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Preface

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Editors

Contents

Understanding tilizing the diamond fraud theory perspective to analyze financial statement fraud
Ida Bagus Anom Yasa, Moch. Mirza Yahya Thalib & Luh Mei Wahyuni 1-10

Interaction of profitability and capital intensity in determining corporate tax aggressiveness
Putu Novia Hapsari Ardianti,I Nyoman Kusuma Adnyana Mahaputra & Ida Ayu Made Adinda Yaswari…….11-20

Implementation of green accounting in Kaamala Resort Ubud
I Gede Arya Budi Antara & I Gusti Ayu Astri Pramitaria Adyatma & Riza Edwindra 21-25

Capital efficiency and organizational performance: A dynamic panel analysis of Weighted Average Cost of Capital (WACC) and ROA in Indonesia's healthcare sector
Ulfa Arofah, Muhammad Saiful Hakim & Muhammad Alfarizi…….....26-40

The role of political connections in moderating the impact of CEO characteristics on financial perfomance: An emprical study of energy companies in Indonesia
Lathif Arafat .A ……..…..41-50

Ratio Analysis of Financial Statements for Performance Assessment
Nurhalija, Alimuddin …… ……..……51-61

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Utilizing the diamond fraud theory perspective to analyze financial statement fraud

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ABSTRACT
This study aims to test the influence of elements of the fraud diamond theory, including pressure, opportunity, rationalization, and capability, on financial statement fraud. The population in this study were companies in the banking sub-sector listed on the Indonesia Stock Exchange for the period 2020-2022. The sample was selected using a purposive sampling method with four criteria, which resulted in 40 companies with 3 years of observation, so 120 samples were obtained that were worthy of observation. This study uses multiple regression analysis using the SPSS program. In this study, the pressure variable is measured using ROA, opportunity using ineffective monitoring, and rationalization using the total accrual ratio. In contrast, the capability variable is measured using the change of directors. The dependent variable is financial statement fraud measured using earnings management. The study's results indicate that pressure and rationalization have a positive and significant influence on financial reporting fraud in banking sub-sector companies listed on the IDX. On the other hand, opportunities and capabilities do not show a significant influence on financial reporting fraud in these companies.

Keywords: financial statement fraud, fraud diamond theory, banking sector, fraud detection.

1. Introduction

Fraud is increasingly sophisticated and challenging to detect, primarily due to advancements in technology. This complexity poses significant threats to the growth and sustainability of businesses. Misappropriation of assets and fraudulent activities against financial statements, often perpetrated by management, undermine investor confidence and can lead to substantial economic repercussions globally. The ramifications of financial statement fraud extend beyond immediate financial losses; they erode trust in markets and can paralyze economic entities worldwide, as highlighted by various studies [1], [2]. Furthermore, negative media coverage surrounding fraudulent practices severely impacts the integrity of the audit profession and regulatory bodies, creating a ripple effect that affects investors, company owners, regulators, auditors, and society as a whole [3], [4].

A 2022 survey by the Association of Certified Fraud Examiners (ACFE) revealed that while instances of financial statement manipulation are relatively rare, they can result in staggering losses—up to $593,000 per incident. Notably, the banking and financial services sectors reported the highest incidence of fraud, accounting for 22.30% of detected cases [5]. The liquidity of most assets in this sector makes it more vulnerable to manipulation [6]. The practice of financial statement manipulation also occurs in the Indonesian banking sector, attracting public attention, such as the case of *PT SNP Finance*, which caused a loss of IDR 14 trillion in 2018, *Bank Bukopin*, which reduced net profit by IDR 896.44 billion in 2016, and *Bank Tabungan Negara (BTN)* which was involved in the sale of non-performing loans and providing loans worth IDR 300 billion [7].

To understand the mechanics behind these fraudulent activities, the fraud diamond theory proposed by Wolfe and Hermanson offers valuable insights. This theory builds on Donald R. Cressey's fraud triangle and identifies four critical factors that contribute to fraud: opportunity, pressure, rationalization, and capability [8], and workplace financial statement fraud can only occur if the perpetrator has sufficient opportunity, pressure, rationalization, and ability to commit fraud [9].

Previous studies by [1] used variables in the fraud diamond theory to test the causes of fraud in financial reporting: pressure, opportunity, rationalization, and capability. His research showed that pressure significantly positively affected fraudulent financial reporting, while opportunity, rationalization, and capability hurt fraudulent financial reporting [1] The research results by [10]; showed different results; it turned out that all variables in the fraud diamond theory did not significantly affect fraudulent financial reporting. The results of other studies by [11], [12], and [13] showed that all variables in the fraud diamond theory had a significant negative effect on financial statement fraud.

Given the current landscape of financial reporting fraud—particularly within the banking sector—and the discrepancies in prior research findings, this study aims to investigate how elements of the fraud diamond theory influence tendencies toward financial reporting fraud among companies listed on the Indonesia Stock Exchange from 2020 to 2022.

Agency Theory

Agency theory by Jensen and Meckling (1976) is often used in research on aspects of fraudulent behavior [4]. This theory assumes the existence of an agency principles relationship between shareholders and management. The interests of the company and shareholders are often not aligned with the personal interests of top managers. According to Davis et al. (1997), cited by [4], agency theory assumes that management is usually motivated by personal interests and self-preservation, so management (agents) will commit fraud because it is best for individual and short-term interests.

The Influence of Pressure on Financial Statement Fraud

Pressure is a significant factor contributing to unethical behavior. Individuals may engage in fraudulent acts due to various pressures, which can be either financial or non-financial in nature. Even a perception of pressure can trigger such behavior, as perpetrators may feel compelled to act unethically, regardless of the truthfulness of that pressure [14], [4]. Previous studies have

shown that financial statement fraud is significantly positively influenced by pressure [1], [10], and [9]. However, the results of these studies differ from those conducted by [11] and [12], which show that pressure has a significant negative effect on financial statement fraud. Research hypothesis:

H1. Pressure has a significant positive effect on financial statement fraud.

The Influence of Opportunities on Financial Statements Fraud

Fraud occurs when opportunities arise, as individuals often exploit available circumstances to engage in fraudulent behavior [15]. Such opportunities typically stem from inadequate controls or governance systems that enable individuals to perpetrate fraud [14]. The perpetrator's perception and belief heavily influence the likelihood of fraud; generally, the lower the perceived risk of being apprehended, the more probable it is that fraud will occur [16]. Research conducted by sources [10], [1], and [11] indicates that opportunities for fraudulent activity negatively impact the integrity of financial statements. Conversely, findings from research [13], reveal that opportunities can significantly contribute to financial statement fraud. Additionally, a study by [12] concludes that opportunities do not considerably affect fraudulent financial statements. The hypothesis put forward is:

H2. Opportunity has a significant negative effect on fraudulent financial reporting.

The Influence of Rationalization on Financial Statements Fraud

Rationalization is a concept suggesting that individuals committing unethical acts often create morally acceptable justifications beforehand. This means they differentiate between immoral actions and criminal activities. If a person is unable to justify dishonest behavior, they are less likely to engage in fraud [14]. Rationalization serves as a justification for fraudulent behavior stemming from a lack of personal integrity or moral reasoning among employees [17]. Research indicates that rationalization significantly contributes to the occurrence of fraudulent financial statements [12]. However, some studies show that rationalization has a negative impact on fraudulent financial statements [1], while other research indicates that it has no significant effect at all [13]. The hypothesis proposed in this study:

H3. Rationalization has a significant positive effect on fraudulent financial statements.

The Effect of Capability on Financial Statements Fraud

Capability refers to the combination of characteristics, skills, and abilities necessary to commit fraud [14]. According to research, high-level fraud cannot occur without individuals possessing significant expertise [1]. Moreover, it is believed that only those with substantial capability can recognize existing opportunities, pinpoint their vulnerabilities, and strategize effectively for committing fraud [4]. A study indicates that capability has a significant influence on fraudulent financial statements [11]. However, other research presents contrasting findings, suggesting that capability may not significantly impact fraud in financial statements [10]. Additionally, studies show that capability negatively affects financial statement fraud [12], [13]. The hypothesis becomes:

H4. Capability has a significant positive effect on fraudulent financial statements.

2. Method

Research design

This study uses a quantitative method in the form of an associative method that uses secondary data with a population of banking sub-sector companies listed on the Indonesia Stock Exchange (IDX) in 2020-2022. The objects of the study are elements of the internal control system, namely pressure (X1), opportunity (X2), rationalization (X3), and capability (X4) as independent variables. The dependent variable is financial statement fraud (Y).

Data collection instruments.

The data in this study were collected using the documentation method, namely by viewing and recording financial statements and annual reports of banking subsector companies listed on the Indonesia Stock Exchange from 2020 to 2022.

Participants/sample

The population in this study is the banking sub-sector companies listed on the Indonesia Stock Exchange (IDX) in 2020-2022, with the purposive sampling method used. The research sample can be seen in Table 1.

Table 1. Research Sample Calculation

No	Descriptions	Amount
1	Banking Companies Listed on the Indonesia Stock Exchange during the 2020-2022 period.	47
2	Companies that do not present their annual financial reports on the IDX website during the 2020-2022 period.	(1)
3	Banking companies that do not present their financial reports in Indonesian Rupiah (IDR).	(0)
4	Companies that only have complete data required for some observation year.	(6)
	Number of companies based on criteria.	40
	The total sample is based on the observation year for the 2020-2022.period.	120

Source: Processed secondary data, year 2024

Data analysis

In this research, several stages of data analysis were used, including Descriptive Statistical Analysis, Classic Assumption Test consisting of Normality Test, Multicollinearity Test, Heteroscedasticity Test, and Auto Correlation Test, followed by Multiple Linear Regression Test, Coefficient of Determination Test (R2), Test Model Feasibility (F Test) and t-Test.

Operational definition of variable Financial Statement Fraud

Financial statement fraud or accounting fraud is any intentional act or omission that results in materially misleading financial statements [18]. Earning management is used as an indicator to measure the level of financial statement fraud, using the discretionary accruals modified Jones model formula. The formula used is:

$$DACCit = TACCit / TAit\text{-}1 - NDACit$$

Description:

TACCit = total accrual of company i for year t.
TAit-1 = total asset of the company i for year t-1.
DAC-t-1 = discretionary accrual of the company i for year t.
NDACit = non-discretionary accrual of the company i for year

Pressure

Pressure is a factor that causes unethical behavior because pressure to carry out such attitudes can be financial or non-financial pressure and may not be real but can be felt [4]. Pressure is measured using financial targets measured by ROA [1]:

$$\frac{Earning\ After\ Tax\ and\ Interest\ (EAT)}{Total\ Assets}$$

Opportunity

Opportunity indicates the use of available circumstances to commit fraud created by ineffective control or governance systems. Opportunity is measured using effective monitoring and the ratio of the board of commissioner members (BDOUT) [14]; [1]:

$$BDOUT = \frac{Number\ of\ Independent\ Commissioners}{Total\ Board\ of\ Commissioners}$$

Rationalization

Rationalization is a concept that shows the justification of immoral actions and dishonest actions when he is involved in fraud [14]; [19]; [17]. Rationalization is measured using the total accrual ratio (TATA) [20]:

$$TATA = \frac{(Net\ Income - Cash\ Flow\ Operational)}{Total\ Assets}$$

Capability

Capability is a condition of having the nature or skills and abilities needed by someone to commit fraud where position, intelligence, ego, coercion, trickery, and pressure are supporting elements of capability. Capability is measured by the occurrence of a change of directors (DECHANGE) [14]; [12]. DCHANGE is measured by a dummy variable, namely: 1 if there is a change of directors, and 0 if there is no change of directors.

3. Results and Discussion

Descriptive Statistics Test

The results of the outlier data test showed that eight outlier data had been identified and removed from the analyzed data, so the number of observation units decreased from 120 to 112.

The data presented in Table 2 indicates that the pressure variable (ROA) has highest value of 8.41 and a lowest value of -18.70, resulting in an average of 4.50 and a standard deviation of 24.44. This suggests that the data shows significant variation or heterogeneity. The opportunity value (BDOUT) ranges from a maximum of 1 to a minimum of 0.25, with an average of 0.58 and a standard deviation of 10.37, indicating increasing variability or heterogeneity in the data. For the rationalization value (TATA), the highest recorded value is 0.57 and the lowest is -0.47, leading to an average of -0.57 and a standard deviation of 0.13. This also suggests a notable degree of variation or heterogeneity in the data. In contrast, the capability value (DCHANGE) has a highest value of 1 and a lowest of 0, with an average of 0.26 and a standard deviation of 0.44. This data appears to be more consistent or homogeneous. Finally, the financial statement fraud value (DACCit) ranges from a high of 0.49 to a low of -0.70, with an average of -0.18 and a standard deviation of 0.16, indicating that this data is also characterized by notable variability or heterogeneity.

Normality Test

The results of the normality test show the Asymp. Sig. (2-tailed) value is 0.000 less than 0.05. These results indicate that the data is not normally distributed, so the normality test uses the Monte Carlo method. The test results show the Sig. (2-tailed) value is 0.249, greater than 0.05, so it can be concluded that the research data is normally distributed.

Multicollinearity Test

Multicollinearity test results indicate that the tolerance value of the independent variable is more than 10% or 0.1, and the VIF value is less than 10. So, this model can be interpreted as having no symptoms of multicollinearity and can be used.

Heteroscedasticity Test

The results of the heteroscedasticity test show that the significance value of each variable, namely pressure, opportunity, rationalization, capability, and financial statement fraud, is above 0.05, which means that there is no heteroscedasticity so the research can continue.

Autocorrelation Test

The autocorrelation test shows a DW value of 2.005. This value is compared to the critical value in the Durbin-Watson table for a significance level of 5%, with a sample size of 112 (n)

and a number of independent variables of 4 (k = 4). Statistical analysis shows that the DW value is between the upper limit (dU) of 1.7664 and the lower limit (4-dU = 2.2336), which is 1.7664 <2.005 <2.2336. The test results conclude that there is no evidence of autocorrelation in this model.

Multiple Linear Regression Analysis

Table 3. Results of Multiple Linear Regression Analysis

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	164.13	240.692		.682	.497
	ROA (X1)	.009	.002	.138	4.920	.000
	BDOUT (X2)	-5.041	4.026	-.034	-1.252	.213
	TATA (X3)	1.125	.031	.954	36.819	.000
	DCHANGE (X4)	99.269	96.300	.028	1.031	.305

Source: Processed secondary data, year 2024

Referring to Table 3, multiple equations are obtained:

Y = α + β1X1 + β2X2 + β3X3 + β4X4

Y = 164.13 + 0.009X1 – 5.041X2 + 1.125X3 + 99.269X4

α The constant coefficient of 164.126 means that if the variables of pressure, opportunity, rationalization, and capability are perceived as 0, then financial report fraud will increase at a constant value of 164.126.

β1 The pressure regression coefficient is 0.009, meaning that a 1 unit increase in ROA will increase the occurrence of fraud on financial statements by 0.009 units.

β2 The value of the opportunity regression coefficient is -5.041, meaning that there is an increase in Ineffective monitoring or more effective monitoring by 1 unit, which will reduce the occurrence of fraud on financial statements by 5.041 units.

β3 The value of the rationalization regression coefficient is 1.125, meaning that if the total accrual increases by 1 unit, it will increase the occurrence of fraud on financial statements by 1.125 units.

β4 The value of the capability regression coefficient is 92.269, meaning that if there is an increase in the change of directors by 1 unit, it will increase the occurrence of fraud on financial statements by 99.269 units.

Determination Coefficient Test (R2)

The results of the determination coefficient test (R2) show that the adjusted R2 coefficient is 0.926 or 92.6 percent. This means that pressure, opportunity, rationalization, and capability together are 92.6 percent able to influence financial statement fraud, while 7.4 percent is due to other external factors

Model Feasibility Test (F Test)

The results of the model feasibility test (F-test) indicate an F coefficient value of 346.064, an F table value of 2.69, and a significance value of 0.000, which is less than the threshold of 0.05. These findings suggest that the model is viable for use and confirms that the independent

variables—pressure, opportunity, rationalization, and capability—together significantly influence the dependent variable of financial statement fraud.

