP is decreased (0.092) and significant at the 10 percent level (p = 0.065). Therefore, it can be concluded that CED has partially mediated the effect of DA on CFP. This partial mediation indicates that CED is not the only mediator of the relationship between DA and CFP [38].

3.4.1 Test Results of Moderating Effect (Interaction of INST and DA on CFP)

The results shown in Table 3 indicate a significant negative coefficient of interaction between the INST and DA variables (ß = −0.210 and p<0.001). This finding supports Hypothesis 4a. Hence, this implies that the higher the proportion of the institutional ownership (INST) of a company, the weaker the effect of DA on CFP. This means that CG is a control mechanism of a company that is used effectively to confine the DA actions undertaken by managers.

The following argument will explain the relationship between the three variables. When managers (agents) take opportunistic actions, such as DA, to maximise their own interests, then agency conflicts will occur. Such actions are taken to improve the perception of the company's financial and economic performance, and so can provide a signal to stakeholders to influence their economic decision-making. Nevertheless, [40], [41], and [21] state that the reliability and quality of accounting earnings are improved when the opportunistic manipulation of managers is monitored through CG. CG aims to motivate managers to behave in the interests of shareholders so that agency conflicts can be reduced.

3.4.2Test Results of Moderating Effect (Interaction of BOARD and DA on CFP)

Table 3 shows a significant positive coefficient of interaction between the BOARD and DA variables (ß = 0.155 and p = 0.006). This finding does not support Hypothesis 4b. Hence, this implies that the greater the independence of the board of commissioners composition (BOARD) of a company, the stronger the effect of DA on CFP. The reason for this finding might be that independent commissioners play a non-optimal role in monitoring the management, particularly with regard to earnings management (discretionary accruals). This result builds on the findings of [21], [27], who document that parties external to the board of commissioners are rarely involved in earnings management (DA).

3.4.3Test Results of Moderating Effect (Interaction of COMMITTEE and DA on CFP)

Table 3 illustrates the result of a significant negative moderating effect between the COMMITTEE and DA variables (ß = −0.117 and p = 0.027). This finding supports Hypothesis 4c. Hence, this implies that the larger the audit committee (COMMITTEE) of a company, the weaker the effect of DA on CFP.

Table 3. The Moderating Effect

Variable	Coefficient	SE	p-value	VIF	Remark
DA	0.215	0.060	0.001***	1.283	
INST*DA	−0.210	0.060	<0.001***	1.082	H4a is accepted
BOARD*DA	0.155	0.060	0.006***	1.082	H4b is not accepted
COMMITTEE*DA	−0.117	0.060	0.027**	1.252	H4c is accepted
	Direct Effect		Indirect Effect		
	Coefficient	p-value	Coefficient	p-value	
	Model Fit Indicators				
Average Path Coefficient (APC)	0.139	0.012 **	0.157	0.003 ***	
Average R-square (ARS)	0.019	0.020 **	0.039	0.012 ***	
Average Variance Inflation Factor (AVIF)	1.000		1.152		

Source: Processing results of PLS, 2017

Note: *, **, and *** indicate significance (one-tailed) at the 0.10; 0.05; and 0.01 levels, respectively.

4 Conclusion

The purpose of the study is to examine the linking between earnings management (DA), corporate environmental disclosure (CED), corporate financial performance (CFP), and corporate governance (CG) mechanisms. The results of the study concluded that: 1) DA has a positive effect on CED, 2) DA has a positive effect on CFP, 3) CED has a positive effect on CFP, 4) the higher the proportion of institutional ownership, the weaker, the effect of DA on CFP, 5) the greater the proportion of independent commissioners on the board of commissioners, the stronger the effect of DA on CFP, and 6) the larger the audit committee, the weaker the effect of DA on CFP. The study had several limitations, such as: 1) value of R-Square is very low, 2) the study uses a qualitative criteria which require subjective judgement of the researchers to assess the CED, and 3) ROA is used as a proxy to measure CFP. Based on these limitations, the suggestions for future studies are: 1) to use control variables in order to clarify the effect of latent variables in the study, 2) to use other methods in measuring CED, and 3) to use other proxies, such as Tobin's Q, in the measurement of CFP.

This study has both theoretical and practical implications. The theoretical implication is that this study supports the existing theory that is agency, signaling and stakeholders theories. Meanwhile, the practical implications are associated with performing CSR activities through CED; specifically, CED can be used to project a positive image to stakeholders and can serve as a bulwark of DA actions, there by enhancing the financial and economic performance of a manufacturing company in order to maintain its legitimacy.

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