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PREFACE OF EDITOR IN CHIEF

The editorial team would like to praise God Almighty for the blessings and grace so that AKUMULASI Journal of Volume 2 Issue 1, June 2023 is published. We extend our gratitude to the authors for submitting manuscripts. We also extend our gratitude to the reviewers who have contributed to the peer review process of the manuscripts in this issue. Their professional support has made this journal qualified to be published.

We are very thankful for the support from the Deans of UNS Vocational School and the Big Team of Social and Humanities Journal of UNS Vocational School, UP Pengembangan Jurnal (UPPJ) LPPM UNS, and the Big Family of UNS Vocational School.

This publication is expected to contribute to the development of science and trigger more in-depth research in Accounting and Finance. The editorial team welcomes any feedback to improve the quality of the journal publication and performance.

Surakarta, 30 June 2023

Editor in Chief of AKUMULASI

Andi Asrihapsari, S.E., M.Sc., Ak.

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The Effects of Firm Characteristics on Corporate Social Responsibility Disclosure Using Financial Performance as an Intervening Variable

Rully Novira Elvandari*
Supriyadi
Master of Accounting, Faculty of Economics and Business, Gadjah Mada University, Indonesia
*Corresponding Author: rullynovira@mail.ugm.ac.id

ABSTRACT

This study aims to determine the influence of company characteristics on corporate social responsibility disclosure by using financial performance as an intervening variable. This study used a quantitative approach. The secondary data were used as a data collection technique. The researchers used purposive sampling and a total of 126 data were collected as samples. This research was conducted on mining sector companies listed on the IDX in the period of 2019 to 2021. The results show that sales growth has a positive effect on financial performance, but the size of the company has a negative effect on financial performance. Financial performance has a positive effect on corporate social responsibility disclosure. Related to intervening variables, company growth positively affected corporate social responsibility disclosure through financial performance. However, the size of the company negatively affects the disclosure of corporate social responsibility through financial performance.

Keywords: corporate social responsibility disclosure; financial performance; firm growth; firm size

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INTRODUCTION

The company is a form of business that carries out an activity to obtain profits, both in the form of individuals and business entities. The company carries out many activities to achieve predetermined goals. The goal of a company is to maximize value and maintain the viability of the company. To achieve this goal, companies must operate smoothly to achieve optimal results and increase profits (Barus & Leliani, 2013).

In order to operate smoothly on an ongoing basis, companies need growth, survival, as well as a positive reaction from society (Puspitaningtyas, 2011). One way for companies to build, maintain their value, and contribute to the public is by carrying out corporate social responsibility. The company's contribution can be economic, social, and environmental which are the three principles developed by John Elkington who is known as triple bottom lines. Corporate Social Responsibility becomes a reference for the responsibility of the company to the public for its economic, social, and environmental life because the establishment of a company cannot be separated from its public.

In addition, the survival of the company can be seen in its financial performance. Financial performance can be interpreted as a condition of how the company can manage and determine the use of the resources owned by the company (Rahardjo & Murdani, 2016). Companies need to always maintain and improve their financial performance so that outsiders are attracted and interested in investing (Mahendra et al., 2012). Financial statements in the form of a balance sheet and income statement, if prepared and prepared properly and accurately, will provide an overview of reflection of the conditions and results expected has been achieved by the company (Harjito & Martono, 2014). This can be used to evaluate company performance. Financial performance is measured by return on assets because it can show how the company uses all of its assets with the understanding that financial performance is seen from how the company gets to profit from the activities carried out.

Financial performance can be associated with the disclosure of corporate social responsibility considering that there are costs that will be incurred in carrying out the program so it can be said that financial performance will affect the disclosure of corporate social responsibility (Filemon & Krisnawati, 2014). According to Filemon and Krisnawati (2014), performance can be used as a comparison to see how well the company performed in a certain period or year with the previous period or year or with similar companies in the same industry. The company's financial performance can be seen from the company's growth and company size.

Researchers consider that disclosure of corporate social responsibility is important because there are still many companies that do not pay attention to the impact on the environment and surrounding communities and only pay attention to obtaining high profits. This research was conducted on mining sector companies listed on the Indonesia Stock Exchange because the mining sector is one of the pillars of the Indonesian economy in creating business fields. In 2021, the Central Statistics Agency (BPS) reported that Indonesia's gross domestic product (GDP) at current prices (ADHB) reaches up to 8.98% (Kusnandar, 2021). This study used data from the period of 2019 to 2021. It is the period when the Covid-19 pandemic occurred. The Covid-19 pandemic resulted in policies being set by each company, but these policies did not affect their main activities. In general, the profits obtained have decreased, but there is no significant difference between the profits received before the pandemic and after the pandemic (Saputro & Hapsari, 2022). The researcher chose this company because there were many cases involving environmental activities that had a severe impact due to mining activities, for instance the case of PT Adaro Energy Tbk. and PT Vale Indonesia Tbk. Therefore, companies should pay more attention and care about their social responsibilities towards society and the environment.

Theory Critical Resource

Theory critical resource is a theory that explains the control by company owners on company resources, such as assets, technology, and intellectual property which is a factor in determining the scale of the company (Rajan & Zingales, 2001). According to Rajan and Zingales (2001), if the company's scale is large, the company's profits will increase. However, at some point, if the company's scale is affected, profits will decrease.

Disclosure of Corporate Social Responsibility

According to World Business Council for Sustainable Development, corporate social responsibility is a business contract that acts based on ethics and contributing to efforts to build the economy together with the surrounding community to create a better situation. According to Frista and Fernando (2020), there will be benefits received by companies that carry out corporate social responsibility activities, namely increasing a positive image for the company, making work agreements that will help the company meet work demands from the community, get respect and appreciation from the surrounding community, and make the company operate safely and avoid disturbances to the surrounding environment.

Company Growth

The growth of the company is related to how a company's ability to increase its assets. Factors that influence the company's growth process include internal factors and external factors. Investors will consider the company's growth when investing. The company's growth will show how the company's financial performance has improved which shows that the company has an opportunity to provide high benefits in the future (Wiyono & Sondakh, 2019).

Company Size

Company size is a description of a company that is measured to show the size of the company from various angles, namely the market value of equity, total assets, and total sales (Susanto & Joshua, 2019). According to Suwito and Herawaty (2005), company size is divided into three categories, namely large companies, medium companies, and small companies where these categories are based on the company's total assets.

Financial Performance

Financial performance is defined as the ability of a company to achieve planned financial results as measured against the output desired (Mutende et al., 2017). Financial performance reflects and evaluates the achievement of the company's economic goals. It consistently becomes a center of attention and focuses in management studies on company performance (Thao & Le, 2019).

According to Kamajaya and Dwija Putri (2019), financial performance provides an overview of the financial condition of a company by analyzing various financial ratios that aim to determine the condition and capabilities of the company which will be considered as a starting company performance in the future.

Company Growth and Financial Performance

This sales growth has a very important role in working capital management because when the amount of sales growth is known, the company will be able to optimize the use of resources and predict the profit that will be obtained (Nugroho, 2011). Therefore, it is possible to see a real picture of the situation in financial performance regarding the development of the achievement of an operational activity that has been carried out through sales growth.

Several previous studies have discussed the relationship between sales growth and financial performance, such as research from Musah et al. (2019) and Muharromi et al. (2021). Their research shows a negative effect of sales growth on financial performance. On the other hand, the results of research conducted by Kouser et al. (2012), Angela and Handoyo (2021), and Yuliani (2021) show a positive influence on sales growth on financial performance.

H_1: Company growth has a positive effect on financial performance.

Company Size and Financial Performance

The size of the company is determined by the total assets owned by the company and the total sales achieved each year reflected on the annual financial statements and the market value of their equity (Dang et al., 2018). The bigger the company, the company can show how they achieve its goals and have a high commitment to increasing profits so that the company's financial performance will look good. Company size influences the company's ability to obtain additional capital to finance the company's operations (Riasa, 2016).