Hypothesis Testing

The test results presented in Table 3 indicate that the pressure variable has a t-coefficient of 4.920, which exceeds the t-table value of 1.982. The significance level is 0.000, which is below 0.05, leading to the acceptance of H1. In contrast, the opportunity variable exhibits a t-coefficient of -1.252, falling short of the t-table value of 1.982, along with a significance value of 0.213, which is above 0.05, resulting in the rejection of H2. The rationalization variable, with a significance value of 0.000—also below 0.05—and a t-count of 36.819—greater than 1.982—leads to the acceptance of H3. Conversely, H4 is rejected because the capability variable shows a significance value of 0.305, exceeding 0.05, and a t-coefficient of 1.031, which is less than 1.982.

The Effect of Pressure on Financial Statement Fraud

Pressure has a substantial positive impact on financial statement fraud, leading to the acceptance of H1. This indicates that as the pressure on banking companies increases, so does the likelihood of financial statement fraud. Companies operating under high-pressure conditions tend to set ambitious financial targets, reflected in elevated ROA, which in turn places additional stress on management. The outcomes of this study align with findings from previous research [1]; [10]; and [9]. However, they contrast with the studies by [11] and [12] which suggest that pressure has a significant negative effect on financial statement fraud. Agency theory at level 1 posits that conflicts of interest between agents and principals create pressure on managers—acting as agents—to devise strategies for meeting the financial goals established by the company to satisfy the interests of the principals [21]. Furthermore, fraud diamond theory asserts that when individuals or organizations are under pressure, it heightens the likelihood of fraudulent behavior, particularly in financial reporting [8].

The Effect of Opportunity on Financial Statement Fraud

The results of the H2 hypothesis test indicate that the opportunity variable does not significantly affect financial statement fraud, leading to the rejection of the H2 hypothesis. This suggests that the level of financial statement fraud is lower in banking companies with ineffective monitoring. Companies characterized by weak monitoring typically have a low percentage of independent commissioners, specifically below 30%. This weak oversight, combined with high opportunities, allows management to create chances for committing financial statement fraud. The findings of this study align with previous research conducted by [10]; [1] and [11], which also indicates that opportunities negatively impact financial statement fraud. Conversely, these results conflict with the findings of research [13], which suggested that opportunities have a significant positive effect on financial statement fraud. Research [12] also indicates that opportunities do not significantly affect financial reporting fraud.

Information asymmetry between agents and principals provides opportunities for management to commit fraud in financial reporting for their benefit as stated in agency theory at level 1. Similarly, the fraud diamond theory suggests that opportunities can lead to fraud [20]. However, this study's findings contradict these theories.

The Effect of Rationalization on Financial Statement Fraud

H3 is accepted because rationalization significantly increases the likelihood of financial statement fraud in banking companies. Higher total accruals raise fraud risk, as management often manipulates profits to reflect better financial performance. An elevated accrual ratio suggests more profit manipulation through accrual transactions in revenue recognition. Management can overstate income and expenses based on subjective accruals, even without corresponding cash transactions, which may normalize fraudulent behavior. Research [12], shows that rationalization has a significant positive effect on financial statement fraud, which is in line with the results of this study. However, the research results by [1], contradict the results of this study because they show that rationalization results negatively affect financial

statement fraud. Different results are also shown by the study [13]; it turns out that rationalization does not significantly affect financial statement fraud.

Agency theory at level 1 suggests that issues can arise when executives or managers (agents) prioritize their personal gain over the interests of the organization in their decision-making [22]. In cases of fraud, the parties involved often seek a solution that benefits them all, ensuring that everyone is satisfied with the wrongdoing that has taken place. Additionally, the fraud diamond theory posits that financial statement fraud can occur when an individual convinces themselves that their fraudulent behavior is justified. This mindset can lead people, who may not have originally intended to commit fraud, to engage in criminal behavior because they find a rationale for their actions [8].

The Effect of Capability on Financial Report Fraud

The findings of the hypothesis test (H4) concerning the impact of capability on financial statement fraud indicated that the capability variable did not have a significant effect on financial statement fraud. As a result, the H4 hypothesis was rejected. This suggests that frequent changes in directors within banking companies do not influence management's ability to produce accurate financial reports, indicating a minimal occurrence of financial statement fraud. These results contrast with previous research conducted by [11], which found a significant effect of capability on financial report fraud. Additionally, other studies by [12] and [13] revealed a significant negative effect of capability on financial report fraud. However, the findings align with the research [10], which also concluded that capability did not significantly affect financial report fraud.

According to agency theory at level 1, the opportunities for fraud increase when management (agents) holds significant authority and capability. The new director's skills and access, which may differ from those of previous directors, can influence financial reporting policies. Furthermore, fraud diamond theory posits that financial reporting fraud is likely to occur when management possesses the ability, skills, and sufficient access to engage in fraudulent activities. [8], [20]. However, the results of this study contradict the predictions of both theories.

4. Conclusion

The results of the analysis show that financial reporting fraud in the banking sub-sector on the Indonesia Stock Exchange is mainly influenced by pressure and rationalization factors. Meanwhile, opportunity and capability factors do not have a significant influence on the likelihood of fraud. The findings of this study confirm that pressure, especially from high financial targets such as Return on Assets (ROA), increases the likelihood of fraudulent activities. Rationalization also plays an important role; a higher total accrual ratio allows management to manipulate earnings through accrual transactions, thus justifying fraudulent behavior. Conversely, opportunity and capability do not contribute significantly to financial reporting fraud. Supervision does not always create loopholes for fraud, and director changes are often intended to improve performance rather than hide errors. The appointment of more qualified leaders can help in the prevention and detection of fraudulent acts.

The theoretical implications of this study reinforce agency theory, which elucidates how conflicts of interest between agents and principals exert pressure on managers. This pressure compels them to pursue financial targets aligned with the principal's interests. However, this research challenges the fraud diamond theory, which posits that fraud necessitates capability alongside pressure, opportunity, and rationalization. The results indicate that capability is not a requisite for fraud to occur; rather, the interplay of pressure and rationalization can lead to financial statement fraud even in its absence. The significance of rationalization is underscored, as management may leverage the accrual ratio to validate manipulative practices, highlighting the need for a deeper understanding of how managers justify their actions.

This study provides empirical evidence that organizations must scrutinize their economic targets meticulously, as elevated targets can foster fraudulent financial reporting. Continuous monitoring of rationalization particularly regarding income and expense recognition based on accrual accounting principles is essential in banking institutions to facilitate early detection of potential fraud.

For future research, it is imperative to develop a more comprehensive theoretical model that explores the interactions among pressure, rationalization, and capability in the realm of financial statement fraud. Such a model could serve as a foundation for subsequent studies and practical applications, including an analysis of how fraudulent behaviors evolve over time and how factors like pressure and rationalization interact across various contexts.

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Interaction of profitability and capital intensity in determining corporate tax aggressiveness

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ABSTRACT
Tax aggressiveness reflects a company's strategy to minimize tax obligations through tax planning. This study aims to examine the influence of liquidity, leverage, profitability, firm size, and capital intensity on tax aggressiveness in manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2020-2022 period. Using purposive sampling, 72 companies were selected, resulting in 216 observational data points. The analysis method employed is multiple linear regression. The results show that profitability has a significant positive effect on tax aggressiveness, while capital intensity has a significant negative effect. These findings suggest that companies with higher profitability tend to be more aggressive in their tax planning, while those with higher capital intensity may adopt more conservative tax strategies. This study provides insights for policymakers to enhance the effectiveness of tax regulations and assists companies in understanding internal factors affecting their tax policies, offering guidance for future decision-making.

Keywords: tax aggressiveness, profitability, capital intensity, manufacturing companies, Indonesia stock exchange.

1. Introduction

Taxes play an important role in supporting the country's economy through financing various public needs. Based on data released by the Directorate General of Taxes, the realization of tax revenue at the end of 2022 has reached Rp2,034.5 trillion, 114 percent of the revenue target of *APBN Perpres* 98/2022, and grew 3.14 percent year-on-year. Tax revenue in Indonesia comes from tax revenue and customs and excise revenue. Among the components of these tax revenue sources, tax revenue makes the largest contribution. Judging from table 1, the realization figure of Rp.1,716.8 trillion or 115.6% exceeded the expected target. This growth reflects a remarkable performance in the post-pandemic recovery and is evidence of the importance of the contribution of taxation in supporting national economic stability.

Table 1. Tax Revenue Realization up to 31 December 2022

Description	Target of PR 98 2022 (trillion)	Realization until 31 December 2022	
		Rp (trillion)	% Realization
Income Tax (PPh)	813,68	998,22	122,68
-Non-oil and gas	749,02	920,37	122,88
-Migas	64,66	77,84	120,39
VAT & STLG	638,99	687.59	107,61
PBB and other taxes	32,29	30,95	95,87
Total	1.484,96	1.716,76	115,61

Source: *APBN* Performance and Facts Ministry of Finance *RI*

However, behind the success of this tax revenue, there are great challenges for the Company as a corporate taxpayer. Tax is not only the main source of state revenue, but also closely related to the Company's operations. The Company has an obligation to pay its taxes based on the net profit earned, the greater the net profit, the greater the tax burden that must be paid, and the more state revenue from the tax sector. However, the government's efforts to increase revenue are contrary to the company's goal of generating maximum profit [1]. For companies, taxes are an income-deducting burden that forces them to use various ways to minimize tax costs.

Tax aggressiveness is an act of engineering taxable income through tax planning which can be done in two ways, namely by tax avoidance as a legal practice or by tax evasion as an illegal practice. The greater the company makes savings on taxes, the more aggressive the company will be towards taxes. There are many motivations that can encourage companies to carry out tax aggressiveness, one of which is the characteristics of the company, namely liquidity.

Liquidity is a measure of how likely a company is to meet its short-term obligations or the company's ability to generate cash. A high liquidity ratio indicates a stable cash flow of a company. The higher the liquidity of a company, the better the company can fulfill its short-term obligations, such as taxes. On the other hand, a company with low liquidity indicates that the company is unable to meet its short-term obligations, causing the company to rebel in paying taxes and causing tax aggressiveness [2].

Leverage is a ratio that indicates the amount of external capital used by the company to carry out its operating activities [3]. The size of the debt owned by the company will affect the company's tax costs, this is because the interest expense arising from debt can reduce taxable income, so that the company's tax costs are low. However, companies with a high level of leverage will tend to retain current period profits to pay interest expenses arising from debt and creditors will supervise the company more on the grounds of the continuity of external capital loans so that the company will not be aggressive towards taxes.

Profitability is the ability of a business to generate profits using available resources. Profit is one of the factors that can affect the tax aggressiveness of a company because the higher the profitability of the company, the higher the profit earned [4]. When a company's

profit increases, the company's tax burden also increases, so companies tend to take aggressive tax measures to minimize their tax burden.

Company size is a measure that describes the size of a company, which can be known from the company's total assets, total sales, and stock market value [5]. The more assets a company has, the greater the size and productivity of the company. Companies that are usually classified as large companies are expected to generate higher profits through asset management. However, if the company's profit increases, the company will try to minimize the tax burden through aggressive tax measures, because higher profits affect the company's tax burden.

The last factor that can encourage companies to carry out tax aggressiveness is capital intensity. Capital intensity is a company's investment activity related to fixed asset investment [6]. Fixed assets are utilized by companies in carrying out operational activities to obtain profits. Fixed assets are depreciated every year and depreciation costs are included in the deductible cost category so that the higher the fixed assets, the company's tax aggressiveness will be low. This is due to tax preferences related to investment in fixed assets.

In recent years, Indonesia's tax policies have continued to evolve, with the government intensifying efforts to reduce tax avoidance and improve corporate tax compliance. For manufacturing companies, this presents a challenge as they strive to balance tax obligations while maintaining profitability. Understanding how companies navigate these increasingly strict and transparent tax regulations is essential. Previous studies have shown mixed results regarding the factors influencing tax aggressiveness. By examining manufacturing companies listed on the Indonesia Stock Exchange (IDX) from 2020 to 2022, this study aims to provide new insights that can support more effective tax policies.

The purpose of this study is to prove that liquidity, leverage, profitability, company size, and capital intensity affect the occurrence of tax aggressiveness. The theoretical basis used in this research is agency theory [7]. Agency theory states that the agency relationship can be interpreted as a contract that delegates responsibilities from the company owner (principal) to management (agent). The transfer of responsibility usually occurs because the condition of the shareholders does not allow them to carry out their job responsibilities. Agency theory explains agency problems between company owners (shareholders) and management. Agency problems always arise when two parties have different interests. Differences in the interests of principals and agents can affect various aspects of a company's operations, including policies related to corporate taxes. This will contradict the contract agreed between shareholders and management because management does not carry out its duties according to agreed procedures.

Companies that have a high liquidity ratio indicate a healthy company and have a smooth cash flow that allows the company to fulfill its short-term obligations, including paying taxes [8]. Based on agency theory, companies with low liquidity have different interests from the tax authorities. The low liquidity of a company indicates that the company has difficulty meeting its short-term obligations, causing the company to be disobedient in paying taxes. This is contrary to the expectations of the tax authorities who want companies to comply with their tax obligations in accordance with applicable regulations [9]. This statement is supported by previous research that found that liquidity has a negative effect on tax aggressiveness [10][11].
H1: Liquidity has a negative effect on tax aggressiveness

Leverage can describe a company's capital structure and financing decisions. Leverage also shows the risk faced by the company. The higher the debt, the higher the interest expense arising from the debt. Companies with high leverage will tend to maintain current period profits to pay these interest expenses because they get supervision from creditors on the grounds of the continuity of external capital loans so that companies will not take tax aggressiveness [12]. In relation to agency theory, an increase in debt will affect the size of the net profit available to the principal including the dividends to be received because the obligation to pay debt is prioritized. So, the agent will try to minimize debt because then the principal will feel satisfied and not worry about the net profit and dividends that will be received [13]. This statement is

supported by previous research that found that leverage has a negative effect on tax aggressiveness [14][15].

H2: Leverage has a negative effect on tax aggressiveness

Profitability is one of the indicators that can reflect the financial performance of a company. Analysis of the company's financial statements based on the profitability ratio, where the company's income is directly proportional to the tax paid. The higher the profitability ratio, the higher the profit generated by the company and the higher the potential tax burden [16]. According to agency theory, management as an intermediary will try to manage the company's tax burden so that the reward for management efficiency is not reduced by the decrease in company profits due to the tax burden. This statement is supported by previous research who argue that profitability has a positive effect on tax aggressiveness [5][17][18].

H3: Profitability has a positive effect on tax aggressiveness.

A large company will have many activities, high productivity and a larger market share. This will certainly lead to an increase in corporate profits which will affect the level of payment of corporate tax obligations. Larger companies tend to have sufficient resources to carry out tax planning. Corporate tax planning aims to minimize the company's tax burden [19]. According to agency theory, agents can use the resources of a company to maximize the rewards for agent work by reducing the tax burden through tax planning, thereby maximizing company performance. This statement is supported by previous research that found that This statement is supported by research who argue that company size has a positive effect on tax aggressiveness [17]

H4: Company size has a positive effect on tax aggressiveness

Fixed assets are one of the assets used by a company to generate profits. Fixed assets cause depreciation expense which directly reduces the company's taxable income. However, companies with large, fixed assets do not intend to use these fixed assets for the purpose of tax aggressiveness but rather use these fixed assets for the company's operational needs. The use of fixed assets can improve the performance of a company compared to the burden of depreciation of fixed assets. This is because the company follows the policy of depreciation of fixed assets in accordance with applicable tax regulations, so that the company no longer needs to make financial adjustments to fixed assets when calculating tax debt in the tax year [20]. This statement is supported by research result that capital intensity has a negative effect on tax aggressiveness [21][22].

H5: Capital intensity negatively affects tax aggressiveness

2. Method

This research was conducted on manufacturing companies listed on the Indonesia Stock Exchange through the website www.idx.co.id. This study observed all manufacturing companies listed on the Indonesia Stock Exchange in 2020-2022, totaling 192 issuers. The sample companies were identified using purposive sampling technique so that a sample of 72 issuers with 216 observations was obtained.

The study examines six key variables. First, tax aggressiveness is assessed using the cash effective tax rate (CETR), where a higher CETR indicates lower tax aggressiveness. Second, liquidity, measured by the current ratio (CR), reflects a company’s ability to meet short-term obligations, which can influence its tax payment decisions. Third, leverage, represented by the debt-to-asset ratio (DAR), indicates the extent to which a company relies on external funding, potentially affecting its tax strategy through interest expense deductions. Fourth, profitability, proxied by return on assets (ROA), is considered because higher profitability often leads to greater tax burdens, prompting firms to engage in tax planning. Fifth, company size, measured by the natural logarithm of total assets, is included as larger firms typically have more resources to manage tax-related matters. Lastly, capital intensity, assessed through the fixed asset intensity ratio (CINT), is relevant since firms with substantial fixed asset investments may leverage depreciation expenses to reduce taxable income. These variables were selected based

on agency theory and previous studies to explore how financial characteristics shape corporate tax behavior in an evolving regulatory landscape.

The data in this study were analyzed using multiple linear regression analysis techniques. Multiple linear analysis aims to estimate and/or predict the population mean or average value of the dependent variable based on the known values of the independent variables. The multiple linear regression model is shown in the following equation:

$$CETR = \alpha+\beta1CR+\beta2\ DAR + \beta3\ ROA + \beta4\ SIZE + \beta5\ CINT + e$$

3. Results and Discussion

The descriptive statistical results of the research data obtained, namely, tax aggressiveness has a minimum value of 0.00 and a maximum value of 15.93. The average value is 0.3818 with a standard deviation of 1.15253. Liquidity variable with a minimum value of 0.33 and a maximum value of 206.86. The average value is 3.7902 with a standard deviation of 14.09968. The leverage variable with a minimum value of 0.03 and a maximum value of 0.89. The average value is 0.3748 with a standard deviation of 0.17309. Profitability variable with a minimum value of 0.0001 and a maximum value of 0.3489. The average value is 0.081764 with a standard deviation of 0.0666712. The company size variable with a minimum value of 25.08 and a maximum value of 33.66. The average value is 28.8560 with a standard deviation of 1.58754. The capital intensity variable with a minimum value of 0.01 and a maximum value of 0.81. The average value is 0.3763 with a standard deviation of 0.19765.

Table 2. Descriptive Statistical Results

	N	Minimum	Maximum	Mean	Std. Deviation
CETR	216	.00	15.93	.3818	1.15253
CR	216	.33	206.86	3.7902	14.09968
DAR	216	.03	.89	.3748	.17309
ROA	216	.0001	.3489	.081764	.0666712
SIZE	216	25.08	33.66	28.8560	1.58754
CINT	216	.01	.81	.3763	.19765

Source: Data processed, 2024

Table 3 Results of the Clasilk Assumption Test

	Normality	Multicollinearity		Heteroscedasticity	Autocorrelation (Durbin-Watson
		VIF	Tolerance		
CR	.066	1.071	.934	.3818	1.985
DAR		1.163	.860	3.7902	
ROA		1.033	.968	.3748	
SIZE		1.100	.909	.081764	
CINT		1.006	.994	28.8560	

Source: Data processed, 2024

Based on the results of classical assumption testing displayed in Table 3, it can be seen that, the results of the first test, namely normality using the Kolmogorov-Smirnov method, show the Asymp. Sig. (2-tailed) of 0.062, which is greater than 0.05. This indicates that the research data is normally distributed. Second, the autocorrelation test resulted in a Durbin-Watson (DW) value of 1.985. With the number n = 216 and k = 5, the lower limit value (dL) is 1.73292 and the upper limit (dU) is 1.82581, so the value of 4 - dU is 2.17419. Because the DW value is in the range of 1.82581 < 1.985 < 2.17419, it can be concluded that the research data is free from autocorrelation. Third, the multicollinearity test results show that all independent variables, namely liquidity, leverage, profitability, firm size, and capital intensity,

have a tolerance value > 0.1 and a VIF value < 10.00. Thus, there is no multicollinearity problem in the data. Fourth, the heteroscedasticity test shows that the significance value of the liquidity, leverage, profitability, firm size, and capital intensity variables on the absolute residual variable is above 0.05. These results indicate that the data used are free from heteroscedasticity problems. Overall, the results of classical assumption testing indicate that the data in this study are suitable for further analysis.

Table 4 Test Results of the Coefficient of Determination

Model	R	R Square	Adjusted R Square
1	.676[a]	.457	.444

Source: Data processed, 2024

The adjusted R-square value can be seen in Table 4 is 0.444. This means that 44.4 percent of the variation in changes in tax aggressiveness can be explained by the variables of liquidity, leverage, profitability, company size, and capital intensity. While the remaining 55.6 percent of variations in tax aggressiveness are influenced by other variables outside the regression model used in this study.

Table 5. Model Goodness-of-Fit Test Results (F-test)

	Model	Sum of Square	df	Mean Square	F	Sig.
1	Regression	130.481	5	26.096	35.331	<.001[b]
	Residual	155.111	210	.739		
	Total	285.592	215			

Source: Data processed, 2024

Table 6. Multiple Linear Regression Test Results

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.014	1.093		.927	.355
	CR	.003	.004	.034	.642	.522
	DAR	.362	.365	.054	.992	.322
	ROA	8.059	.653	.638	12.337	<.001
	SIZE	-.049	.039	-.068	-1.271	.205
	CINT	-.237	.046	-.261	-5.110	<.001

Source: Data processed, 2024

Based on the results of the F-test in table 5, it shows that the p-value (Sig. F) is <0.001, which is smaller than 0.05. This shows that the variables of liquidity, leverage, profitability, company size, and capital intensity jointly affect tax aggressiveness, so the model is declared feasible to be tested.

The results of the multiple linear regression test can be seen in table 6, where liquidity has a t value of 0.642 with a significance value of 0.522> 0.05 and a regression coefficient value of 0.003. This shows that liquidity has no effect on tax aggressiveness, so H1 in this study is rejected. A company with high liquidity indicates that the company is liquid or has a smooth cash flow. This shows that the company is able to fulfill its short-term obligations including taxes on time so that it does not need to take tax aggressiveness actions.

Companies that have a low level of liquidity also do not always avoid paying taxes aggressively, instead they often focus on maintaining their business and managing their cash flow, so that companies will be compliant with taxation in order to avoid tax sanctions. The results of this study are supported by the results of previous research which state that liquidity

has no effect on tax aggressiveness [9][18][23]. The high and low liquidity of manufacturing companies will not affect aggressive actions against the tax burden that must be paid.

The results of the leverage test in table 6, have a t-value of 0.992 with a significance value of 0.322> 0.05 and a regression coefficient value of 0.362. This shows that leverage has no influence on tax aggressiveness, therefore H2 in this study is rejected. According to agency theory, management views debt as a burden on the company's operations, so managers choose not to have debt rather than use it as a tax deduction component. Debt has no effect on tax aggressiveness because companies go into debt not to reduce their tax burden but to finance company operations [14]. The results of this study are in line with the results of previous research which state that leverage has no effect on tax aggressiveness [24][25][26]. The size of the debt owned by the company will not affect management to take tax aggressiveness.

Profitability variable has a t-value of 12.337 with a significance value of <0.001 <0.05 and a regression coefficient value of 8.059. This shows that profitability has a positive effect on tax aggressiveness, so H3 in this study is accepted. When a company's profit is large, the company's tax burden also increases, and the profit earned by the company is generally directly proportional to the tax burden paid, so the company's potential for tax aggressiveness is higher. Company management acting as an agent will try to control the company's tax burden so that there is no reduction in compensation due to reduced company profits due to tax burden. Furthermore, more profitable companies tend to be more aggressive in their tax planning because management strives to minimize the tax impact on the profit that can be received by shareholders and the management itself. Companies with high profitability have more resources to optimize tax strategies, including using more complex and regulatory-based policies to reduce the tax burden. Additionally, companies earning large profits more driven to exploit tax avoidance opportunities to improve efficiency and maximize profits.The results of this study are in line with the results of previous research, where previous research has proven that profitability has a positive effect on tax aggressiveness [5][17][18]. Profitability is used in determining the management of the tax burden for the company, because profitability is an indicator of the company in achieving the profit earned by the company in a certain period. Companies with high profitability levels show the efficiency and effectiveness of company ma nagement in obtaining profits for the company.

However, based on table 6, company size has a t value of 1.271 with a significance value of 0.205> 0.05 and a regression coefficient value of 0.049. This shows that company size has no influence on tax aggressiveness, therefore H4 in this study is rejected. The company is a corporate taxpayer, so the size of the company cannot affect the company in fulfilling and carrying out its tax obligations. Large and small companies have the same obligations in carrying out tax obligations, so company size cannot influence managers' decisions to take tax aggressiveness [8]. The results of this study are supported by the results of previous research which state that company size has no effect on tax aggressiveness [27][28][29].

The size of the company cannot be a guarantee of tax aggressiveness by the company, even though large companies are able to use their resources to make good tax planning. Companies cannot always use their power to carry out tax planning because of the limitations in the form of the possibility of being in the spotlight and the target of regulatory decisions. Meanwhile, the results of the capital intensity have a t value of -5.110 with a significance value of <0.001 <0.05 and a regression coefficient value of -0.237. This shows that capital intensity has a negative effect on tax aggressiveness, so H5 in this study is accepted. The company does not deliberately keep a large proportion of fixed assets to carry out tax aggressiveness, but the company does use these fixed assets for the company's operational purposes. The use of fixed assets is able to improve the company's operations and maximize profits because it can encourage an increase in production capacity when compared to the depreciation expense charged to fixed assets. This is because the company makes policies on depreciation of fixed assets in accordance with applicable tax regulations so that the company no longer needs to make fiscal corrections to fixed assets in calculating taxes payable for the tax year [20]. The

results of this study are in line with the results of previous research, where previous research has proven that capital intensity has a negative effect on tax aggressiveness [14][21][22]. Capital intensity is the amount of fixed assets used as company investment. Fixed assets owned by the company experience depreciation every year. When the company's capital intensity is high, the amount of depreciation expense is also high so that the company's tax aggressiveness practices are low.

4. Conclusion

Based on the results of the analysis, it can be concluded that profitability has a positive effect on the tax aggressiveness of manufacturing companies listed on the Indonesia Stock Exchange in 2020-2022. The capital intensity variable has a negative effect on the tax aggressiveness of manufacturing companies listed on the Indonesia Stock Exchange in 2020-2022. Meanwhile, liquidity, leverage, and company size have no effect on the tax aggressiveness of manufacturing companies listed on the Indonesia Stock Exchange in 2020-2022.

The limitations in this study are that it only uses liquidity, leverage, profitability, company size, and capital intensity variables. There are still other variables that can affect tax aggressiveness. This study only uses manufacturing companies listed on the Indonesia Stock Exchange (IDX) by taking a research period of 3 years, namely from 2020-2022. The COVID-19 pandemic during the data collection period may also have affected the results, especially in the manufacturing sector. The pandemic likely influenced the financial performance of companies and their tax strategies, which could lead to unusual patterns of tax aggressiveness during this period. Future researchers are expected to improve the limitations in this study, namely by increasing the observation period and the observed company sector in order to produce better research data. In addition, future researchers are expected to add other variables besides those in this study as determining factors in finding the influence on the level of tax aggressiveness.

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Implementation of green accounting in Kaamala Resort Ubud

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ABSTRACT
Green accounting is pivotal for companies addressing environmental challenges through effective financial management. Despite its recognized benefits, many organizations hesitate to adopt environmental accounting due to concerns about profitability. This research aims to analyze the implementation of environmental accounting reporting at Kaamala Resort Ubud, located in Bali. Employing descriptive qualitative methods, the study utilizes primary data from interviews with the chief accounting manager and secondary data from the resort's 2023 profit and loss report and general ledger. Data collection methods included direct observation, documentation studies, and in-depth interviews. The findings reveal that while the resort's environmental cost accounting practices align with PSAK (Indonesian Financial Accounting Standards), the recording is overly simplistic and lacks transparency, as it merges with other cost accounts. Additionally, specific reporting based on the Hansen and Mowen model has not been implemented. The study proposes a tailored model design for environmental cost accounting, highlighting the importance of effective practices for cost analysis and informed decision-making, ultimately leading to cost savings.

Keywords: CSR, green accounting, implementation

1. Introduction

The advancement of tourism significantly impacts the development of tourist destinations, both positively and negatively [1]. The tourism sector has become a pillar of the national economy, contributing positively through job creation, new business opportunities, and increased regional income. In Bali, the growth of the tourism sector has notably attracted the hotel industry, with a projected increase in star-rated hotels from 2020 to 2022. According to data from the Central Statistics Agency (BPS) of Bali Province, the number of hotels reached 498 in 2022, with an average growth rate of 14.81%, primarily concentrated in Badung Regency.

However, the success of Bali's international tourism is accompanied by challenges, particularly concerning environmental sustainability [2]. Changes in land use can adversely affect the environment, leading to resource depletion and waste management issues [3]. The increased hotel accommodations correlate with rising waste generation, including organic waste from restaurants [4].

In 2023, Gianyar Regency faced significant waste challenges, generating 196,698.50 tons of waste, largely due to tourism. Poor waste management can harm ecosystems, necessitating environmentally friendly practices in the hospitality industry. Companies increasingly adopt environmental management to mitigate operational impacts and fulfill corporate social responsibility [5].

Environmental accounting, or green accounting, plays a crucial role in addressing these issues by identifying and measuring environmental impacts [6]. Despite the growing awareness of environmental issues, Indonesia lacks specific standards for environmental accounting, leading to varied implementations across companies [7]. The difference of this research compared to previous studies is that it first examines the recognition, measurement, and reporting applied by the company, which is then allocated to costs related to environmental accounting, adjusted according to the Hansen and Mowen concept. The Hansen and Mowen model categorizes environmental costs, aiding in accurate measurement and decision-making.

Despite its benefits, environmental accounting faces challenges, with some companies perceiving it as detrimental to profits [8]. Nonetheless, it remains essential for addressing environmental issues and fulfilling corporate responsibilities. The application of environmental accounting in Indonesia, particularly in resorts like Kaamala Resort Ubud, is limited. This resort employs various sustainable practices but does not specifically account for environmental costs.

The environmental cost accounting research at Kaamala Resort stands out due to its focus on the application of PSAK in the tourism context, examining the recording, measurement, and reporting of environmental expenditures. Unlike other more general studies, this research utilizes the environmental cost model from Hansen and Mowen for a more in-depth analysis. This study aims to contribute to the development of green accounting practices in the Indonesian resort industry, enhancing financial reporting quality and aiding management in decision-making regarding environmental management.

2. Method

This study utilizes a qualitative approach with a descriptive method to analyze the application of environmental cost accounting and corporate social responsibility at Kaamala Resort Ubud, located at Jl. Bisma No 888x 80571 Ubud, Bali. The research spans three months, from November 2023 to January 2024. Data sources include primary data, such as transcripts and recordings from interviews with the chief accounting manager, and secondary data, including financial reports and ledgers. Data collection involves in-depth interviews, documentation studies of organizational records, and direct observations of operational activities.

Validity is ensured by confirming interview transcripts with informants and triangulating data through repeated observations and documentation comparisons. Descriptive data analysis is employed to interpret the findings, which includes reviewing financial reports, conducting semi-structured interviews, and observing environmental impacts. Data reduction simplifies

and organizes the information, leading to insights on green accounting practices, challenges faced, and recommendations for improvement.

3. Results and Discussion

Environmental Cost Accounting at Kaamala Resort Ubud

Kaamala Resort Ubud implements environmental cost accounting by recognizing, measuring, and reporting costs associated with its environmental activities. The resort integrates these costs into the "other expense" account in its financial statements, reflecting its commitment to environmental stewardship and compliance with the Bali Provincial Regulation No. 1 of 2017 on Environmental Protection.

Based on interviews, the resort allocates funds for various initiatives, including waste management and local infrastructure maintenance. The treatment of these costs aligns with Indonesian Financial Accounting Standards (PSAK), as they are recognized on an accrual basis and reported collectively under other expenses.

Table 1 summarizes the compliance of Kaamala Resort Ubud's environmental cost accounting with PSAK standards:

This demonstrates that Kaamala Resort Ubud effectively adheres to PSAK in its environmental accounting practices, ensuring responsible management of environmental costs.