Previous research conducted by Riasa (2016) and Akinyi and Oima (2019) shows that company size has positive results on financial performance. However, research conducted by Erawati and Wahyuni (2019) also Lutfiana and Hermanto (2021) show negative results.

H_2: Firm size has a positive effect on financial performance

Financial Performance and Corporate Social Responsibility Disclosure

According to Kartini et al. (2019), companies with a high return on assets value will indicate that the company is in a strong financial condition. It means the company will get more pressure from outsiders to disclose social responsibility more broadly. Financial performance and disclosure of corporate social responsibility are used as a reflection. When a company earns high profits, it will show good performance. Therefore, companies need to provide information to the public regarding the expression of their social responsibility and to get a good social response from the community.

Previous research conducted by Kartini et al. (2019) shows positive results that financial performance has a positive influence on the disclosure of corporate social responsibility. However, research conducted by Koloay et al. (2018) shows the opposite result which is a negative effect.

H_3: Financial performance has a positive effect on disclosure of corporate social responsibility

Company growth, financial performance, and corporate social responsibility disclosure

Theory critical resources can explain the relationship between company growth, financial performance, and disclosure of corporate social responsibility. The theory of critical resource described by Rajan and Zingales (2001) emphasizes control by owners of owned resources such as assets, technology, and intellectual property. Companies that have large resources can use their resources to produce products and expand market share. It is stated that the more products purchased by the public, the more sales will increase later. Hence, the company's income will increase and the company will get profits (Barus & Leliani, 2013). The condition of the company that has experienced an increase makes the company more accountable for information regarding corporate social responsibility.

H_4: The growth of the company has a positive effect on the disclosure of corporate social responsibility through financial performance.

Company size, financial performance, and corporate social responsibility disclosure

Theory critical resources can explain the relationship among company size, financial performance, and disclosure of corporate social responsibility. This theory says that control by the owner of the resources owned such as assets, technology, and intellectual property (Rajan & Zingales, 2001). The size of a large company illustrates that the company has large assets. Companies that have large amounts of assets can be said to have good expectations for the future. Therefore, companies that have large assets will be able to have high profits. By having high profits, companies will be encouraged to disclose corporate social responsibility.

H_5: Company size has a positive effect on disclosure of corporate social responsibility through financial performance

Research Framework

This study analyzed two independent variables, namely company growth and company size as well as financial performance as variables intervening which is tested with the dependent variable of corporate social responsibility disclosure. The data used is across years. This study used the Covid-19 pandemic as a control variable. The control variable is given a value of 0 for the period before the Covid-19 pandemic and 1 for the period during the Covid-19 pandemic occurred.

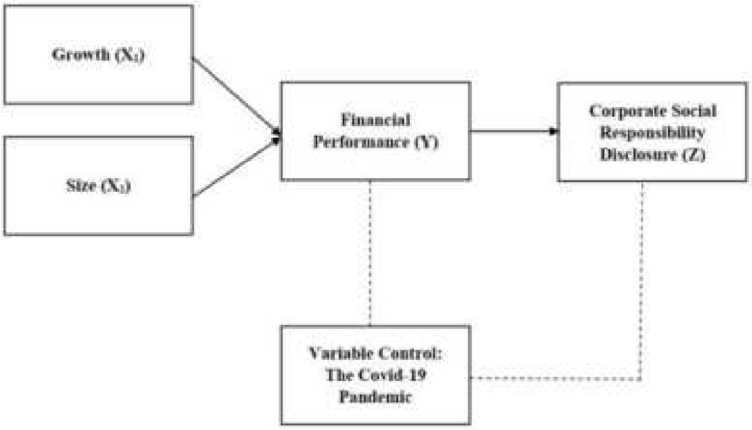

Figure 1. Developed research framework

RESEARCH METHODS

Design, Population, and Sample

This study used a quantitative approach as a research design. The population used is all companies in the mining sector that are recorded on the IDX in the three years period of 2019–2021. The sample was collected by using purposive sampling technique. According to this technique, the sample was taken based on certain interests related to the problem that is going to be examined by the researchers.

Variable Operational Definitions

Corporate social responsibility disclosure

$$\frac{Total\ score\ fulfilled}{Total\ number\ of\ items}$$

Company growth

$$\frac{Sale(t) - Sales\ (t-1)}{Sales\ (t-1)}$$

Company size

$$Ln(Total\ Assets)$$

Financial performance

$$\frac{Net\ Profit\ After\ Tax}{Total\ Assets}$$

Data Analysis Technique

This study used descriptive analysis techniques and classical assumption tests consisting of normality tests, multicollinearity tests, heteroscedasticity tests, and multiple regression tests.

Multiple regression test

In accordance with the framework developed in this study, there are two multiple regression models, namely:

Model 1.

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Model 2.

$$Z = a_0 + a_1Y + b_3X_3 + e$$

Information:

X_1 : company growth
X_2 : company size
X_3 : the year of the Covid-19 pandemic
Y : financial performance
Z : corporate social responsibility disclosure
a : regression coefficient
b : regression coefficient
error : other factors that affect the dependent variable (beyond those affected that are not examined)

Model test and hypothesis test

This study used two model tests, namely the F statistic test and the coefficient of determination test. Hypothesis testing used was the T-test, path analysis, and Sobel test.

RESULTS AND DISCUSSION

Results of Data Collection

This research used purposive sampling technique. The number of selected samples is 42 companies and there are 126 (42x3) amounts of data.

Descriptive Test Results

Table 1. Descriptive test results

	N	Min	Max.	Mean	Std. Dev
PP	126	-9,.83	277,37	11,68	52,04
UP	126	18,50	31,22	23,75	4,01
KK	126	-7,.29	52,02	3,76	13,98
CSRD	126	1,28	64,10	32,98	16,43
CVD-19	126	0,00	1,00	0,66	0,47

Based on Table 4.1, it can be concluded that the company's growth has an average value of 11.6899 with a standard deviation of 52.04152. The minimum value is -99.83 and the maximum value is 277.37.

Firm size has an average value of 23.7514 with a standard deviation of 4.01119. The minimum value of company size is 18.50 and the maximum value is 31.22.

Financial performance has an average value of 3.7642 with a standard deviation of 13.98689. The minimum value of financial performance is -73.29 and the maximum value is 52.02.

In addition, corporate social responsibility disclosure has an average of 32.9874 with a standard deviation of 16.43221. The minimum value is 1.28 and the maximum value is 64.10.

Classical Assumption Test Results

The results of the normality test show that the significance value is 0.363 which means that the value is greater than 0.05. It is stated that the data has been normally distributed so the regression model in this study has been normally distributed.

The results of the multicollinearity test show that the independent variables show value Varian Inflation Factor (VIF) a value of less than 10. It can be concluded that there is no multicollinearity between the variables used in the regression model in this study.

The results of the heteroscedasticity test show that the points spread randomly and does not form a pattern. It can be concluded that this regression model can be used in research because it does not contain elements of heteroscedasticity.

Results of Model Test and Hypothesis Test

Table 2. Model 1

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.387a	.150	.129	13.05421

a. Predictors: (Constant), D_Covid, UK, PP

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3663.794	3	1221.265	7.167	.000b
	Residual	20790.328	122	170.413		
	Total	24454.122	125			

a. Dependent Variable: ROA
b. Predictors: (Constant), D_Covid, UK, PP

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	19.907	7.427		2.680	.008
	PP	.075	.023	.281	3.264	.001
	UK	-.778	.296	-.223	-2.629	.010
	D_Covid	2.191	2.502	.074	.876	.383

a. Dependent Variable: ROA

Based on the results of the F statistical test, model 1 shows that the F statistic value is 7.167 and has a significance of 0.00. This states that regression model 1 can be used to see the effect of independent variables on financial performance.