Table 1. Comparison of Environmental Cost Recognition, Measurement, and Reporting of Kaamala Resort Ubud

Description	Kaamala Resort Ubud	PSAK	Compliant
Other Expense	Recognized on an accrual basis and recorded as double entry	Recognized on an accrual basis and recorded as double entry	Valid
	Measured as cash or cash equivalents used	Measured as cash or cash equivalents sacrificed	Valid
	Reported in the income statement under other expense	Reported in the income statement	Valid

Source: Secondary Data Processed, 2024

Enviromental Cost Accounting at Kaamala Resort Ubud

The financial statements serve as a means to discuss the company's financial information with stakeholders such as management, investors, and auditors. In this context, environmental costs refer to expenditures incurred by the company related to environmental damage caused and the protective measures taken. These environmental costs represent the company’s investment in managing the environmental impacts arising from its operational activities, which can influence the company's future development [9]. However, based on an interview with Ibu Okta, Kaamala Resort Ubud has not implemented a separate presentation of environmental costs in its financial reports. Currently, these costs are presented under "other expenses." Although the resort has incurred environmental costs, the presentation does not align with the theory proposed by Hansen and Mowen, which categorizes environmental costs into four categories: prevention costs, detection costs, internal failure costs, and external failure costs. The interview with Ibu Okta indicates a lack of understanding of this theory, and the recording of costs is done according to superiors' directives rather than following established accounting principles. This situation has drawn the researcher’s attention to identify the costs related to the environment and to perform account mapping according to Hansen and Mowen's theory. The alignment of environmental cost presentation can be seen in the comparison of cost components presented in a table that outlines various subcomponents of costs incurred by Kaamala Resort Ubud.

Recommendations for Environmental Cost Accounting Reporting at Kaamala Resort Ubud According to the Hansen and Mowen Model

Based on the previous data, Kaamala Resort Ubud should present environmental costs separately in the annual financial report to enhance transparency. Adopting cost classification according to Hansen and Mowen's model, including prevention costs, internal failure costs, detection costs, and external failure costs, is highly recommended. A specific presentation plan for environmental costs in the annual report is essential to demonstrate commitment to sustainability. The implementation of green accounting and training for management is also necessary to effectively assess environmental cost efficiency. Additionally, regular monitoring and evaluation of environmental programs will help optimize incurred costs. Involving stakeholders in the reporting of environmental costs can enhance accountability. Furthermore, it is important to comply with regulations such as the Environmental Protection Law, which mandates proper reporting and management of environmental impacts. By following these recommendations, Kaamala Resort Ubud can strengthen its reputation and attract more tourists and stakeholders. Table 2 shows environmental cost report for Kaamala Resort Ubud year 2023.

Table 2. Environmental Cost Report for Kaamala Resort Ubud Year 2023

Environmental Costs	Amount (IDR)	Total (IDR)	% of Total Environmental Costs
Prevention Costs			
Supplier Selection Costs	158,000		
Control Equipment Selection Costs	900,000		
Process and Product Design Costs	1,550,000		
Total Prevention Costs		2,608,000	25.82%
Detection Costs			
Product and Process Inspection Costs	538,000		
Environmental Activity Inspection Costs	170,000		
Pollution Testing Implementation Costs	593,000		
Total Detection Costs		1,301,000	12.88%
Internal Failure Costs Risky Waste Processing and Disposal Costs	1,250,000		
Material Recycling Costs	1,760,000		
Waste Destruction Equipment Operational Costs	2,153,000		
Total Internal Failure Costs		5,088,000	50.37%
External Failure Costs			
Realized External Failure Costs			
Personal Injury Claim Settlement Costs	0		
Cleaning/Repairing Contaminated Environment Costs	1,105,000		
Loss Due to Poor Environmental Image	0		
Unrealized External Failure Costs			
Care Costs for Victims Exposed to Contaminated Environment	0		
Loss of Livelihood Costs	0		
Loss of Good Environment Costs	0		
Total External Failure Costs.		1,105,000	10.94%
Total Environmental Costs		10,102,000	100%

Source: Secondary Data Processed, 2024

4. Conclusion

Based on the research on the implementation of environmental cost accounting at Kaamala Resort Ubud, the conclusions of this study are:

1. The treatment of environmental costs at Kaamala Resort Ubud is by PSAK, but they are still recorded simply in one account, namely other expenses.
2. Although environmental costs are presented in the income statement, they are still categorized under other expenses, indicating a lack of transparency in the financial statements according to Hansen and Mowen's theory.
3. Kaamala Resort Ubud should present environmental accounting reports separately from traditional financial statements to provide clearer information for the government and stakeholders. By applying the Hansen and Mowen model, environmental costs can be categorized into prevention, detection, and internal and external failure costs. The plan to prepare a special report in the future indicates management's awareness of the importance of environmentally friendly accounting, which will aid in making balanced decisions between company operations and the surrounding environmental conditions.

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Capital efficiency and organizational performance: A dynamic panel analysis of Weighted Average Cost of Capital (WACC) and ROA in Indonesia's healthcare sector

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ABSTRACT
The healthcare sector in Indonesia faces challenges in managing capital efficiency and organizational performance due to high operational costs and the need for continuous investment in health technology and infrastructure. As a key driver of economic growth, especially post-COVID-19, optimal capital management is crucial for sustaining operations and creating stakeholder value. This study examines the relationship between the Weighted Average Cost of Capital (WACC) and Return on Assets (ROA) in Indonesia's healthcare sector using a quantitative dynamic panel analysis approach. Financial data from healthcare companies listed on the Indonesia Stock Exchange were analyzed using the Generalized Method of Moments (GMM). The findings indicate that WACC negatively affects ROA, but the relationship is not statistically significant. Leverage, measured through the Debt to Asset Ratio and Debt to Equity Ratio, strengthens this relationship positively. Meanwhile, cash holdings and firm size have a negative moderating effect, whereas Net Working Capital (NWC) reinforces the relationship positively. These results highlight the importance of effective debt and liquidity management in optimizing profitability in the healthcare sector. The study contributes theoretically to capital efficiency discussions and offers practical insights for industry stakeholders, including decision-makers and investors. The research is novel in its focus on Indonesia's healthcare sector, making it highly relevant for financial and strategic planning in the industry.

Keywords: capital efficiency, healthcare sector, leverage, return on assets, weighted average cost of capital

1. Introduction

The health sector has a strategic role in the economy, especially amidst the increasing need for quality health services. Not only responsible for maintaining individual welfare, this sector is also a driving force for economic growth through job creation, technological innovation, and contributions to national productivity [1]. In the era of globalization, the demand for better health services is increasing, along with demographic changes, the COVID-19 pandemic, and lifestyles that have an impact on the increasing prevalence of catastrophic diseases [2].

In response to disruptions and delays in health services due to complex geopolitical and epidemiological issues, health policymakers are beginning to consider changes in delivery and cost structures. According to the World Health Organization (WHO), health spending is growing faster than global economic growth, accounting for up to 10% of global gross domestic product (GDP) [3]. This trend is even more striking in low- and middle-income countries, where health spending is increasing by an average of 6% per year, compared with 4% in high-income countries [4]. The health sector in Indonesia is one of the fastest-growing industries. According to data from the Central Statistics Agency (BPS) in 2020-2021 after COVID-19, revenue from the health sector has increased substantially [5] [6].

Indonesia's healthcare sector faces a complex set of financial challenges. First, high operational costs are a major problem as medical infrastructure tends to be expensive to build and maintain [7]. Furthermore, the insufficiency of private funds is also a sensitive issue. Donors and sponsors are often difficult to secure, so the reliability of additional resources is compromised [8]. This is reflected in donor programs that are sometimes unstable and rely on spontaneous donations. Furthermore, the high cost of medicines is another barrier. Some patented medicines that are only produced by multinational pharmaceutical companies make the cost of treatment very high so that not all people can access them [9]. This has prompted discussions about fairer and more inclusive drug pricing policies. Finally, demographic and epidemiological changes also affect the allocation of funds. The rise in the aging population and the increase in cases of chronic diseases require specific management strategies that require additional investment [10].

A literature review of the financial condition of the health sector in Indonesia shows that this sector has experienced significant growth, especially during the COVID-19 pandemic. Although many other sectors have slumped, the health sector has become a target for investors, both local and foreign, due to the increasing demand for health services and medical products [11]. Research shows that financial ratios such as debt-to-asset ratio and current ratio have a positive influence on the stock prices of companies in this sector [12], [13], [14], while return on equity does not have a significant effect [13], [15]. This indicates that healthcare companies can maintain stable financial performance even in times of crisis. The performance of healthcare sector stocks also shows higher returns compared to other stock indices, reflecting the attractiveness and potential for strong growth in the long term [16].

In the increasingly complex economic challenges, capital efficiency and organizational performance in this sector are crucial aspects to ensure operational sustainability and positive contributions to national economic growth. Capital is one of the main elements in organizational operations, including in the health sector [17]. The efficiency of capital use can be measured through various indicators, one of which is the Weighted Average Cost of Capital (WACC). WACC reflects the weighted average cost of financing sources used by the organization, both from equity and debt [18]. Efficiency in managing WACC has the potential to increase the company's value and have a positive impact on the overall performance of the organization. On the other hand, Return on Assets (ROA) is often used as a primary indicator to measure the financial performance of an organization, especially in evaluating the effectiveness of asset usage to generate profits [19].

The dynamics of the health sector in Indonesia present their challenges. As a capital-intensive sector, health companies often face a dilemma in choosing the optimal capital structure to support the growth and development of health services [20]. In addition,

dependence on certain sources of financing, such as debt or equity, has significant implications for the cost of capital that the Company must bear [21]. It is important to understand how capital efficiency as measured by WACC affects the financial performance of an organization as represented by ROA.

Several previous studies have discussed the relationship between capital structure, capital cost efficiency, and organizational performance across sectors. One study found that capital structure can improve company performance for small and medium enterprises [22], [23]. Other studies reveal a significant non-monotonic relationship between capital structure and firm performance, with positive performance at low debt levels but negative at higher debt levels [24]. In addition, a meta-analytic study confirmed a negative relationship between firm performance and capital decisions, which is in line with the trade-off model with agency costs and the pecking order theory [25]. Firms with higher relative efficiency are expected to pay a lower cost of capital, indicating a negative relationship between WACC and relative firm efficiency [26]. WACC can be used as a benchmark for capital structure optimization, indicating that it has a significant effect on the cost of capital.

In the issue of health sector finance, technical efficiency had a positive impact on cost efficiency, indicating that optimizing resource use can result in better financial outcomes [27]. This highlights the importance of efficient use of capital in healthcare settings. The relationship between intellectual capital and healthcare organizational performance in the Italian healthcare system suggests that several IC components influence organizational performance and can be used to define resource allocation policies in the healthcare sector [28].

The research gap in previous literature shows that although there are many studies discussing the relationship between capital structure, cost of capital, and company performance in various sectors, there are still limitations in examining the relationship specifically in the health sector of developing countries such as Indonesia. Several studies have identified the relationship between capital cost efficiency and company performance in other sectors, but there has been no in-depth study of how capital efficiency, as measured by WACC, affects organizational performance in the health sector, especially in dynamic conditions influenced by external factors such as pandemics and demographic changes. Most studies tend to focus on the industrial or manufacturing sectors that have different characteristics from the health sector, both in terms of cost structure and operational dynamics. In addition, changes in government regulations and policies in the Indonesian health sector, such as the implementation of the National Health Insurance (JKN), also affect the financing structure and capital efficiency of organizations. This condition creates a need to understand how organizations in the health sector adjust their financing and operational strategies to improve capital efficiency and maintain optimal performance. Based on the gaps and urgency, there are several research questions that need to be studied further:

RQ1. How does the Weighted Average Cost of Capital (WACC) affect Return On Assets (ROA) in the Indonesian healthcare sector?

RQ2. What factors moderate the relationship between the Weighted Average Cost of Capital (WACC) and Return on Assets (ROA) of the Indonesian health sector?

This study aims to analyze the effect of Weighted Average Cost of Capital (WACC) on Return on Assets (ROA) in the healthcare sector in Indonesia. Specifically, this study also seeks to explore factors that can moderate the relationship between WACC and ROA. Through a dynamic panel analysis approach, this study provides a relevant framework for evaluating capital efficiency and its implications for organizational performance in the context of a dynamic healthcare sector influenced by other determinants.

2. Method

This study uses a quantitative design with a dynamic panel analysis approach, which allows the evaluation of the causal relationship between the Weighted Average Cost of Capital (WACC) and Return on Assets (ROA) in the health sector in Indonesia. This approach was chosen to

capture the temporal nature and heterogeneity of data between companies, as well as consider the possibility of endogeneity in the research model. The data used are secondary, and sourced from the annual reports of health sector companies listed on the Indonesia Stock Exchange (IDX) in the observation period for the last five years.

Variable measurements are conducted to understand the relationship between Weighted Average Cost of Capital (WACC) and Return on Assets (ROA), as well as the role of moderator variables that can strengthen or weaken the relationship. The variables measured include dependent, independent, moderator, and control variables. The determination of measurement indicators is based on previous literature and empirical practices in the field of corporate finance [18], [19], [29], [30], [31], [32], [33], [34], [35]. The measurement of these variables aims to accurately reflect organizational performance and capital efficiency, especially in healthcare sector companies. In addition, the measurement method ensures compliance with the characteristics of the available data, such as annual reports and financial databases. The selection of moderator variables is carried out to enrich the analysis and dig deeper into the factors that influence the main relationships, thus providing a more comprehensive insight into the dynamics of capital efficiency in the healthcare sector.

In this study, the dependent variable used is Return on Assets (ROA), which measures the company's financial performance in using its assets to generate profits. ROA reflects the company's efficiency in utilizing its resources to create profits. Mathematically, ROA is calculated by dividing net income by total assets and expressed as a percentage, [36] as follows:

$$ROA = \frac{Net\ Income}{Total\ Assets}\ x\ 100\%$$

The higher the ROA value, the better the company's performance in generating profits from its assets. In the context of the health sector, ROA is an important indicator considering the characteristics of this sector which is capital-intensive with high operating costs.

The independent variable that is the main focus is the Weighted Average Cost of Capital (WACC), which measures the weighted average of the company's cost of capital from equity and debt. WACC reflects the minimum rate of return that a company must generate to satisfy investors and creditors. The formula for calculating WACC is [37]:

$$WACC = \left(\frac{E}{V} \times R_e\right) + \left(\frac{D}{V} \times R_d \times (1 - T)\right)$$

A lower WACC indicates that the company can obtain capital at a more efficient cost, while a high WACC can burden profitability due to high financing costs. In this study, the relationship between WACC and ROA is analyzed to see how capital cost efficiency affects financial performance. The unique nature of the healthcare sector, which has a complex cost structure and is dependent on technological innovation, makes WACC a strategic indicator in managing capital and optimizing company value.

Moderator variables in this study are used to identify factors that can strengthen or weaken the relationship between WACC and ROA. The four moderating variables considered are cash holding, leverage, firm size, and NWC. Cash holding refers to the amount of cash held by a firm as a percentage of total assets, indicating the firm's liquidity in facing operational and investment needs. Leverage reflects the proportion of debt to equity, indicating the level of risk and cost burden borne by the firm in financing. Firm size, measured by the natural logarithm of total assets, describes the scale of the firm's operations and its ability to manage capital efficiently. Meanwhile, NWC, calculated as the difference between current assets and current liabilities to total assets, represents the efficiency of the firm's working capital management.

The population in this study includes all health sector companies listed on the Indonesia Stock Exchange (IDX) up to the observation period, with a total of 34 companies based on

available data. These companies consist of various sub-sectors, including pharmaceuticals, hospitals, medical laboratories, and other health services. This population was selected because the health sector in Indonesia plays a strategic role in supporting the national economy and facing complex financial challenges. To determine the research sample, a purposive sampling method was used with the following inclusion criteria: (1) the company must be listed on the main listing board of the Indonesia Stock Exchange, which reflects higher performance stability and transparency compared to the development board; (2) the company has complete financial reports during the observation period; and (3) relevant data to calculate the research variables (WACC, ROA, and moderators) are consistently available. Based on these criteria, 13 companies were selected as research samples according to Tables 1-6. The selected samples include large companies such as Kalbe Farma Tbk. (KLBF), Mitra Keluarga Karyasehat Tbk. (MIKA), and Medikaloka Hermina Tbk. (HEAL), which represents the main sub-sectors in the health industry. This selection aims to ensure that the analysis reflects the financial dynamics of significant and relevant companies in the Indonesian healthcare sector.