In testing the coefficient of determination model 1 R2 of 0.150 in the regression model 1 which means that 15% of the company growth and company size variables affect financial performance, while the other 85% are influenced by other variables not included in this research model.

On the results of testing the first hypothesis, it is known that β is 0.281, t count is 3.264, and a significance level of 0.001 < 0.05, so it means hypothesis one is accepted.

In testing the second hypothesis, the result of β is -0.223, the t value is -2.629, and a significance level of 0.010 < 0.05 indicates that the hypothesis is not accepted.

Table 3. Model 2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.379a	.144	.116	15.45361

a. Predictors: (Constant), D_Covid, UK, PP, ROA

ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4855.691	4	1213.923	5.083	.001b
	Residual	28896.487	121	238.814		
	Total	33752.178	125			

a. Dependent Variable: CSR
b. Predictors: (Constant), D_Covid, UK, PP, ROA

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.950	9.047		3.532	.001
	PP	.036	.029	.112	1.238	.218
	UK	.195	.350	.049	.557	.587
	ROA	.317	.107	.270	2.961	.004
	D_Covid	6.228	2.971	.179	2.096	.038

a. Dependent Variable: CSR

In testing the second model, it shows an F statistical test value of 5.083 and a significance of 0.001. It can be concluded that regression model 2 can be used to see the effect of financial performance variables on corporate social responsibility disclosure.

In testing the second model shows the results of R^2 of 0.144 which means that 14% of the financial performance variables affect corporate social responsibility disclosure, while the other 86% are influenced by other variables not included in this research model.

Based on the test results on the third hypothesis, it is shown that β was 0.270, the t value is 2.962, and a significance level of 0.004 < 0.05 indicates that the results of the three hypotheses are accepted.

Table 4. Sobel test

	Direct Influence		Indirect Influence		Total Impact		Sobel Test	
	ROA	CSR	ROA	CSR	ROA	CSR	T	t table
PP	0,281	0,11	-	0,076	0,281	0,153	2,471	1,97
SIZE	-0,223	-0,049	-	-0,060	-0,223	-0,109	-0,722	1,97
ROA	-	0,270	-	-	-	0,270	-	-
CVD		0,179		0,020	-	0,199	0,030	1,97

Based on the results above, the results are related to the fourth hypothesis by showing the results of a direct effect between company growth and corporate social responsibility disclosure of 0.112 and an indirect effect between company growth and corporate social responsibility disclosure through the financial performance of 0.076, and a total effect of 0.188. There is a Sobel test result that produces a t count of 2.471 which is greater than the t table of 1.97960.

The results above also provide results regarding the fifth hypothesis by showing the results of a direct effect between company size and corporate social responsibility disclosure of -0.049 and an indirect effect between company size and corporate social responsibility disclosure through the financial performance of -0.060, and a total effect of 0.109. The Sobel test results show the t count of -0.722 which is smaller than the t table of 1.97960.

Discussion of Research Results

The effect of company growth on financial performance

Based on the results of hypothesis testing that is accepted and has a positive influence, it implies the higher the company's growth is, the better the company's financial performance is. The higher the company's growth rate, the more company will use external capital. Hence, companies that have good company growth will carry out their company performance effectively and efficiently (Yuliani, 2021). If the company can use resources effectively and efficiently, it can carry out its operational activities well. Moreover, the company can run optimally and run smoothly. It can trigger the company to increase the company's growth and predict how much profit it will get.

The effect of company size on financial performance

The second hypothesis shows that the hypothesis is rejected and has a negative effect. It means the company size does not affect financial performance. Thus, it can be said that the size of the company does not affect how the company achieves its goals of increasing profits. The larger the size of the company is, the greater the total asset is. However, the increase in profit does not guarantee that the company will improve its financial performance (Lutfiana & Hermanto, 2021).

The effect of financial performance on corporate social responsibility disclosure

From these results, it is concluded that financial performance has a positive effect on the disclosure of social responsibility so the third hypothesis is accepted. This value supports that companies that achieve their best profits have a great responsibility in providing information to the public regarding the expression of their social responsibility. These results are consistent with the previous research conducted by Kartini et al. (2019) which explains that high ROA makes companies more accountable to the public regarding their social responsibility.

The effect of company growth on corporate social responsibility disclosure through financial performance

Based on these results, the fourth hypothesis is accepted and has a positive effect. The test results can be associated with the theory of critical resources. As stated by Rajan and Zingales (2001) if a company has many resources, namely ownership of assets, technology, and other company assets, the company will produce lots of products and expand market share so that the company's growth will increase. When the company's growth increases, the company's profit will increase as well. As a result, it will trigger the company to be more responsible in providing company information to the public. One of them is regarding the disclosure of corporate social responsibility.

The effect of company size on corporate social responsibility disclosure through financial performance

The relationship between the scale of the company and the owner's ability to control it is related to getting profit. However, the results of this study state that company size cannot guarantee the company to earn more profits and improve things on an economic scale. Furthermore, there is no assurance that the companies that can increase profits will provide information about the company to the public. One of them is regarding corporate social responsibility.

CONCLUSION

Based on the results of the study, it can be concluded as follows. Company growth has a positive effect on financial performance in mining sector companies from 2019 to 2021. Company size has a negative effect on the financial performance of mining sector companies from 2019 to 2021. Financial performance has a positive effect on corporate social responsibility disclosure in mining sector companies from 2019 to 2021. Company growth has a positive effect on corporate social responsibility disclosure through financial performance in the mining sector from 2019 to 2021. Company size has a negative effect on corporate social responsibility disclosure through financial performance in the mining sector from 2019 to 2021.

The present findings have implications for companies, investors, society, and academics. For companies, this study provides information related to the implementation of corporate social responsibility to remind them of how important social responsibility is for corporate sustainability in the future. Hence, the information in this study can be used as a consideration for companies to pay more attention to social and environmental conditions. For investors, this study provides consideration in making investment decisions to determine companies that can provide the expected return on investment without ignoring their social responsibility. For the community, this study provides information about corporate social responsibility which is used to evaluate the achievement of company performance in realizing an environmentally friendly business. For academics, this study provides additional information and literature that can be used as comparison material and is expected to become a reference for further research development.

Finally, several potential limitations need to be considered. Firstly, the dependent variables only focus on company growth and company size. Secondly, financial performance only uses return on assets (ROA). Thirdly, information regarding corporate social responsibility disclosure is still very limited for several companies. Fourthly, the researchers used only companies in the mining sector as samples, so the test results obtained cannot be generalized to companies in other sectors.

Based on the results of the previous research and discussion, the followings are some recommendations that can be considered by related parties. For corporate practitioners, this study provides more information about their companies, especially information about corporate social responsibility. They can start to apply sustainable development reports that have a broader scope than just corporate social responsibility. For academics and future researchers, this study can expand research by adding other characteristic factors such as liquidity, leverage, capital structure, and others. To examine financial performance, academicians and further researchers can use return on investment, return on equity, and earnings after tax, and can expand the variable disclosure of corporate social responsibility (CSRD) to environmental, social, and governance (ESG).

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Implementation of Non-cash Financial Transaction as a Payment System for Non-civil Servant Employee Service Expenditures at the Cilegon City Regional Secretariat

Ahyarani Karimah[1]
Ika Utami Widyaningsih[1]
Firli Agusetiawan Shavab[1]*
Titis Nistia Sari[1]
Hayati Nupus[2]
[1]Diploma 3 in Banking and Finance, Universitas Sultan Ageng Tirtayasa, Indonesia
[2]Faculty of Economics and Business, Universitas Sultan Ageng Tirtayasa, Indonesia
*Corresponding Author: firliagusetiawan@untirta.ac.id

ABSTRACT

Non-cash Financial Transactions began to be carried out gradually in the Cilegon City Government in 2018 with the issuance of Cilegon Mayor Regulation Number 20 of 2018 concerning Online Disbursement Orders and Implementation of Non-cash Transactions in the Cilegon City Area. This study aims to find out the procedure for the payment and the constraint in the process of Non-cash Transaction disbursement in the spending of personnel service expenditure of Non-civil Servant in the Cilegon City Regional Secretariat. The researchers used a descriptive qualitative method. The data were collected using triangulation. Triangulation is a process of gathering several techniques of taking existing data sources. In this study, the data were obtained using observation, interview, library research, and documentation. The result of this study shows the procedure of implementation of Non-cash financial transactions as a service payment system for Non-civil Servant employees in Cilegon City Regional Secretariat runs quite effectively through some aspects namely, fast, easy, accurate, and safe.

Keywords: Cilegon City Regional Secretariat; employee shopping; non-cash financial transactions

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INTRODUCTION

State financial reform in Indonesia is marked by the existence of laws in the field of State Finance, namely Law Number 17 of 2003 and Law Number 1 of 2004 concerning the State Treasury which mandate the importance of good financial governance where the Government holds accountability through financial statements, because financial statements are used by the Government to meet public expectations to disclose their financial position and performance in providing its services to the public. The activities of the Regional Government in exercising its authority as an autonomous region must be supported by the availability of adequate funds. All activities of the local government in carrying out the functions and ways of financing these activities are contained in the Regional Budget.

Entering the digital era like today, the Cilegon Regional Government has begun to encourage Non-cash Transactions among the public and the internal environment. This Non-cash Transaction is also one of the government's efforts to prevent misappropriation/corruption. This is evidenced by the issuance of Cilegon Mayor Regulation Number 20 of 2018 concerning Online Disbursement Orders and Implementation of Non-cash Transactions in the Cilegon City Area. In addition, the cashless transaction system is considered more practical, efficient, easy, and can even support the economy through increasing the speed of money circulation. The implementation of this Non-cash system is one form of the realization of transparent and accountable financial management.

The Cilegon City Regional Secretariat always strives to improve its performance. One very important factor to support performance improvement is the availability of adequate supporting work force in terms of quantity, quality and so on. The provision of these employees is important because of the system of the Cilegon City Regional Secretariat support employees. However, currently, meeting the needs of employees to support the performance of the Cilegon City Regional Secretariat is difficult if the Cilegon City Regional Secretariat only rely on employees with the status of Civil Servants. For this reason, the Procurement of Non-civil Servants is an important choice and priority to support activities within the Cilegon City Regional Secretariat.

Therefore, to anticipate and to apply the principle of justice, the Cilegon City Regional Secretariat provides honorarium or salary to non-civil servants. According to Jayanti and Iriani (2014), salary is a number of payments to employees who are given administrative and management tasks which are usually set on a monthly basis. While wages are rewards given to workers who do manual work and rely more on physical strength. The amount of wage payments is usually set on a daily basis or on the basis of units of work completed.

Another opinion says that there are several factors that can affect salary. According to Mangkunegara (2013), factors that affect salary include government factors, supply between companies and employees, standard of employee living costs, size of salary comparison, demand and supply, ability to pay, and morale. The objectives of payroll according to Hasibuan (2013) are cooperation ties, job satisfaction, effective procurement, motivation, discipline, employee stability, trade union influence, and government influence. If the salary program complies with applicable laws such as (Regional Minimum Wage), then the government intervention can be avoided.

Honorarium payment system in Cilegon City regional secretariat uses non-cash transaction mechanism. According to Fikri in Ardiyanti (2021), the payment system has several components, namely policies, institutions, payment instruments, and operational mechanisms. According to Subari and Ascarya (2017), a payment system is a system that includes arrangements, contracts/agreements, operational facilitation, technical mechanisms used for delivery, ratification, and receipt of payment instructions.

According to Ariadi (2020), the mechanism of a Non-cash Transaction is the mandate of Law Number 23 the Year of 2014 regarding Local Government which requires financial management that is well-organized, transparent, and accountable. However, it has not been implemented thoroughly by Local Government Organizations (OPD). The mechanism of the Non-cash financial transaction must be classified into a category that belongs to either the Non-cash Local Government Organization program or not.

Non-cash Transaction policy is a novelty innovation so its implementation needs adjustment transition from the old system to the new system. The Ministry of Home Affairs states that there are seven strategies for implementing Non-cash Transactions. Two of them are goods provider as supporting infrastructure and information system as a Non-cash Transaction tool system (Haqi & Suseno, 2019). Besides increasing the effectiveness, the Non-cash Transaction also drives financial inclusion so that Non-cash users can access and use banking services (Djamaluddin, 2016).

According to Fatoni (2022), to reduce the use of the local government budget, the government can use Local Government Information System (*Sistem Informasi Pemerintah Daerah*/SIPD) because the local government makes its system so far. By using SIPD, it can gather data on both the financial planning and local government report around Indonesia. Therefore, local governments do not need to make budgeting to create applications or systems related to planning and financing in the Local Government Budget (APBD).

According to Kurnia (2021), the implementation of a digital-based information system is done step by step; besides using SIPD, local government can use Regional Management Information System (*Sistem Informasi Manajemen Keuangan Daerah*/SIMDA). The use of SIPD and SIMDA can help local government and stakeholders, such as the Ministry of Finance, Local Government Financial Report (LKPP), Ministry of Home Affairs, and Audit Board of the Republic of Indonesia if they want to do an e-audit. There are 542 local governments around Indonesia and 485 local governments that get opinion Unqualified in the budgeting year of 2019 by the Audit Board of the Republic of Indonesia. There 81,44% or 395 local governments are SIMDA users.

A study carried out by Wardhani et al. (2017) showed that good governance positively affects work performance and reduces the inefficiency of government spending. Meanwhile, according to Al Kautsar et al. (2021) stated that there are some obstacles in the implementation of the Non-cash Transaction System in the implementation of direct expenditure namely human sources readiness and facilitator readiness such as internet and the availability of computer hardware. On the other hand, Septiani (2019) stated that the implementation of Non-cash Transactions in the Implementation of Local Government Expenditure is guaranteed to be safe, confidential, more flexible, and efficient. The budget absorption will be more controlled and the trace of the transactions will be recorded and all transactions can be traced and monitored easily by looking at the bank statement.

Given the aforementioned issues, it is essential to determine whether the Cilegon City Regional Secretariat's implementation of financing methods for payment activities for the provision of Non-civil Servant employees is appropriate and whether the regional financial administration with Non-cash Transactions is effective. The researcher is interested in conducting a research entitled. “Implementation of Non-civil Financial Transactions asa Payment System for Non-civil Servant Employee Service Expendituresat the Cilegon City Regional Secretariat.” The main research questions addressed in this article are (1) What are the procedures for paying service expenditures for Non-civil Servant Administration employees and calculating salary payments based on the level of education at the Cilegon City Regional Secretariat? (2) Are the Non-cash financial transactions used at the Cilegon City Regional Secretariat effective? (3) What are the obstacles in the process of disbursing Non-cash Transaction funds for service expenditures of Non-civil Servant Administration employees at the Cilegon City Regional Secretariat?

RESEARCH METHODS

The object of this research is the application of Non-cash financial transactions as a payment system for service expenditures for Non-civil Servant administration employees at the Cilegon City Regional Secretariat. The method used in this study is qualitative descriptive where the researchers explain events and things in-depth (Arikunto in Farida, 2017).

With a qualitative descriptive approach, the anakysis of data obtained (in the form of words, images, or behaviour), is not expressed in the form of numbers or statistical numbers, but is presented by providing exposure or description of the situation or condition under study in the form of narrative description. The presentation must be done objectively so that the subjectivity of the researcher in making interpretations can be avoided. (Arikunto in Farida, 2017) .