In this study, the data used are secondary and taken from two main sources, namely the Indonesia Stock Exchange (IDX) and the publication of annual financial reports of companies listed in the health sector. The data collected covers the period 2021 to 2023. First, data on companies listed in the health sector were taken from the Indonesia Stock Exchange (IDX), which provides information on stock prices, equity data, and relevant market information. This data is used to measure variables such as Weighted Average Cost of Capital (WACC) and information related to the company's capital structure. Second, the annual financial reports of health sector companies available on each company's website are used to obtain information on financial performance, including Return on Assets (ROA), cost of debt, equity, and other related information.

In this study, data analysis techniques were carried out through several stages to ensure the validity and reliability of the results. First, descriptive statistical analysis was carried out to describe the characteristics of the data collected. These descriptive statistics include calculating the average, median, standard deviation, and range of values for key variables such as WACC, ROA, and moderating variables (such as cash holding, leverage, and company size). The purpose of this stage is to provide an overview of the distribution and trends of the data.
Next, a classical assumption test is carried out to ensure that the data meets the regression requirements, including a multicollinearity test to detect the presence of a linear relationship between independent variables, a heteroscedasticity test to evaluate the diversity of error variances, and an autocorrelation test to identify the presence of a relationship between errors in panel data [38].

To analyze the dynamic relationship between WACC and ROA, dynamic panel analysis was used with the Generalized Method of Moments (GMM) Arellano-Bond method [39]. This method is chosen to overcome the endogeneity problem and identify the long-term influence between WACC and ROA. This model also allows to explore the moderating influence of factors such as cash holding, leverage, and company size on the relationship.
The estimation model for this study can be explained as follows [36]:

$$ROA_{it} = \alpha + \beta_1 WACC_{it} + \beta_2 MOD_{it} + \gamma X_{it} + \in_{it}$$

Information:

- ROA_{it} = Return on Assets of company iii in year ttt
- $WACC_{it}$ = Weig Weighted Average Cost of Capital of company iii in year ttt
- MOD_{it}= Moderator variables including cash holding, leverage, and company size
- X_{it} = Control for other relevant variables
- $\in_{it}$= Error term
- α dan β = parameters to be estimated

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By using the Arellano-Bond GMM model, this model can handle the endogeneity problem between WACC and ROA that often appears in panel data analysis, and overcome the dependency between variables over time. The use of this model is expected to provide a better understanding of how capital efficiency as measured by WACC affects organizational performance (ROA), as well as how moderating variables affect the relationship.

3. Results and Discussion

Panel Regression Models and Descriptive Statistics

Simple linear regression analysis is a statistical method used to model the relationship between one independent variable (predictor) and one dependent variable (outcome). In financial research, simple linear regression is often used to test relationships such as the impact of WACC on ROA. The results provide insight into the statistical significance and strength of the relationship between variables.

Table 1. WACC and ROA Simple Linear Regression Test Results

Model Summary

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate
1	.548[a]	.300	.237	.04975

a. Predictors: (Constant), WACC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.208	.024		8.761	.000
	WACC	-.414	.191	-.548	-2.173	.053

a. Dependent Variable: ROA

Source: SPSS 25 Calculation

Based on Table 1 explains the simple linear regression analysis which produces a value of a (Constant) of 0.208, while the regression coefficient value is -0.414. These results can be concluded that WACC has a negative effect on ROA in health sector companies in Indonesia. The sig. value of 0.053 is greater than the significance value of 0.05 so it can be interpreted that WACC has a negative but insignificant effect on ROA. The R^2 (R Square) value produces a value of 0.300 which means that WACC affects ROA by 30% while other percentages can be influenced by other variables.

The interpretation of this analysis explains that when WACC (Weighted Cost of Capital) decreases, ROA (Return on Assets) will increase because it has a negative relationship. This means that when the capital structure or low costs can affect profitability, this indicates that the company is more efficient and profitable, so it can attract more investors in the health sector.

Univariate Analysis

Univariate analysis is a data analysis method that focuses on a single variable to understand the distribution, characteristics, and patterns of the data [40]. In financial research, it is often used to describe metrics such as stock returns, volatility, or financial ratios. The technique involves descriptive statistics such as mean, median, standard deviation, skewness, and kurtosis, as well as visualizations such as histograms and boxplots. Univariate analysis helps identify outliers, historical trends, and data distributions, which are important first steps before further analysis. The first analysis was conducted on variable X (WACC) and variable Y (ROA), the method used was simple linear regression which explained that WACC had a negative but insignificant effect on ROA. The first hypothesis cannot be accepted, because the first hypothesis stated that there was a significant effect while the research results stated that there was a negative but insignificant effect of WACC on ROA. This result is proven by the regression coefficient value

of -0.414 and sig. 0.053. The conclusion of this analysis is that when WACC or cost of capital decreases, what will happen is an increase in profitability or ROA because when the cost of capital is low, the Company's profitability automatically increases. The results of this study are supported by the statement that higher cost of capital has a negative impact on profitability [41].

Table 2. Simple Linear Regression Test Results Cash Holding

Model Summary

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate
1	.741[a]	.550	.400	.05839

a. Predictors: (Constant), WACC*CASH HOLDING, WACC, CASH HOLDING

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.028	.143		.199	.847
	WACC	.116	.888	.087	.130	.899
	CASH HOLDING	1.092	.876	1.451	1.247	.244
	WACC*CASH HOLDING	-4.883	5.681	-1.040	-.859	.412

a. Dependent Variable: ROA

Source: SPSS 25 Calculation

The second analysis was conducted with variable X (WACC), moderation variable (Cash Holding), and variable Y (ROA). Based on Table 2, explains that the R^2 value is 0.550 which means that Cash Holding strengthens the relationship between WACC and ROA by 55%, this result is supported by the increase in R Square from Table 1 to Table 2. This analysis also produces a Cash Holding moderation regression coefficient value of -4.883, this value explains that Cash Holding moderates the relationship between WACC and ROA in the Indonesian Health sector negatively.

The interpretation of this analysis explains that when Cash Holding increases, WACC will decrease and ROA will increase. The explanation is that when cash and cash equivalents increase, profitability will increase while the cost of capital will decrease due to an increase in ROA. These results are supported by previous which found that companies with higher liquidity ratios tend to have lower costs of capital due to lower risk perceptions among investors and creditors [42].

Table 3. DAR Simple Linear Regression Test Results

Model Summary

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate
1	.918[a]	.842	.790	.03458

a. Predictors: (Constant), WACC*DAR, DAR, WACC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.116	.079		-1.463	.178
	WACC	2.312	.853	1.746	2.709	.024
	DAR	-1.018	.301	-2.115	-3.383	.008
	WACC*DAR	5.147	.927	.925	5.550	.000

a. Dependent Variable: ROA

Source: SPSS 25 Calculation

The third analysis was conducted with variable X (WACC), moderation variable (DAR), and variable Y (ROA). Based on Table 3, explains that the R^2 value is 0.842 which means that DAR strengthens the relationship between WACC and ROA by 84%, this result is supported by the increase in R Square from Table 2 to Table 3. This analysis also produces a DAR moderation regression coefficient value of 5.147, this value explains that DAR moderates the relationship between WACC and ROA of the Indonesian Health sector positively.

The interpretation of this analysis is that the DAR variable strengthens the relationship between WACC and ROA, which means that when DAR is high or when the company uses more debt to finance the company, the WACC cost of capital will increase. The positive relationship between DAR and WACC indicates that there is a maximum limit to the use of debt, where at a certain level an increase in debt actually increases the overall cost of capital. While the positive relationship between DAR and ROA indicates that the company is able to utilize debt effectively to increase asset productivity and create value.

Table 4. DER Simple Linier Regression Test Results

Model Summary

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate
1	.799[a]	.639	.518	.05232

a. Predictors: (Constant), WACC*DER, WACC, DER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.606	.232		2.612	.028
	WACC	-4.739	2.097	-3.580	-2.260	.050
	DER	.493	.255	3.058	1.929	.086
	WACC*DER	2.202	.884	.508	2.491	.034

a. Dependent Variable: ROA

Source: SPSS 25 Calculation

The fourth analysis was conducted with variable X (WACC), moderation variable (DER), and variable Y (ROA). Based on Table 4, explains that the R^2 value is 0.639 which means that DER strengthens the relationship between WACC and ROA by 63.9%, this result is supported by the increase in R Square from Table 2 to Table 4. This analysis also produces a DER moderation regression coefficient value of 2.202, this value explains that DER moderates the relationship between WACC and ROA in the Indonesian Health sector positively.

The interpretation of this analysis is that the higher the DER, the greater the proportion of debt compared to equity in the company's capital structure. This positive relationship indicates that an increase in DER (higher debt) causes an increase in WACC. The positive relationship between DER and ROA indicates that when DER increases, ROA also increases, which means that the company is able to use debt effectively to generate profits from its assets. In other words, debt provides a higher return than the costs it incurs.

Based on the results of simple linear regression analysis, DAR and DER have a relationship with WACC and ROA. DAR and DER are a unit of Leverage, so it can be concluded that Leverage moderates the relationship between WACC and ROA in the Indonesian Health sector positively.

Table 5. Simple Linear Regression Test Results for Company Size

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.562[a]	.316	.088	.07198

a. Predictors: (Constant), WACC*In (Total Aset), In (Total Aset), WACC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.451	1.706		-.264	.798
	WACC	1.431	7.856	1.081	.182	.860
	In (Total Aset)	.023	.059	.277	.394	.703
	WACC*In (Total Aset)	-.075	.272	-1.640	-.275	.790

a. Dependent Variable: ROA

Source: SPSS 25 Calculation

The fifth analysis was conducted with variable X (WACC), the moderating variable of company size, and variable Y (ROA). Based on Table 5, explains that the R^2 value is 0.316 which means that company size strengthens the relationship between WACC and ROA by 31.6%, this result is supported by the increase in R Square from Table 2 to Table 5. This analysis also produces a company size moderation regression coefficient value of -0.075, this value explains that company size moderates the relationship between WACC and ROA of the Indonesian Health sector negatively.

The interpretation of this analysis is to explain that the existence of a company value based on assets will be able to strengthen the relationship between WACC and ROA. Basically, when the WACC value decreases, what happens is that the company value increases because profitability increases, the more efficient the company is in generating profits from its assets, the more the company value will increase. This condition can increase the market perception of the company.

Table 6. Simple Linear Regression Test Results Net Working Capital

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741[a]	.548	.398	.05848

a. Predictors: (Constant), WACC*NWC, WACC, NWC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.318	.104		3.047	.014
	WACC	-1.280	.688	-.967	-1.861	.096
	NWC	-.010	.005	-1.668	-1.963	.081
	WACC*NWC	.043	.028	1.736	1.522	.162

a. Dependent Variable: ROA

Source: SPSS 25 Calculation

The sixth analysis was conducted with variable X (WACC), Net Working Capital moderation variable, and Y variable (ROA). Based on Table 6, explains that the R^2 value is 0.548 which means that Net Working Capital strengthens the relationship between WACC and ROA by 54.8%, this result is supported by the increase in R Square from Table 2 to Table 6. This analysis also produces a Net Working Capital moderation regression coefficient value of 0.043, this value explains that Net Working Capital moderates the relationship between WACC and ROA of the Indonesian Health sector positively.

The interpretation of this analysis is to explain that with the existence of Net Working Capital it will be able to strengthen the relationship between WACC and ROA. The explanation is that when NWC increases, this can reduce the negative impact of high WACC on ROA. For example, when a company has sufficient or good NWC (good liquidity), it is able to manage capital costs more efficiently, so that it can ultimately increase ROA. So, it can be concluded that Net Working Capital moderates the relationship between WACC and ROA in the Indonesian Health sector positively.

Discussion

The health sector in Indonesia plays a strategic role in supporting economic and social development. However, this sector faces major challenges, such as high capital requirements for technological innovation, operational efficiency, and service sustainability. In this context, capital cost efficiency is a crucial aspect of increasing the profitability of health sector companies. Weighted Average Cost of Capital (WACC) is the main indicator to measure this efficiency, because it reflects the average cost of capital borne by the company to fund its operations.

As a capital-intensive sector, healthcare companies in Indonesia must be able to optimize capital in order to create long-term value. However, there have been few studies that specifically explore the relationship between WACC and the profitability of companies in this sector, especially with Return on Assets (ROA) as a proxy for financial performance. In addition, the dynamics of this relationship can be influenced by various moderating factors, such as cash holding, leverage, company size, and working capital efficiency, which can strengthen or weaken the effect of WACC on ROA. Thus, this study aims to examine in depth the relationship between WACC and ROA, as well as the role of moderating variables in the context of the healthcare sector in Indonesia. This study is expected to provide practical and academic contributions to support strategic decision-making in the financial management of healthcare sector companies.

This study shows that WACC has an effect on ROA in the Indonesian health sector. Other variables that support the relationship between WACC and ROA are leverage (DAR and DER), which have a significant role in moderating the relationship between WACC and ROA, with both increasing the effectiveness of debt use to increase profitability. On the other hand, Company Size or company value is not proven to have a significant effect and has a negative relationship with other variables Cash Holding also has a negative relationship to WACC and ROA, while Net Working Capital shows a more complex relationship in moderating the effect of capital costs on profitability. These results highlight the importance of effective debt management and good liquidity in maximizing profitability in the Indonesian health sector.

The results of the analysis show that the effect of Weighted Average Cost of Capital (WACC) on Return on Assets (ROA) is negative but not significant. This result is evidenced by the regression coefficient value of -0.414 and sig. 0.053. This condition can be caused by several factors. First, the capital cost structure in the health sector often has high complexity, with varying proportions of debt and equity between companies. This creates uneven impacts of WACC on profitability. Second, the health sector has a large dependence on fixed assets and long-term investments, so the efficiency of capital costs only has a real impact over a longer period. Third, the influence of external factors, such as government regulations and market dynamics, can also reduce the sensitivity of ROA to changes in WACC.

The results of the analysis show that Cash Holding negatively moderates the relationship between the Weighted Average Cost of Capital (WACC) and Return on Assets (ROA). This result is evidenced by the cash-holding moderation regression coefficient value of -4.883. In other words, increasing Cash Holding weakens the effect of WACC on ROA. This phenomenon can be explained through the perspective of liquidity and risk perception. When a company has large cash reserves, the financial risk decreases because the company is better able to meet short-term obligations and handle unexpected situations. This makes investors and creditors

view the company as a more stable entity, thus lowering the cost of capital. The negative moderating effect shows that excessive cash reserves also have the potential to weaken capital efficiency. Resources that are not optimally utilized can create "idle funds," which suppress potential returns. Thus, although high liquidity reduces WACC, its impact on ROA is non-linear. Increasing ROA requires strategic cash-holding management, such as investing excess cash into projects that generate high-added value. In practice, healthcare companies need to balance liquidity to avoid the risk of cash shortages but also ensure that the funds are used productively. Steps such as allocating cash for innovation, product development, or expansion can increase profitability without increasing risk perception among stakeholders.

The next accepted hypothesis shows that DAR has a significant role as a moderating variable in the relationship between WACC and ROA. This result is evidenced by the R^2 value of 0.842 which means that DAR strengthens the relationship between WACC and ROA by 84.2%, and the DAR moderation regression coefficient value of 5.147. Practically, these results reflect that the company's funding structure, especially the proportion of debt in asset financing, has a significant impact on the company's financial performance. When DAR is high, companies tend to use more debt in their operations. This can increase WACC, because the cost of debt is one of the main components in the capital cost structure. However, the results of the analysis also show that at a certain level, effective use of debt can increase ROA. In other words, companies that are able to utilize debt to support the productivity of their assets can generate greater profits, even though they face higher capital costs. This relationship also indicates an optimal limit in the use of debt. When the company exceeds this limit, increasing debt will actually increase financial risk and suppress operational efficiency, which can ultimately reduce ROA. Therefore, the results of this study provide important insights for financial managers in designing a balanced and strategic capital structure. Careful debt management can have a positive impact on company performance without endangering its financial stability. Overall, this accepted hypothesis underlines the importance of wise debt management and optimal use of capital to create added value for companies, especially in the healthcare sector in Indonesia.