This study was carried out in Cilegon City Regional Secretariat which is located at Jendral Sudirman Number 2 Ramanuju, Disctrict Purwakarta Cilegon City Banten 42431. The subject of qualitative study is commonly called an informant. It is caused by the subject of the study being an individual who has the capability and knows all information that we need related to the object of the study. The informant of the study is the Head of the General Section of the Cilegon City Regional Secretariat, Expenditure Treasure/Assistant Expenditure Treasurer, operator of SIPD, and SIMDA users in the Cilegon City Regional Secretariat.

The data were collected using triangulation. Triangulation is a process of gathering several techniques of taking existing data sources. In this study, the data were obtained using observation, interview, library research, and documentation. The interview was conducted by directly interviewing the Head of the General Section of the Cilegon City Regional Secretariat, Expenditure Treasurer/Expenditure Treasurer assistant, and Operator of SIPD and SIMDA application users by using several questions related to the title of the study.

RESULTS AND DISCUSSION

Payment Procedure for Non-civil Servant Employee Expenditure and Calculation of Non-civil Servant Employee Salaries

Payment procedure for Non-civil Servant employee expenditure at the Cilegon City Regional Secretariat

After conducting research at the Cilegon City Regional Secretariat, it was found how the financial system for the provision of salaries to Non-civil Servants works. The Non-civil Servants are paid after carrying out work for one month. The provision of salary as intended is by considering the level of employee discipline. The payment of Non-civil Service employee expenditure (Direct Expenditure) must go through several stages of submission assisted by regional order support systems, namely SIMDA Keuangan and SIPD. This is so that employee expenditures can be disbursed by BPKAD (*Badan Pengelolaan Keuangan dan Aset Daerah*). The system that runs at the Cilegon City Regional Secretariat can be described as follows:

1. Employee attendance record
   At the end of each month, the personnel department collects data on the attendance of Non-civil Servants consisting of daily attendance, to be recorded and calculated according to the valid data then recapitulated to calculate salaries and then employee attendance data are submitted to BKPP (Badan Kepegawaian Pendidikan dan Pelatihan) for approval.
2. Letter of accountability for Non-PNS salary
   After the attendance record process is complete, the Sub-Division of Administration and Personnel makes a Letter of Accountability consisting of Power of Attorney for Budget Users, Employee Attendance Record, Honorarium Receipt List, Photocoppy of Certificate of Employee

Appointment, and SI (Standing Instructions) made by the expense reasurer.

3. Verification
The Letter of Accountability for Non-PNS Salary file that has been examined and completed by the Sub-Division of Administration and Personnel and then submitted to the verifier for inspection regarding the completeness of the file and the budgeted nominal in accordance with the number of employees listed in the Budget Implementation Document.
4. Payment Request Letter
After the Letter of Accountability for Non-civil Servant salaries has been examined and verified, a temporary Payment Request Letter is made by the general treasurer to be submitted to the Head of Finance.
5. Operator
After the Payment Orders and Letter of Accountability are verified by the Head of Finance, the operator makes a Payment Request Letter and Payment Order with SIMDA and SIPD web applications which are then signed by the Power of Budget User.

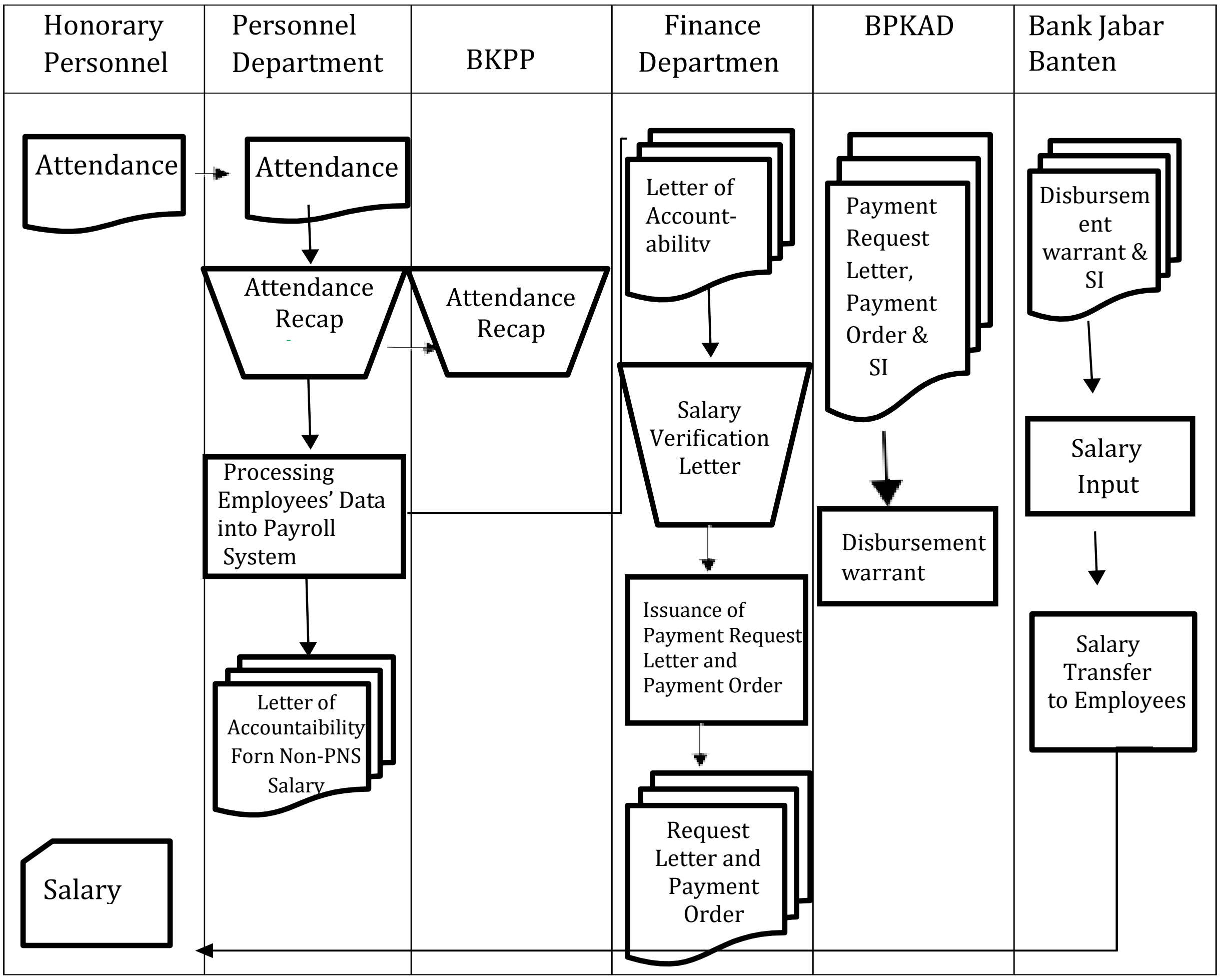

Figure 1. The payment process for employee expenditure at the Cilegon City Regional Secretariat

6. Disbursement of Employee Expenditure Funds
In the process of disbursing the employee expenditure funds, the files of Payment Request Letters, payment Orders and SI are then sent to the BPKAD (Badan Pengelolaan Keuangan dan Aset Daerah) by the financial treasurer for the issuance of a Disbursement warrant by

BPKAD. Payment transactions are carried out using the Regional Bank Cash Management System (CMS) which is done by the Cilegon City government through Bank Jabar Banten (BJB) by automatically debiting the Regional General Cash Account and crediting the executor's account. The authority of the expenditure treasurer/assistant expenditure treasurer at this phase is as the maker and examiner, while the Budget User/ Budget User Power as the approver. After approval is granted by the Budget User/Power of Attorney of the Budget User, money will automatically be sent to a third party. Then a reconciliation report from the Transfer Process is generated. The Payment Process for Employee Expenditure at the Cilegon City Regional Secretariat can be presented visually in figure 1.