The next accepted hypothesis confirms that DER has an important role in moderating the relationship between WACC and ROA. This result is evidenced by the R^2 value of 0.639, which means that DER strengthens the relationship between WACC and ROA by 63.9% and the DER moderation regression coefficient value of 2.202. So, this result shows that the company's funding structure, especially the balance between debt and equity, significantly affects the company's financial performance. When DER increases, the company uses more debt relative to its capital. This increase implies an increase in WACC because debt has costs that must be paid, both in the form of interest and financial risk. However, the analysis also shows that at a certain level of DER, debt can be an effective tool to increase ROA. This occurs when the company can use debt to fund productive assets that provide greater profits than the cost of the debt itself. The positive relationship between DER and ROA reflects the company's ability to manage leverage wisely. This strategy signals that debt if managed properly, can be a leveraging tool to increase asset efficiency and create added value. However, as with DAR, the use of debt must remain within optimal limits to avoid excessive financial risk. This hypothesis highlights the importance of strategic capital structure management, especially in the healthcare sector in Indonesia. By utilizing the optimal combination of leverage, companies can increase competitiveness, maintain growth, and create positive outcomes for stakeholders. Based on the results of simple linear regression analysis, DAR and DER have a relationship with WACC and ROA. DAR and DER are a unit of Leverage, so it can be concluded that Leverage moderates the relationship between WACC and ROA in the Indonesian Health sector positively.

The acceptance of the next hypothesis shows that firm size, measured by total assets, acts as a moderating factor in the relationship between WACC and ROA. This result is evidenced by the R^2 value of 0.316 which means that company size strengthens the relationship between WACC and ROA by 31.6%, and the moderation regression coefficient value of company size

is -0.075. Although firm size negatively moderates this relationship, these results provide important insights into the dynamics between capital efficiency, profitability, and the scale of a firm's operations. Practically, firms with large assets tend to be more stable in the face of fluctuations in the cost of capital (WACC). However, the analysis shows that the moderating effect of firm size on the relationship between WACC and ROA is negative. This may indicate that large scale is not always a competitive advantage if the firm is unable to optimally utilize assets to generate profits. In other words, efficiency in asset management is key to maintaining a positive relationship between WACC and ROA. In the healthcare sector with much more complex and high-risk operational challenges, these findings are very relevant to the financial dynamics of meeting the needs of high-value medical services. Therefore, although firm scale can improve market perception and stability, this must be balanced with an efficient asset management strategy to support profitability. In addition, a decrease in WACC accompanied by an increase in asset productivity can increase the overall value of the firm, creating an attraction for investors and other stakeholders.

Finally, the accepted hypothesis shows that NWC plays an important role in moderating the relationship between WACC and ROA. This means that the company's liquidity, reflected through NWC, affects the extent to which the cost of capital (WACC) impacts financial performance (ROA). This result is evidenced by the R^2 value of 0.548, which means that Net Working Capital strengthens the relationship between WACC and ROA by 54.8 and the Net Working Capital moderation regression coefficient value of 0.043. When the company's NWC increases, it indicates that the company has adequate liquidity to meet its short-term obligations. Good liquidity allows companies to manage cash flow more efficiently, thereby minimizing the negative impact of high WACC on profitability. With a strong NWC, companies can allocate resources optimally for productive operational and investment activities, which ultimately increases ROA. For the healthcare sector, the company's ability to maintain a positive NWC is very important, especially because this sector requires continuous financing for research, development, and operations. Adequate NWC allows companies to maintain financial flexibility and reduce the pressure of high capital costs, thereby encouraging the creation of more value from the assets owned. Good liquidity management not only helps companies overcome high capital costs but also supports the achievement of better performance, ensuring the sustainability and competitiveness of companies in the market.

4. Conclusion

The conclusion of this study found that WACC has no effect on ROA in the Healthcare sector and suggests that the cost efficiency of capital has not been directly impacted by short-term probabilities, however, Leverage (DAR and DER) strengthens the relationship positively, which implies that wise use of debt can reduce operations. Meanwhile, firm size and cash holding weaken the relationship between WACC and ROA which means that large-scale and excessive cash reserves can reduce capital efficiency, Net Working Capital (NWC) plays a positive role in moderating the relationship, helping companies manage capital costs more efficiently and increase profitability.

This study offers practical guidance for financial managers and decision-makers in Indonesia's healthcare sector to optimize capital structure and improve financial performance. It emphasizes the critical role of efficient capital cost management (WACC) and strategic leverage, liquidity, and asset management in driving profitability. Although the impact of WACC on ROA is statistically insignificant, focusing on efficient capital management remains essential. Strategies such as negotiating competitive interest rates, diversifying funding sources, and enhancing company credibility can lower financing costs and improve margins. Leverage, measured by Debt to Asset Ratio (DAR) and Debt to Equity Ratio (DER), plays a significant role in moderating the WACC-ROA relationship. Proper use of leverage to finance strategic projects such as technology development or healthcare facility expansion can create added value if debt management is prudent and risks are mitigated. Planning, including project

feasibility analysis and cash flow projections, is crucial to balance benefits and risks. Findings indicate large company size may not always confer competitive advantage if assets are underutilized. Managers must prioritize asset efficiency by optimizing healthcare facility usage, effective inventory management, and investing in operational efficiency-enhancing technologies. Lastly, excessive cash holdings and inefficient liquidity management negatively affect profitability. Companies should use reserves strategically for investments in medical innovations, facility development, or market expansion, ensuring cash contributions to added value. By managing Net Working Capital (NWC) effectively, firms can stabilize operations, reduce financing dependency, and increase profitability.

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The role of political connections in moderating the impact of CEO characteristics on financial perfomance: An emprical study of energy companies in Indonesia

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ABSTRACT
This study aims to explore the role of CEO political connections in moderating the relationship between CEO characteristics and financial performance in Indonesia's energy sector. Using a sample of 73 energy companies listed on the Indonesia Stock Exchange from 2020 to 2024, the study collects secondary data on CEO tenure, age, education, and political connections. Multiple regression analysis with the Fixed Effect model was used to test the hypotheses. The results show that CEO education has a significant positive impact on financial performance, measured by Return on Assets (ROA). CEO political connections were found to strengthen the relationship between CEO education and company financial performance. In contrast, CEO tenure and age did not have a significant effect on financial performance. These findings suggest that in Indonesia's dynamic and heavily regulated energy sector, CEO education is a crucial factor in improving financial performance, especially when supported by political connections that provide access to strategic resources. Political connections also weaken the impact of CEO age on performance but enhance the positive effect of CEO education. This study contributes to the literature by highlighting the interaction between CEO characteristics and political connections in the highly regulated energy sector in Indonesia, emphasizing the importance of adaptive leadership strategies in navigating regulatory challenges.

Keywords: financial performance, CEO characteristics, political connections, energy companies

1. Introduction

Financial performance is a key element in determining a company's operational success, serving both as an indicator of sustainability and as an evaluative tool for achieving the company's strategic objectives. According to[1], companies routinely monitor their financial performance to ensure that operations align with established goals and direction. Additionally, financial performance evaluation serves as the foundation for managerial decision-making. Numerous studies have shown that financial performance is closely linked to leadership, particularly the characteristics of the CEO, who plays a central role in shaping the company's strategy and direction. This relationship highlights the critical role of the CEO in influencing the company's financial outcomes amid increasingly complex market dynamics.

CEO characteristics, such as tenure, age, and education level, contribute to a company's financial performance.Demonstrate that a CEO plays a substantial role in shaping the company's strategic direction, which directly impacts financial outcomes and risk mitigation[2]. Further emphasizes that CEO tenure and advanced educational background are crucial in navigating complex economic challenges[3]. The study by[4] also underscores that higher education levels in CEOs enhance managerial skills, which support optimal financial performance. Thus, research on CEO characteristics is becoming increasingly relevant, particularly in understanding how effective leadership can maximize a company's financial performance.

Beyond CEO characteristics, political connections significantly influence the relationship between CEO traits and a company's financial performance. CEOs with political ties can positively affect financial outcomes by facilitating access to resources and improving strategic decision-making processes[5]. Similarly, observed that political connections often empower CEOs to undertake higher-risk initiatives, which can result in greater returns during periods of economic uncertainty[6]. However, the impact of political connections is not universally positive. Highlight that such connections may foster socially irresponsible managerial practices, potentially harming financial performance over the long term[7].

In Indonesia, the context of political connections is highly relevant, especially in sectors heavily influenced by regulation, such as the energy industry. According to data from Indonesia Corruption Watch (ICW) in 2015, 52.3% of members of the Indonesian Parliament (DPR RI) have a business background, reflecting a high potential for conflicts of interest that could affect resource allocation and company performance. State that companies with political connections often enjoy competitive advantages, such as easier access to financing, although the risk of suboptimal managerial decisions remains[8]. This aligns with the findings of [9], who note that political connections can reduce CEO turnover, creating managerial stability but also potentially lowering company performance.

In the energy sector, CEO characteristics and political connections play an increasingly important role. This industry includes sub-sectors such as oil and gas production, energy distribution, coal, alternative energy, and related services. [10] Suggest that in highly regulated industries, CEOs with political connections tend to improve performance through better access to information and resources. However, [11] note that political connections in semi-privatized companies can result in lower performance, emphasizing that the benefits of political connections are highly dependent on the context and nature of the relationship. Therefore, research on the interaction between CEO characteristics, political connections, and financial performance in the energy sector is crucial, given the complexity and stringent regulations surrounding it.

The urgency of this research lies in examining the dynamics of CEO leadership and political connections within the context of Indonesia's energy sector a strategic sector that serves as a national priority to support economic resilience and sustainable development. CEO characteristics, such as experience, tenure, and educational background, are crucial factors in determining the effectiveness of strategic decision-making, risk mitigation, and responses to complex challenges in the energy sector. However, this study goes beyond analyzing individual

CEO characteristics by introducing a new dimension: political connections as a moderating variable. This is essential to address the question: To what extent do a CEO's political connections strengthen or weaken the influence of leadership characteristics on corporate performance?

In the Indonesian context, where resource allocation in the energy sector is often influenced by political dynamics, this exploration provides a theoretical contribution that has not been widely investigated. The findings of this study are expected to offer empirical insights for investors in assessing corporate risks and prospects, regulators in formulating transparent governance policies, and stakeholders in understanding the interaction between corporate leadership and political factors in the energy sector.

This research introduces a model to explore how CEO political connections mediate the relationship between CEO attributes and a company's financial performance. Distinct from prior studies, it concentrates on Indonesia's energy sector, encompassing multiple strategic sub-sectors. By analyzing a sample of 73 energy firms listed on the Indonesia Stock Exchange between 2020 and 2024, this study seeks to provide valuable empirical insights into the interplay between leadership and political connections within a heavily regulated industry.

2. Method

This study focuses on energy companies listed on the Indonesia Stock Exchange (IDX) during the period 2020–2024. Using a quantitative research method with secondary data and purposive sampling, the study selects 73 energy companies that meet the eligibility criteria, such as having complete financial statements and information regarding the CEO profile and their political connections. Data were collected from annual reports, company databases, and relevant external sources to ensure the validity of the information related to CEO characteristics and political connections. A total of 365 observations were made. The data were analyzed using multiple regression analysis with the assistance of Stata 14 software.

The research process involves several stages. The first stage includes the collection of secondary data related to CEO characteristics, such as tenure, age, and education level. This stage also involves identifying CEO political connections through the analysis of documented professional relationships or political affiliations found in public reports and external databases. Next, financial performance is measured using indicators such as Return on Assets (ROA) to assess the financial outcomes.

The analytical technique used in this study involves selecting one of three estimation model approaches: the Common Effect Model (CEM), Fixed Effect Model (FEM), or Random Effect Model (REM), based on the characteristics of the data. Among these three approaches, the model that yields the best results is chosen. The analysis is conducted using Stata 14 software. Two multiple regression equations are used as models to test the hypotheses in this study. The regression equations are as follows[12]:

1. Direct Impact of CEO Characteristics on Financial Performance
$$ROAt=\alpha+\beta1CEOTt+\beta2CEOAt+\beta3CEOEt+\varepsilon t$$

2. Moderating Influence of CEO Political Connections
$$ROAt=\alpha+\beta1(CEOTt\times CEOPt)+\beta2(CEOAt\times CEOPt)+\beta3(CEOEt\times CEOPt)+\varepsilon t$$

Equation 1 tests the main hypothesis of the direct relationship between CEO characteristics (Tenure, Age, and Education Level) and company financial performance. Equation 2 tests the hypothesis of the moderating effect of CEO political connections on the relationship between CEO characteristics (Tenure, Age, and Education Level) and company financial performance.

Explanation:
ROAt = Return on Assets of company i in period t
α = Constant
β = Regression Coefficient
ε = Error
CEOTit = CEO tenure in period t
CEOAit = CEO age in period tt
CEOEit = CEO education level in period t
CEOPit = CEO political connections in period t

Tabel 1. Operational Variables

No.	Variables	Indicator	Resources
1	ROA	Net Profit After Tax / Total Assets	[3] [13]
2.	CEO Tenure	CEO Tenure in Years	[3] [13]
4.	CEO Age	CEO Age at the Time of Appointment	[14] [15]
5	CEO Education Level	Does the CEO have a master's degree in administration, business, or economics? (Dummy variable: 1 for higher education, 0 for no higher education)	[3] [4]
6	CEO Political Connection	Is the CEO a former or current official in the central government, local government, or military? (Dummy variable: 1 for connected, 0 for not connected)	[8] [5] [6] [10] [11] [14] [16]
7	Leverage	Total Debt to Sales Ratio	[13] [16]
8.	Company Age	Company Age Since Establishment	[17]

Source: Secondary Data Processed, 2024

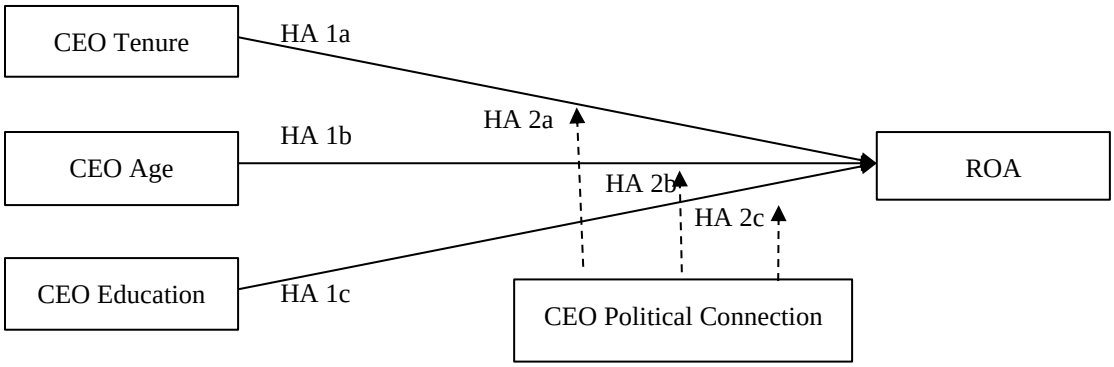

Figure 1. Conceptual Framework

Main Hypotheses
HA1a: CEO tenure has a positive impact on the company's financial performance.
HA1b: CEO age has a positive impact on the company's financial performance.
HA1c: Higher education of the CEO has a positive impact on the company's financial performance.
Moderating Hypotheses
HA2a: CEO political connections moderate the positive effect of CEO tenure on the company's financial performance.
HA2b: CEO political connections moderate the positive effect of CEO age on the company's financial performance.
HA2c: CEO political connections moderate the positive effect of CEO higher education on the company's financial performance.

3. Results and Discussion

Table 2 summarizes the key variables utilized in the study, detailing the number of observations (Obs), mean, standard deviation (Std. Dev.), minimum (Min), and maximum (Max) values. The ROA (Return on Assets) variable has a mean of 337, with values ranging from 0 to 4.010. The CEOT (CEO Tenure) variable has an average of 197 months, spanning from 0 to 1,195 months. CEOA (CEO Age) reflects an average age of 921 months (approximately 76 years), with a minimum of 33 years and a maximum of 76 years. CEOE (CEO Education) is a dummy variable with an average of 0.088, indicating that a relatively small proportion of CEOs have advanced education qualifications. Similarly, CEOP (CEO Political Connection) is another binary variable with a mean of 0.005, showing that very few CEOs are politically connected. The Leverage variable has a mean of 997, with values ranging from 0.028 to 14.418, illustrating variations in firms' debt levels. Finally, the Company Age variable shows an average of 789 months (approximately 65 years), with firms' ages varying between 1 and 74 years.