Calculation of salary payment for Non-civil Servants based on Education Level at the Cilegon City Regional Secretariat

The Regional Secretary is a staff element who has the main task of assisting the mayor in carrying out government, development and community duties and providing administrative services to all Cilegon City Regional officials. One of the most important factors to support performance improvement is the availability of employees that is supported by their quantity, quality, and also their suitability for work. The provision of these employees is important because the system of the Cilegon City Regional Secretariat supports employees.

However, currently meeting the needs of employees to support the performance of the Cilegon City Regional Secretariat is difficult if they only rely on employees with the status of Civil Servants. For this reason, the Procurement of Non-civil Servants is an important choice and priority to support activities within the Cilegon City Regional Secretariat. The provision of Non-civil Servants in the Regional Secretariat of Cilegon City is based on the Regional Revenue and Expenditure Budget. Payment of salaries for Non-civil Servants at the Cilegon City Regional Secretariat is made based on the level of education. There are several groups included in Non-civil Service employees, namely Contract Employee and Freelance Daily Employee.

The listed below are the details of the calculation of salary payments for Non-civil Servants.

1. Basic salary

According to Cilegon Mayor Regulation Number 26 of 2018 concerning Cilegon City Government Minimum Wage for Fiscal 2019. Contract Employee or Freelance Daily Employee is given a basic salary and other additional income determined based on the Decree of the Mayor of Cilegon.

a. Contract employee honorarium

Table 1. Contract employee honorarium

Education Level	Honorarium
Bachelor Degree	IDR 2,000,000,-/month
Diploma Degree 1, 2, 3	IDR 1,950,000,-/month
Senior High School/Vocational School	IDR 1,000,000,-/month

Source: Cilegon mayor regulation number 26 of 2018

b. Freelance daily employee honorarium.

Table 2. Freelance daily employee honorarium

Education Level	Honorarium
Primary School/Senior High School/Diploma Degree 1, 2, 3/Bachelor Degree	IDR 1,750,000,-/month

Source: Cilegon Mayor Regulation Number 26 of 2018

2. Employee welfare benefits.

According to Cilegon Mayor Regulation Number 49 of 2020 concerning Additional Income of Cilegon City Government Employees, additional income of Cilegon City government employees, abbreviated as TPP, is additional income or other designations given in order to improve general welfare to Civil Servants and Non-civil Servants given every month in accordance with regional financial capabilities.

a. Additional income based on Contract Employee workload.

Table 3 Additional income based on contract employee workload

Education Level	Rates/Prices
High School/Diploma Degree 3/Undergraduate	IDR 1,400,000

Source: Cilegon City Regional Secretariat

b. Freelance Daily Employee Administrative Welfare Allowance.

Table 4 Freelance daily employee welfare benefits administration

Education Level	Rates/Prices
Elementary/High School/Diploma Degree 3/Undergraduate	IDR 1,100,000

Source: Cilegon City Regional Secretariat

1. 5% deduction for not coming to work
2. 1% deduction for not doing noon attendance
3. Deduction for not attending morning meeting 1% coming late 1%
4. Deduction for going home early 1%
5. Deduction for paying BPJS employment.
6. Net salary = (basic salary + employee welfare benefits) – (deduction from not coming to work + deduction for not doing noon attendance + deduction for not attending morning meeting + deduction for arriving late + deduction for going home early + deduction for paying BPJS employment).

The deductions mentioned above are taken based on 50% of the amount of employee welfare benefits.

The Effectiveness of the Implementation of Non-cash Financial Transactions.

The Regional Secretariat of Cilegon City began to gradually conduct Non-cash financial transactions since the issuance of the Circular Letter of the Minister of Home Affairs Number 910/1866/SJ which requires every province in Indonesia to switch the payment system from cash to Non-cash Transactions on January 1, 2018. In implementing Non-cash Financial Transactions, the Regional Secretariat uses financial management support applications, namely SIMDA and SIPD.

Based on the results of the interviews that were conducted with employees, treasurers, helpers and operators at the Cilegon City Regional Secretariat, the use of the application of Non-cash financial transactions in financial management at the Cilegon City Regional Secretariat is quite effective and efficient. The details are as follows.

1. Fast

   The use of Non-cash financial transactions facilitates the work of employees in the implementation of deposits/bills in the management of Regional Finance and accelerates the implementation of book closures and financial reporting also no longer have to deposit cash to the Bank or others.

2. Accurate
   The results of the work are more accurate with Non-cash financial transactions. This is because it is used the conventional system. The use of the flow of funds for all transactions can be traced so that it is more accountable, because all transactions are supported by valid evidence. With the implementation of this Non-cash financial transaction, indirectly, every flow in and out of the budget can be known by the public.
3. Easy
   The use of Non-cash financial transactions facilitates financial mutations, because it can be done anywhere and anytime. In addition, the application of Non-cash financial transactions can also easily been seen by the users balance and mutation information from all transactions that can be traced and is supported by valid evidence so that it is more accountable. At the end of the fiscal year, the treasurer feels the assistance made available by this Non-cash financial transaction because it makes it easier to make accountability reports accurately and on time.
4. Safe
   With the use of cashless financial transactions, treasurers and employees do not have to hold cash at risk of crime, loss, or miscalculation.

In implementing regional financial management with the use of Non-cash financial transactions, the Cilegon City Regional Secretariat experienced several obstacles, including:

1. Human resource (HR) issues
   In the finance subdivision, there are several employees involved in the regional financial management process who lack understanding of the use of SIMDA and SIPD.
2. Infrastructure Issues
   The implementation of SIMDA and SIPD requires good internet access in all areas where Regional Apparatus Organizations are located, because SIMDA and SIPD require all regional financial processes to be carried out online, for that, online financial process support facilities must be available sufficiently. It is intended for smooth running in the ongoing regional financial administration. If internet access does not run well which results in a network down, there will automatically be problems in the regional financial administration process.

The following Supporting Applications are used.

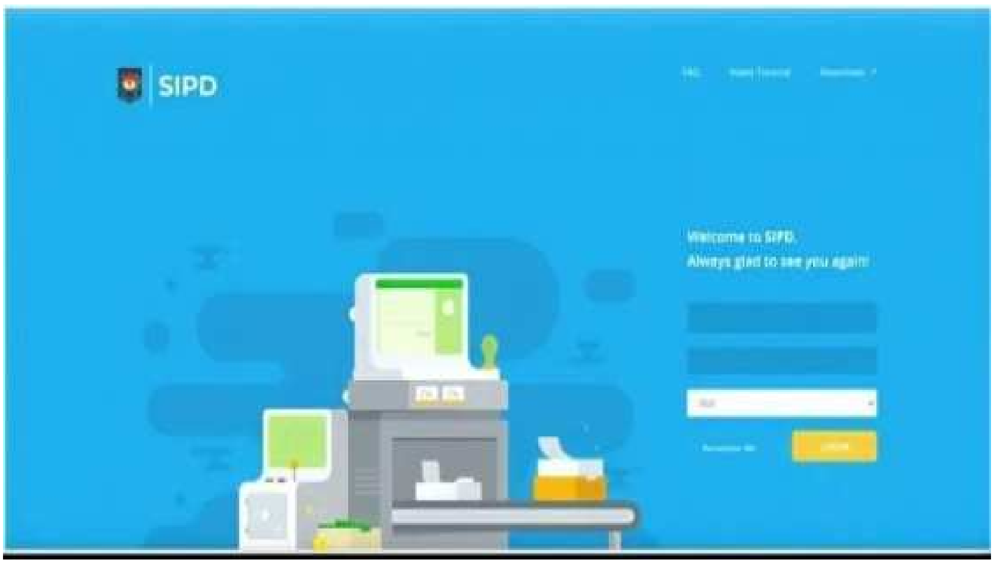

Figure 2. SIPD Application

Figure 3. SIMDA application

Obstacles in the Process of Disbursing Expenditure Funds for Non-civil Servant Administrative Employees

Based on the results of an interview that was conducted with one of the employees of the Cilegon City Regional Secretariat, Mrs. Dannie as the treasurer of auxiliary expenditures regarding the constraints of the process of disbursing employee expenditure funds, there are several factors, namely internal factor and external factor. Both factors can be described as follows.