Table 2. Data Description

Variable	Obs	Mean	Std.Dev	Min	Max
ROA	365	337	252	0	4.010
CEOT	365	197	146	0	1.195
CEOA	365	921	254	33	76
CEOE	365	0.088	0.071	0	1

CEOP	365	0.005	0.026	0	1
Leverage	365	997	738	0.028	14.418
Company Age	365	789	218	1	74

Source: Stata Data Processor Version 12 (Processed data)

After conducting descriptive statistical analysis, the next step is model specification testing. Selecting an appropriate estimation model is a critical step in panel data research and can be approached using three main methods: the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Based on the Chow test results, the probability value for the panel data is 0.000, which is lower than the significance level of 0.05, indicating that the Fixed Effect Model is the most appropriate for this study. Furthermore, the Hausman test results show a probability value (p-value) of 0.014, also below 0.05, confirming the Fixed Effect Model as the best choice. Additionally, the Variance Inflation Factor (VIF) calculation reveals that no independent variable has a VIF value exceeding 10, indicating no multicollinearity issues among variables in the regression model. The heteroscedasticity test results, with a Prob (Chi-Square) value of 0.453, exceeding $\alpha = 0.05$, indicate no heteroscedasticity issues in the model. Finally, the autocorrelation test, with a Durbin-Watson value of 1.82879323, falls within the range of -2 to +2, confirming no autocorrelation in the regression model used.

Table 3. Regression Results

ROA	Coef.	St.Err.	t.value	p-value	(95% Conf)	Interval	Sig
CEOT	0.006	0.022	0.10	0.733	-0.48	0.61	
CEOA	-0.04	0.06	-0.62	0.466	-0.175	0.076	
CEOE	0.135	0.057	2.24	0.022	0.13	0.268	**
Leverage	0.118	0.006	18.32	0	0.115	0.131	***
Company Age	0.211	0.072	2.97	0.003	0.074	0.342	***
Constant	5.317	1.098	4.78	0	3.141	7.592	***
Mean Dependent Var		1.252	SD dependent var		1.658		
R-Squared		0.172	Number of obs		365		
F-test		52.284	Prob>F		0.000		
Akaike cirt (AIC)		1.463,49	Bayesian crit (BIC)		1471.404		

*** p <0.01, **p<0.05, *p<0.1
Source: Stata Data Processor Version 12 (Processed data)

The regression analysis results in Table 3 show an R-squared value of 0.172, indicating that CEO characteristics account for 17.2% of the variation in ROA, while the remaining 82.8% is attributed to other factors. Furthermore, the standard error is lower than the dependent variable's standard deviation of 1.658, confirming that the regression model is a valid predictor.

The hypothesis testing results in Table 3 reveal that the CEO Tenure variable has a p-value of 0.733 and a coefficient of 0.006, whereas the CEO Age variable has a p-value of 0.033 and a coefficient of 0.146. In contrast, the CEO Education variable exhibits a p-value of 0.466 with a coefficient of 0.146. These results suggest that CEO Education significantly enhances the company's financial performance, while neither CEO Tenure nor CEO Age demonstrates a notable effect on financial outcomes.

Table 4. Results of Moderation Hypothesis Testing

ROA	Coef.	St.Err.	t.value	p-value	(95% Conf)	Interval	Sig
CEOT*CEOP	-0.13	0.146	-0.66	0.717	-0.416	-0.416	
CEOA*CEOP	-0.67	0.314	-2.30	0.102	-1.317	-1.317	**
CEOE*CEOP	0.78	0.341	1.86	0.006	0.005	0.005	**
Leverage	0.138	0.006	18.46	0	0.116	0.131	***
Company Age	0.205	0.069	1.78	0.003	0.055	0.335	***
Constant	5.342	1.106	4.81	0	3.172	7.512	***
Mean Dependent Var		1.252	SD dependent var		1.658		
R-Squared		0.194	Number of obs		365		
F-test		52,518	Prob>F		0.000		
Akaike cirt (AIC)		1,462,445	Bayesian crit (BIC)		1.470,605		

*** p <0.01, **p<0.05, *p<0.1
Source: Stata Data Processor Version 12 (Processed data)

In Table 4, which displays the results of the moderation hypothesis testing, the R-squared value is recorded at 0.194. This signifies an increase in the effect on ROA, with 19.4% of the variance in the dependent variable being explained by the inclusion of the moderating variable, CEO political connections, while the remaining 80.6% is influenced by factors beyond CEO characteristics. The standard error value also reveals similar results to the direct test without moderation, remaining below the dependent variable's standard deviation of 1.658.

Based on Table 4, where CEO political connections (CEOP) are interacted with variables such as CEO tenure (CEOT), CEO age (CEOA), and CEO education (CEOE), the findings indicate that CEO tenure moderated by political connections has a p-value of 0.717 with a coefficient of -0.13. This suggests that CEO tenure, when moderated by political connections, does not have a significant relationship with the company's financial performance. Meanwhile, CEO age (CEOA) moderated by political connections has a p-value of 0.102 and a coefficient of -0.67, indicating that CEO age, when moderated by political connections, weakens the company's financial performance. Conversely, CEO education (CEOE) moderated by political connections shows a significant positive effect, with a p-value of 0.006 and a coefficient of 0.78.

Conclusion from Table 5**,** The results of hypotheses HA1a and HA2a in this study are rejected. CEO tenure does not have a significant impact on financial performance, and when the political connections moderating variable is added, it also does not significantly affect Return on Assets (ROA). These findings align with those of [18], who found a negative correlation between CEO tenure and firm value, indicating that prolonged tenure may lead to diminishing returns as the CEO becomes too entrenched and less responsive to market changes. This view is supported by [19]who argue that excessive tenure can result in a mismatch between the CEO's abilities and the company's needs, ultimately harming firm value. The context in which the CEO operates can also significantly influence the impact of tenure. For instance, in dynamic industries such as energy, which is heavily dependent on global supply and demand, longer CEO tenure may hinder adaptability and innovation, thereby reducing financial performance, as suggested by studies showing varied results across sectors [20].In contrast, in more stable industries, longer tenure may correlate with better performance due to accumulated experience and established networks.

Table 5. Hypothesis Results

Hypothesis	Coefficient	P-Value	Result
HA1a	0.006	0.733	Rejected
HA1b	-0.04	0.466	Rejected
HA1c	0.135	0.022**	Accepted
HA2a	-0.13	0.717	Rejected
HA2b	-0.67	0.102**	Accepted
HA2c	0.78	0.006**	Accepted

Source: Stata Data Processor Version 12 (Processed data)

The HA1b hypothesis concerning CEO age indicates no significant impact on the financial performance of companies within the energy sector. However, when CEO age is moderated by political connections, the analysis reveals a significant negative influence.This aligns with the view of[17], who argue that the impact of CEO demographic characteristics, including age, on performance can vary significantly across different sectors. In fast-moving industries, older CEOs may struggle to adapt to rapid changes, which could negatively impact performance. Conversely, in more stable industries, the experience and conservative approach of older CEOs may yield positive financial results. Unlike HA1a, HA2a (CEO Tenure) &

HA1b, HA2b (CEO Age), in Table 5, hypothesis HA1c (CEO Education) shows a significant positive effect, as does its moderating hypothesis (HA2c). This study is consistent with the findings of [3], which show that CEOs with an educational background, particularly in economics, are positively correlated with ROA. This indicates that higher education equips CEOs with better managerial skills. Companies led by CEOs with prestigious educational backgrounds are often more attractive to investors, thereby enhancing their market performance [21]The sector-specific impact of CEO education can vary across industries; for example, a Ph.D. may be more beneficial for innovative firms, while an MBA is more suitable for large organizations requiring complex management [22].CEOs with an economics background are better equipped to make strategic decisions that support efficiency and profitability.

4. Conclusion

The study's key findings reveal that a CEO's education level positively influences financial performance, whereas tenure and age do not have a significant effect. This highlights that, within the energy sector, a CEO's educational background plays a more pivotal role in driving financial success compared to their tenure or age. Additionally, the research demonstrates that CEO political connections can moderate the link between CEO characteristics and financial performance, though the effects differ. Political connections were shown to amplify the positive impact of CEO education on financial outcomes, while they had no notable influence on the effects of CEO tenure or age. These insights are valuable for policymakers and energy companies, shedding light on how political connections can shape strategic decisions in a sector characterized by heavy regulation and political influence.

Based on the findings of this study, several recommendations can be made to improve the performance of companies in the energy sector. First, companies should pay more attention to the CEO's educational qualifications during the executive selection process, given the significant positive effect between higher education and financial performance. Companies could also consider providing ongoing training or leadership development programs for CEOs to ensure they have relevant knowledge and can adapt to the rapid changes in the energy industry. Second, regarding the influence of political connections, companies need to understand the importance of this factor in a highly regulated business environment. Building constructive relationships with influential parties, without relying entirely on political connections, could be a wise strategy to strengthen the company's position in the market.

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Ratio analysis of financial statements for performance assessment

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ABSTRACT
This study aims to analyse financial statements to assess the financial performance and identify the years in which PT Indofood Sukses Makmur Tbk and PT Mayora Indah Tbk demonstrated strong performance. The research was conducted by analysing annual financial reports, and the research type used is descriptive analysis. The data used is secondary data, namely data obtained from company records and presented as period financial reports. Furthermore, the author's data analysis technique uses financial ratio analysis tools on the data. The overall research results of PT Indofood Sukses Makmur Tbk and PT Mayora Indah Tbk for the period 2021-2022 are considered good because the company shows that its current assets exceed its current liabilities so that the company has no difficulty in paying off its current liabilities. The companies PT Indofood Sukses Makmur Tbk and PT Mayora Indah Tbk generate profits quite well, where the company's total invested assets continue to increase so that the company shows improvement.

Keywords: financial statements, financial performance, financial ratios

1. Introduction

Nowdays, all private companies have the opportunity to become joint stock companies by listing their shares on the stock exchange or offering their shares to the public [1]. This allows the public to own the company of their choice by investing their capital or shares and listing it on the capital market can be considered as an indicator of economic development to obtain funds to accelerate the investment and production process [2].

Transparency is the principle of openness that allows citizens to know and have access to the most complete information about their finances [3]. The element of openness is the most basic and most needed element in all capital markets. Capital is one of the most important elements in any business. Entrepreneurs can take their business to the next level with large capital [4].

The financial statements of a company are the centre of information between the company and external stakeholders [5]. Financial statements are reports that show the current financial condition of a company or a certain period [6]. Financial reports are usually the result of an accounting process and can be used as a tool to communicate financial information and activities of a company to various parties. The purpose of public economic reports is to provide an overview to outsiders regarding the development prospects and results of companies whose shares are sold to the public, and on that basis the public can make decisions to buy or not buy shares. can consider it. I rented it to the company. For prospective shareholders and potential creditors, it is the basis for evaluation and decision analysis, so that they can compare the company's performance from year to year, whether the company's performance has increased and vice versa [7]. If the performance of a company increases every year, investors may be more interested in investing in the company's shares.

On the other hand, managers must have analytical tools to achieve company goals and make the right decisions. Financial analysis is the basis for assessing the success and achievements of the company. With the help of financial analysis, companies can also manage their financial situation and build a business framework [8]. Financial analysis, which includes key indicators as well as the strengths and weaknesses of the financial sector, is used to assess the past and future employment prospects of a company and its success. A financial ratio is a measure that combines two accounting numbers and is determined by dividing one number by the other.

Financial analysis allows companies to identify the strengths and weaknesses of the company in business operations. Financial ratios can show whether a company has enough cash to meet its financial obligations, a large amount of receivables, capital investment plans, efficient inventory management, and a healthy capital structure [9]. Financial analysts can plan and conduct financial analysis to ensure the continuity of each company's operations and maximise investor wealth.

The two companies currently listed on the Indonesia Stock Exchange (IDX), PT Indofood Sukses Makmur Tbk and PT Mayora Indah Tbk, are the subjects of this research. Both companies are FMCG (Fast Moving Consumer Goods) companies. In evaluating their financial performance, it is essential to compile and report their financial position over a specific period. In this regard, the objective of this study is to analyse and assess the financial performance of these companies, focusing on their financial position in terms of capital utilization and growth. The financial performance is commonly evaluated through indicators such as liquidity, solvency, and profitability. The basic financial statements, including the balance sheet, income statement, and cash flow statement, serve as the foundation for this analysis. The main indicators used in financial statement analysis for this study are liquidity ratios, solvency ratios, profitability ratios, and activity ratios.

Although many previous studies have analyzed the company's financial performance using financial ratios, there are still gaps in the research. Financial ratio analysis was utilized in a number of earlier studies to examine financial performance. For example, examined PT Kimia Farma Tbk's financial performance without comparing it to that of other businesses in the same

sector [10]. The study's findings align with those of previous research, which indicated that profitability ratios play a crucial role in evaluating a company's financial resilience during periods of economic instability [11]. In contrast, examined PT Eastparc Hotel Tbk in the early stages of the COVID-19 epidemic, concentrating more on the external economic factors influencing financial stability than the company's financial management tactics [12].

2. Method

The type of research used in this study is descriptive analysis with quantitative data. This approach involves the collection, analysis, and interpretation of numerical data to provide a clear description of the financial performance of PT Indofood Sukses Makmur Tbk and PT Mayora Indah Tbk during the 2021-2022 period. The data used in this research is secondary data, sourced from the annual financial reports of both companies.

To assess the financial performance, the study employs financial ratio analysis as the main tool. This involves calculating and analyzing various financial ratios, including liquidity ratios, solvency ratios, profitability ratios, and activity ratios, to evaluate the companies' performance over the period in question. These ratios help to understand the financial health of the companies, including their ability to meet short-term obligations, manage debt, generate profits, and utilize assets efficiently.

3. Results and Discussion

Liquidity Ratio

Current Ratio

The current ratio measures how available a company's current assets are relative to its overall current liabilities. Consequently, the current ratio is determined as the difference between total current assets and total current liabilities. The current ratio formula and related calculations use the following formula:

$$\text{Current Ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Table 1. Average value of the company's current ratio

No	Name of company	2021	2022	Average
1	PT Indofood Sukses Makmur Tbk	1,34	1,78	1,56
2	PT Mayora Indah Tbk	2,32	2,62	2,47
Average Company Current Ratio by Year		1,83	2,2	2,02

Source : Secondary data processed, 2024

Table 1 above shows the average current ratio values of the two companies for 2021 and 2022. PT Indofood Sukses Makmur Tbk has an average current ratio of 1.56, while PT Mayora Indah Tbk has a higher current ratio of 2.47. The overall company average current ratio for both years is 2.02. A higher current ratio indicates better short-term liquidity, which indicates that the company is able to meet its short-term obligations more easily.

In 2021, PT Indofood Sukses Makmur Tbk has a current ratio of 1.34, while PT Mayora Indah Tbk has a current ratio of 2.32. In 2022, PT Indofood Sukses Makmur Tbk increased its current ratio to 1.78, while PT Mayora Indah Tbk also increased to 2.62. This increase reflects the better ability of both companies in managing their current assets to meet short-term liabilities.

PT Mayora Indah Tbk consistently shows a higher current ratio compared to PT Indofood Sukses Makmur Tbk, which indicates stronger liquidity. The higher current ratio of PT Mayora Indah Tbk indicates that the company has a better ability to meet its short-term obligations without

facing liquidity problems. This indicates that PT Mayora Indah Tbk has better cash management and is better prepared to face financial emergencies than PT Indofood Sukses Makmur Tbk.

Quick ratio

The quick ratio determines the sign of the company's ability to meet its immediate commitments or short-term liquidity. The formula used :

$$\text{Quick ratio} = \frac{\text{Current Assets - Inventory}}{\text{Current debt}}$$

Table 2. Average value of the company's quick ratio

No	Name of company	2021	2022	Rata-Rata
1	PT Indofood Sukses Makmur Tbk	1,03	1,24	1,14
2	PT Mayora Indah Tbk	1,79	1,93	1,86
Average Company Quick Ratio by Year		1,41	1,585	1,50

Source : Secondary data processed, 2024

Table 2 shows that PT Indofood Sukses Makmur Tbk has an average quick ratio of 1.14, while PT Mayora Indah Tbk has a higher average quick ratio of 1.86. The overall company average quick ratio is 1.50. A higher quick ratio indicates a better ability to meet short-term obligations without relying on inventory.

In 2021, PT Indofood Sukses Makmur Tbk had a quick ratio of 1.03, while PT Mayora Indah Tbk had a quick ratio of 1.79. In 2022, PT Indofood Sukses Makmur Tbk increased its quick ratio to 1.24, while PT Mayora Indah Tbk also increased to 1.93. This increase reflects the better short-term liquidity of both companies.