1. Internal factor
   Internal factor that occurs related to the constraints in disbursing employee expenditure funds/salaries comprises of delays in making Payment Order caused by incomplete supporting documents/salary Letter of Accountability in making Payment Order.
2. External factor
   External factor that occurs related to constraints of disbursement of employee/salary expenditure funds is the transition of the system on regional financial applications from SIMDA to SIPD. The system transition is implemented because the Ministry of Home Affairs launched a new application, namely SIPD whose implementation was supported by the Badan Pengawas Keuangan dan Pembangunan (BPKP). Along with the local government's obligation to use SIPD, Simda utilization decreased in frequency in 2021. However, as the system is relatively new application introduced to local governments, SIPD still raises a number of technical obstacles, such as problems in budgeting and financial administration.

In connection to the changes in regulations contained in Article 4 of Permendagri Number 70 of 2019 concerning the Sistem Informasi Pemerintah Daerah (SIPD), Regional Apparatus Organization is requested to be able to implement SIPD with SIMDA Finance in parallel.

Therefore, the Cilegon City Regional Secretariat still implements SIMDA Keuangan as a companion to SIPD. However, at the time of implementation, carrying out the disbursement of funds, one of which is employee spending, becomes slower because the operator must input data into SIMDA application first and then re-input the data back into SIPD application so that the implementation and stages of financial administration do not run according to the set timeline.

CONCLUSION

Based on the results of research conducted by the researchers at the Cilegon City Regional Secretariat concerning the Payment System for Non-civil Servant Service Expenditures or Salaries, the following conclusions can be drawn: First, the procedure for paying service expenditures for Non-civil Servants at the Regional Secretariat and the provision of salaries to Non-civil Servants is paid after carrying out work for one month. The provision of salary as intended is done by considering the level of employee discipline. Payment of Non-civil Service employee expenditure (Direct Expenditure) must go through several stages of submission assisted by regional order support systems, namely SIMDA Keuangan and SIPD. It is intended that employee expenditure funds can be disbursed by BPKAD.

Payment transactions are carried out using the Regional Bank Cash Management System (CMS) which is done by the Cilegon City government through Bank Jabar Banten (BJB) by automatically debiting the Regional General Cash Account (RKUD) and crediting the work executor's account. Payment of salaries for Non-civil Servants at the Cilegon City Regional Secretariat is made based on the class and level of education. The groups in question are employees of Contract Employee and Freelance Daily Employee.

Second, the implementation of Non-cash financial transactions in the Regional Secretariat is quite effective and efficient. It is taken from the statement of Mr. Joko as the head of the sub-division, Ms. Danie as the treasurer, and Mr. Bocim as the operator of the Regional Secretariat of Cilegon city. Application users are assessed by several aspects, such as fast, accurate, easy, and safe. The use of SIMDA and SIPD is proven more effective in Non-cash financial transactions than without using those applications so that the users will not have trouble to print it out the report or type it manually.

Third, there are several factors of effectiveness in the process of disbursing employee expenditure funds, namely internal factor and external factor. Internal factor comprises of delays in making Payment Order due to incomplete supporting documents/salary a Letter of Responbility in making Payment Order. Meanwhile, the external factors is due to the switching policy in the financial administration system in the Cilegon City Government which resulted in constraints in regional financial administration. One of them was the disbursement of Non-civil Servant employee spending funds at the Cilegon City Regional Secretariat.

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Factors Influencing the Accounting Recording of Micro, Small, and Medium Enterprises in East Bolaang Mongondow Regency

Radita Rizal Mubarak
Johny Manaroinsong
Miryam P. Lonto*
Accounting Department, Faculty of Economics and Business, Universitas Negeri Manado, Indonesia
*Corresponding Author: miryamlontoh@unima.ac.id

ABSTRACT

This study aims to examine the factors that influence financial records in Micro, Small, and Medium Enterprises (MSMEs) in East Bolaang Mongondow Regency. This research is quantitative with a survey method. The population of this study was 3061 SMEs, with a sample size of 342, using a simple random sampling technique. The data were analyzed using linear regression. The results showed that a good understanding of accounting and perceptions of the benefits of accounting had an effect on MSME financial records, while herding behavior had no effect on MSME financial records. This research has implications for MSME actors to further strengthen relations between fellow business actors so that they can exchange experiences about the businesses they run and make good and correct financial records.

Keywords: herding behavior; financial recording of MSMEs; perception of accounting benefits; understanding accounting

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INTRODUCTION

The word "accounting" comes from the English verb "to account" which means to calculate or account for something that has to do with a company's financial management and its owner's trust in the manager to carry out the company's activities.

Financial accounting, according to Jansrol and Khadijah (2021), is the process of producing information for users, typically those who are interested in financial statements.

MSMEs are organizations that are generally carried out by individuals and groups. MSMEs play an important role in creating jobs. Because of the importance of the role of MSMEs, June 27 is commemorated as Micro, Small, and Medium Enterprises Day which is directly declared by the UN General Assembly. The MSME Day proves that MSMEs are very helpful in supporting the global economy. Data from Word Bank shows that the number of MSMEs worldwide reaches 90% of all business actors in the world (Laheba & Bacillius, 2022).

Based on initial observations from researchers on several MSMEs in East Bolaang Mongondow Regency shows that some MSMEs do not carry out financial records in their business operations. This is due to a lack of understanding of financial records in their businesses.

A lack of knowledge in recording financial positions in MSMEs will hinder the progress of a business in supporting a capital lending activity in a bank financial institution. It indicates MSME owners have difficulty compiling financial records due to a lack of knowledge in preparing financial statements. Moreover, one of the factors that affect MSMEs in financial recording is accounting benefits. A financial recording is very important for businessmen because accounting is very beneficial to the continued success of a business.

One of the problems faced by MSMEs in their business is regarding financial recording and reporting which is closely related to accounting. In its implementation, many MSMEs have not applied financial information to their business and have not applied accounting records because of the lack of understanding and perceptions that complicate work (Simanjuntak, Sumual, & Bacillius, 2020).

Accounting benefits and knowledge are two factors that limit MSME actors' ability to compile financial records. Accounting activities are essential for MSME entrepreneurs. Accounting can provide many benefits for business actors.

The reasons why MSME actors lack knowledge and ability in the financial recording process are they do not have adequate accounting knowledge. Furthermore, many of them do not know the importance of financial records in a business. Sofiah and Munarti (2014) revealed the majority of Indonesian MSME actors do not understand financial records. They consider financial recording not too important to do. It causes a lack of awareness among business actors about the significance of financial records.

Despite the importance of financial records, the tendency to imitate someone's behavior often occurs in the surrounding community. Thus, individuals who have been a part of community groups for a considerable amount of time have a significant impact on how they act (Andhika & Damayanti, 2017). This occurs as a result of subjective habits, specifically a person's perception of social pressure to perform or not perform certain behaviors, also known as herding behavior. Herding behavior is the tendency of individuals to imitate the actions of a larger group of people (Subash, 2012). Herding behavior in MSMEs can be addressed by making financial records if other MSME actors make financial records, or vice versa. This happens because individuals have limitations in thinking due to the individual's inadequate abilities and lack of information obtained. Andhika and Damayanti (2017) stated that herding behavior has a positive effect on the willingness of business actors to financial records. Therefore, with the herding behavior of MSME actors, they will be influenced to carry out financial records that follow other MSME actors who have carried out financial records before.

The research variables used are herding behavior regarding the behavior of someone to follow the behavior of other people or groups in financial recording in MSMEs and adding research that adds factors to understanding accounting and the benefits of accounting in financial recording in MSMEs.