PT Mayora Indah Tbk shows a higher quick ratio compared to PT Indofood Sukses Makmur Tbk, which indicates stronger immediate liquidity. The higher quick ratio of PT Mayora Indah Tbk indicates that the company has a better ability to immediately fulfill its short-term obligations without relying on inventory. This indicates that PT Mayora Indah Tbk has better cash management and is better able to face urgent obligations compared to PT Indofood Sukses Makmur Tbk.

Solvency Ratio

Debt to Asset Ratio

This ratio is used to assess how much debt is used to finance the company's assets or the extent to which debt affects asset financing. The formula used is as follows:

$$\text{Debt ratio} = \frac{\text{Total debt}}{\text{Total assets}}$$

Table 3. The average value of the debt-to-asset ratio of each company

No	Name of company	2021	2022	Rata-Rata
1	PT Indofood Sukses Makmur Tbk	0,51	0,48	0,50
2	PT Mayora Indah Tbk	0,42	0,42	0,42
Average Company Debt Ratio by Year		0,47	0,45	0,46

Source : Secondary data processed 2024

Table 3 shows that PT Indofood Sukses Makmur Tbk has an average debt-to-asset ratio of 0.50, while PT Mayora Indah Tbk has a lower ratio of 0.42. The average debt-to-asset ratio of all companies is 0.46. A lower debt-to-asset ratio indicates lower financial risk and a stronger position in terms of asset financing.

In 2021, PT Indofood Sukses Makmur Tbk had a debt-to-asset ratio of 0.51, while PT Mayora Indah Tbk had a debt-to-asset ratio of 0.42. In 2022, PT Indofood Sukses Makmur Tbk lowered this ratio to 0.48, while PT Mayora Indah Tbk remained stable at 0.42. The decrease in debt-to-asset ratio at PT Indofood Sukses Makmur Tbk shows a reduction in the use of debt to finance assets, which indicates an improvement in debt management.

PT Mayora Indah Tbk shows a lower debt-to-asset ratio compared to PT Indofood Sukses Makmur Tbk, indicating a lower reliance on debt to finance assets. The lower debt-to-asset ratio of PT Mayora Indah Tbk indicates a stronger and more stable financial position, with lower financial risk. This suggests that PT Mayora Indah Tbk is more successful in managing asset financing by using internal resources rather than relying on external debt.

Debt to Equity Ratio

The ratio used to measure the amount of debt compared to capital is the debt to equity ratio. This ratio can be used to determine how much money comes from company owners and the amount of money that comes from creditors compared to each other. The formula used is :

$$\text{Debt to equity ratio} = \frac{\text{Total Debt}}{\text{Equity}}$$

Table 4. The average value of the debt to equity ratio of each company

No	Name of company	2021	2022	Rata-Rata
1	PT Indofood Sukses Makmur Tbk	1,07	0,92	1,00
2	PT Mayora Indah Tbk	0,75	0,73	0,74
Average Company Debt to Equity Ratio by Year		0,91	0,825	0,87

Source : Secondary data processed 2024

Table 4 shows that PT Indofood Sukses Makmur Tbk has an average debt-to-equity ratio of 1.00, while PT Mayora Indah Tbk has a lower ratio of 0.74. The overall company average debt-to-equity ratio is 0.87. A lower debt-to-equity ratio indicates a stronger equity base and lower financial leverage.

In 2021, PT Indofood Sukses Makmur Tbk has a debt-to-equity ratio of 1.07, indicating that the company uses a large amount of debt compared to its equity. However, by 2022, the company managed to lower this ratio to 0.92, reflecting improvements in debt management and an increase in equity. The decrease in this ratio indicates an improvement in the company's financial health by reducing its reliance on debt.

In contrast, PT Mayora Indah Tbk shows a lower and stable debt-to-equity ratio in 2021 and 2022, at 0.75 and 0.73 respectively. This indicates that PT Mayora Indah Tbk has a stronger equity base and uses less debt to finance its operations. A lower debt-to-equity ratio reflects lower financial risk and a more stable financial position, which can provide greater confidence to investors and creditors.

Activity Ratio

Total Asset Turnover Ratio

A company's capacity to generate revenue from its assets is determined by the total asset turnover ratio, which measures asset activity. Since the company can generate more sales with a given amount of assets, the greater this ratio, the better for the business. The formula used is

$$\text{Total asset turnover ratio} = \frac{\text{Net sales}}{\text{Total Assets}}$$

Table 5. Average value of Total Asset turnover ratio of each company

No	Name of company	2021	2022	Rata-Rata
1	PT Indofood Sukses Makmur Tbk	0,55	0,61	0,58
2	PT Mayora Indah Tbk	1,4	1,37	1.39
Average Company Total Asset Turnover Ratio by Year		0,98	0,99	0,98

Source : Secondary data processed 2024

Table 5 shows that PT Indofood Sukses Makmur Tbk has an average total asset turnover ratio of 0.58, while PT Mayora Indah Tbk has a much higher ratio of 1.39. The average total asset turnover ratio of all companies is 0.98. A higher ratio indicates a more efficient use of assets to generate sales.

In 2021, PT Indofood Sukses Makmur Tbk had a total asset turnover ratio of 0.55, which increased to 0.61 in 2022. This increase indicates better efficiency in the use of assets to generate sales. However, this ratio is still lower than that of PT Mayora Indah Tbk, which has a total asset turnover ratio of 1.40 in 2021 and slightly decreased to 1.37 in 2022.

PT Mayora Indah Tbk shows better asset utilization with a higher total asset turnover ratio compared to PT Indofood Sukses Makmur Tbk. This higher ratio indicates that PT Mayora Indah Tbk is able to generate greater revenue from its assets, reflecting higher operational efficiency. This efficiency in the use of assets is very important to improve the profitability and competitiveness of the company.

Fixed asset turnover ratio

A ratio that compares net sales to fixed assets over a one-year period. This ratio is also used to assess the company's effectiveness in generating net sales from its fixed asset investment. A higher ratio indicates that the company's ability is fairly effective in using investment in fixed assets to generate net sales. The formula used:

$$\text{Fixed asset turnover ratio} = \frac{\text{Net sales}}{\text{Fixed assets}}$$

Table 6. Average value of fixed asset turnover ratio of each company

No	Name of company	2021	2022	Rata-Rata
1	PT Indofood Sukses Makmur Tbk	0,79	0,88	0,84
2	PT Mayora Indah Tbk	4,01	4,08	4,05
Average fixed asset turnover ratio of the company per year		2,4	2,48	2,44

Source : Secondary data processed 2024

Table 6 shows that PT Indofood Sukses Makmur Tbk has an average fixed asset turnover ratio of 0.84, while PT Mayora Indah Tbk has a much higher ratio of 4.05. The average fixed asset turnover ratio of all companies is 2.44. A higher ratio indicates better effectiveness in utilizing fixed assets to generate net sales.

In 2021, PT Indofood Sukses Makmur Tbk had a fixed asset turnover ratio of 0.79, which increased to 0.88 in 2022. Despite the increase, this ratio is still lower than that of PT Mayora Indah Tbk. PT Mayora Indah Tbk has a fixed asset turnover ratio of 4.01 in 2021 and slightly increased to 4.08 in 2022.

PT Mayora Indah Tbk shows much higher effectiveness in utilizing its fixed assets to generate net sales compared to PT Indofood Sukses Makmur Tbk. The higher ratio reflects the

company's ability to maximize the use of its fixed assets, which is crucial for improving operational efficiency and profitability. This effectiveness in the use of fixed assets can also help the company in reducing costs and increasing profit margins.

Profitability Ratio

Return on Asset

Return on Asset is a ratio that shows how much an asset contributes to net income. In other words, the net profit margin of each rupiah of money contained in total assets is estimated using this ratio. The formula used is :

$$ROA = \frac{\text{Net Profit}}{\text{Total Assets}}$$

Table 7. Average return on assets for each company

No	Name of company	2021	2022	Rata-Rata
1	PT Indofood Sukses Makmur Tbk	0,06	0,05	0,06
2	PT Mayora Indah Tbk	0.06	0.08	0.07
Average Return on Asset Ratio by Year		0,06	0,07	0,06

Source : Secondary data processed 2024

Table 7 shows that PT Indofood Sukses Makmur Tbk and PT Mayora Indah Tbk have almost the same ROA value, with PT Indofood Sukses Makmur Tbk averaging 0.06 and PT Mayora Indah Tbk averaging 0.07. The average ROA of the whole company is 0.06. A higher ROA indicates a better ability to generate profits from the company's assets.

In 2021, PT Indofood Sukses Makmur Tbk and PT Mayora Indah Tbk both have an ROA value of 0.06. However, in 2022, PT Indofood Sukses Makmur Tbk experienced a decrease in ROA to 0.05, while PT Mayora Indah Tbk increased to 0.08. The increase in ROA of PT Mayora Indah Tbk reflects a better ability to utilize assets to generate profits.

The higher ROA of PT Mayora Indah Tbk indicates higher effectiveness in the use of assets to generate profits. This indicates that PT Mayora Indah Tbk has better asset management, which has a positive impact on the company's profitability. This efficiency in utilizing assets is very important to improve the competitiveness and financial performance of the company.

Return on Equity

This ratio is used to estimate the amount of net income that will be generated by each rupiah fund included in total equity. Dividends from equity are used to determine this ratio. The formula used :

$$ROE = \frac{\text{Net profit after tax}}{\text{Total Equity}}$$

Table 8. Average value of Return on Equity for each company

No	Name of company	2021	2022	Rata-Rata
1	PT Indofood Sukses Makmur Tbk	0,12	0,09	0,11
2	PT Mayora Indah Tbk	0,1	0,15	0,13
Average Return on Equity Ratio by Year		0,11	0,12	0,12

Source : Secondary data processed 2024

Table 8 shows that PT Indofood Sukses Makmur Tbk has an average return on equity (ROE) of 0.11, while PT Mayora Indah Tbk has a higher average ROE of 0.13. The average ROE of all companies is 0.12. A higher ROE indicates a better ability to generate net income from the company's equity.

In 2021, PT Indofood Sukses Makmur Tbk had an ROE of 0.12, which decreased to 0.09 in 2022. This decline reflects a decrease in the effectiveness of using equity to generate profits. In contrast, PT Mayora Indah Tbk showed an increase in ROE from 0.10 in 2021 to 0.15 in 2022. This increase reflects an increase in the effectiveness of using equity to generate net income.

PT Mayora Indah Tbk shows a better ability to utilize equity to generate net income compared to PT Indofood Sukses Makmur Tbk. The higher ROE of PT Mayora Indah Tbk shows that the company is more effective in generating profits from its equity. This can give greater confidence to investors because it shows that the company is able to manage its capital better and generate higher returns for its shareholders.

Table 9. The average value of the Financial Ratio of each company

No	Name of Company	Liquidity Ratio		Solvency Ratio		Activity Ratio		Profitability Ratio	
		CR	QR	DAR	DER	TAT (times)	FAT (times)	ROA	ROE
1	PT Indofood Sukses Makmur Tbk	1,56	1,14	0,50	1,00	0,58	0,84	0,06	0,11
2	PT Mayora Indah Tbk	2,47	1,86	0,42	0,74	1,39	4,05	0,07	0,13
Company Average		2,02	1,50	0,46	0,87	0,99	2,45	0,07	0,12

Source : Secondary data processed 2024

The company's financial performance in terms of liquidity ratios

Based on the calculations in the table, the average current ratio for businesses engaged in food and beverage processing listed on the Indonesia Stock Exchange in 2021-2022 is 2,02. The lowest ratio obtained by PT Indofood Sukses Makmur Tbk is considered the lowest because it has a poor current ratio because its value is below the company average. The current ratio of PT Mayora Indah Tbk is classified as healthy, according to the findings of the financial performance evaluation, this is because the ratio calculation value is greater than 2,02 based on the company's ratio.

The company PT Indofood Sukses Makmur Tbk has an average ratio of 1.4 from 2021 to 2022, meaning that faithfully IDR 1 debt is guaranteed by IDR 1.4 in current assets, excluding inventory, in other words, the company has not been able to utilise the potential of current assets and the company is less able to guarantee loans effectively. PT Mayora Indah Tbk, on the other hand, has an average very current ratio of 1,86 from 2021 to 2022, meaning that every IDR 1 debt is guaranteed by IDR 1,86 in current assets, excluding inventory. In other words, the company is able to provide maximum collateral for its current debt.

Company performance in terms of solvency ratio

The company PT Indofood Sukses Makmur Tbk has an average debt to asset ratio value for 2021-2022, which is 0,50, meaning that every IDR 0,50 of company debt is supported by IDR 1 of company assets, this indicates that the debt portion is above the asset portion. Meanwhile, PT

Mayora Indah Tbk has an average debt to asset ratio value from 2021-2022 of IDR 0.42, which means that the company's debt is supported by IDR 1 of the company's assets, this indicates that the debt portion is below the asset portion.

The debt to equity ratio value of the company PT Indofood Sukses Makmur Tbk is 1,00, meaning that PT Indofood Sukses Makmur Tbk provides Rp 1 for every Rp1 of assets funded by company owners or where it can be seen that the amount of debt exceeds the amount of capital. Meanwhile, PT Mayora Indah Tbk has a debt to equity ratio value of 0,42, meaning that the ratio shows the amount of assets funded by creditors for every Rp 1 of assets funded by company owners, in other words PT Mayora Indah Tbk provides Rp 0,42 for every Rp 1 of assets funded by company owners or where it can be seen that the amount of debt does not exceed the amount of capital.

The company's financial performance in terms of activity ratios

In 2021-2022, the turnover value of all assets of PT Indofood Sukses Makmur Tbk is 0,58 times, which means that for every 1 total assets, sales are generated at a sales rate of 0,58. PT Mayora Indah Tbk on the other hand, expects its total assets to be turned over at a rate of 1,39 times in 2021-2022.

The company's financial performance in terms of profitability ratios

PT Indofood Sukses Makmur Tbk and PT Mayora Indah Tbk have almost the same ROA value and even PT Mayora Indah Tbk has the same ROA value as the industry average value of 0,7. This is because the corporation has not been able to show its success in managing assets to generate income.

The ROE value of PT Indofood Sukses Makmur Tbk and PT Mayora Indah Tbk has a poor predicate because, the results of the calculation of the ratio that almost touches the same figure of 0.12 and even PT Mayora Indah Tbk has a lower ROE value than the company's average value. Management's failure to generate a sizable percentage of profits also indicates poor capital management, according to this study.

4. Conclusion

This study successfully evaluated the financial performance of PT Indofood Sukses Makmur Tbk and PT Mayora Indah Tbk during the 2021-2022 period using financial ratio analysis. From the analysis conducted, several main conclusions can be drawn:

1. **Strong Liquidity:** PT Mayora Indah Tbk shows better liquidity compared to PT Indofood Sukses Makmur Tbk. The higher liquidity ratio reflects PT Mayora Indah Tbk's ability to meet its short-term obligations more efficiently, indicating better cash management.
2. **Better Financial Stability:** PT Mayora Indah Tbk has a lower solvency ratio, signaling lower reliance on debt and a more stable financial position. This indicates that PT Mayora Indah Tbk is more successful in managing its capital structure to reduce financial risks.
3. **High Operational Efficiency**: PT Mayora Indah Tbk shows a higher activity ratio, reflecting the company's ability to use its assets more efficiently in generating sales. This high operational efficiency is crucial to improving the company's profitability and competitiveness in the market.
4. **Better Profitability:** PT Mayora Indah Tbk also shows higher profitability ratios, indicating a better ability to generate profits from the company's assets and equity. This gives investors and shareholders more confidence about the company's financial performance.

These findings provide important insights into the financial performance of both companies in the fast-moving consumer goods (FMCG) industry. By demonstrating strong financial performance in terms of liquidity, solvency, operational efficiency, and profitability, PT Mayora Indah Tbk can be considered superior in its management of financial and operational resources. This not only increases the company's attractiveness to investors and creditors, but also provides a strong foundation for the company for future growth and expansion.

Overall, the results of this study emphasize the importance of financial ratio analysis in evaluating company performance, assisting managers and stakeholders in making better decisions based on comprehensive and accurate financial data. As such, this study contributes to a deeper understanding of how companies can improve their financial performance through better management of liquidity, debt, assets, and profitability.

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