This study aims to determine whether accounting understanding affects financial recording in MSMEs in East Bolaang Mongondow Regency, whether the perception of accounting benefits affects financial recording in MSMEs in East Bolaang Mongondow Regency, whether herding behavior affects financial recording in MSMEs in East Bolaang Mongondow Regency.

According to research by Andhika and Damayanti (2017), the more often individuals interact with fellow SME entrepreneurs who compile financial records, the more it will increase and grow the intention of SME entrepreneurs to carry out accounting records. According to research by Sulistyowati (2017), MSMEs in Malang City are not ready to record financial reporting because most MSME actors do not understand Financial Accounting Standards (SAK). According to research by Savitri and Saifudin (2018), the results of this study show the absence of accounting records in micro, small, and medium enterprises in Mr. Pelangi Semarang. The financial record made is still very simple and is only related to the purchase of raw materials and some of their expenses.

The Influence of Accounting Understanding on the Preparation of Financial Records in MSMEs

MSME owners who have the understanding to prepare financial statements properly and by applicable guidelines can find out their business conditions (whether there is progress or setbacks) can make business decisions appropriately, can understand the meaning of profits or losses obtained, then can conduct performance evaluations to enhance MSME operational performance. According to Whetyningtyas and Mulyani (2016), a good understanding of financial records will influence MSME owners in compiling financial records. It indicates that the need for Micro, Small, and Medium Enterprises (MSMEs) is synonymous with a lack of understanding to run financial records properly in business. A lack of knowledge in financial recording automatically prevents them from carrying out financial recording activities. The results of previous empirical studies found that the level of understanding of accounting had a positive effect on accounting records based on EMKM financial accounting standards (Pardita, Julianto, & Kurniawan, 2019). Based on this description, the hypotheses in this study are:

H1: There is an influence of accounting understanding on preparing financial records in MSMEs.

The Effect of Perceived Benefits of Accounting on the Preparation of Financial Records in MSMEs

Financial recording activities are crucial for SME entrepreneurs. This is due to the benefits that accounting records can give a significant impact on SME entrepreneurs' ability to maintain their businesses over time. According to Wahyudi (2009), there an influence of accounting benefits on the preparation of financial records. It is also in line with the research findings of Failian and Diptyana (2012) that revealed the more MSMEs feel the benefits of accounting, the more it will influence MSMEs in compiling financial records. This indicates that the advantages of accounting in the form of financial records are very beneficial to MSMEs because MSME owners use accounting as a tool for decision-making. Financial records can be used to measure and communicate company financial information that is needed by management in formulating various decisions to solve the problems faced. Based on this description, the hypotheses in this study are:

H2: There is an influence of accounting benefits on preparing accounting records for MSMEs.

The Influence of Herding Behavior on the Preparation of Accounting Records in MSMEs

Herding behavior can occur when someone is about to start a business being run. UMM entrepreneurs in starting their business not only learned about the production process from relatives/friends who had previously started it, but also learned how to record accounting in the business. In addition, the existence of associations with other SME entrepreneurs is also a factor that causes herding behavior. Interaction with other SME entrepreneurs who have made accounting records will result in an exchange of information about the business being run. The exchange of information from one individual to another will increase knowledge of certain situations that have an impact on decision making, which is caused by information that is not fully available (Tandelilin, Hartono, & Hanafi, 2013).

Business owners in preparing financial records may be influenced by herding behavior, which is the tendency of individuals to imitate the actions of a larger group of people (Subash, 2012). Andhika and Damayanti (2017) in their research found that herding behavior has a positive effect on the willingness to make financial records. This means that with the herding behavior of MSME entrepreneurs will be influenced to compile financial records. The more often MSME entrepreneurs interact with fellow MSME entrepreneurs who make financial records, the more it will improve and grow the preparation of financial records for the MSME owners. Based on this description, the hypotheses in this study are:

H3: There is an influence of herding behavior on the preparation of accounting records for MSMEs.

RESEARCH METHODS

This study is a quantitative research that was conducted by using explanatory research. Explanatory research is research that intends to explain the position of the variables studied and the relationship between one's variable with another variable. In this study, there are two types of variables, namely the independent variable which is symbolled with X, and the dependent variable which is symbolled with Y. This study used primary data collected by distributing questionnaires to MSME owners in East Bolaang Mongondow Regency.

Perceptions of respondents' accounting benefits and herding behaviour that show accounting understanding were measured using Likert scales of 1 to 5. Number 1 represents strong disagreement, number 2 represents disagree, number 3 represents neutral or doubtful, number 4 represents agree, and number 5 represents strongly agree. To measure financial recording, an ordinal scale was used in which numbers 1 represent "yes" and 0 represent "no."

The researchers collected the population by doing an initial survey at the Cooperative and SME Trade Office. 3061 MSMEs are participating in East Bolaang Mongondow Regency. As a result, there is 342 sample for a population of 3061 with a sampling error rate and a confidence level of 5%. The primary data were collected by distributing the questionnaires as a documentation method.

Multiple regression tests were used to analyse quantitative descriptive statistical data. Multiple regression tests of data are used to test data quality using validation tests and reliability tests. The classical assumption test is carried out to determine whether the regression model used in this study is good or not (Ghozali, 2001). The normality test, multicollinearity test, and heteroscedasticity test were used as the classical assumption test. Multiple regression analysis is used by researchers if researchers intend to predict how the state (up and down) of the dependent variable (criterium) and if two or more independent variables as predictor factors are manipulated (increased and decreased values). Therefore, multiple regression analysis will be carried out if the number of independent variables is at least 2 (Sugiyono, 2018).

The followings are descriptive statistical results with multiple regression test analysis tools using reliability validity test, classical assumption test, normality test, multicollinearity test, heteroscedasticity test and hypothesis test.

Table 1. Respondents' sex test results

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	115	33.6	33.6	33.6
	Woman	227	66.4	66.4	100.0
	Total	342	100.0	100.0	

Table 2. Age test results of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<25 years	29	8.5	8.5	8.5
	26-30 years	23	6.7	6.7	15.2
	31-35 years	22	6.4	6.5	21.7
	36-40 years	47	13.7	13.8	35.5
	41-45 years old	83	24.3	24.3	59.8
	46-50 years	91	26.6	26.7	86.5
	51-55 years	26	7.6	7.6	94.1
	56-60 years	15	4.4	4.4	98.5
	61-65 years old	4	1.2	1.2	99.7
	11.00	1	.3	.3	100.0
	Total	341	99.7	100.0	
Missing	System	1	.3		
Total		342	100.0		

Table 3. Respondents' last education test results

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SD	17	5.0	5.0	5.0
	JUNIOR	121	35.4	35.4	40.4
	SMA	161	47.1	47.1	87.4
	S1	40	11.7	11.7	99.1
	S2-S3	3	.9	.9	100.0
	Total	342	100.0	100.0	

Table 4. Respondents' last education test results

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<10,000,000	309	90.4	90.6	90.6
	11.000.000 - 20.000.000	13	3.8	3.8	94.4
	21.000.000 - 30.000.000	13	3.8	3.8	98.2
	41.000.000 - 50.000.000	3	.9	.9	99.1
	51.000.000 - 100.000.000	3	.9	.9	100.0

		Frequency	Percent	Valid Percent	Cumulative Percent
	Total	341	99.7	100.0	
Missing	System	1	.3		
Total		342	100.0		

Table 5. Validity test results

Item *Component*		*Matrix* Variables
Understanding Accounting	1	0.918
	2	0,883
	3	0,924
	4	0,926
	5	0,861
	6	0,839
	7	0,817
Perception of Accounting Benefits	1	0.960
	2	0,977
	3	0,959
	4	0,877
	5	0,972
Herding Behavior	1	0.906
	2	0,620
	3	0,919
	4	0,655
Accounting Recording	1	0.910
	2	0,888
	3	0,906
	4	0,949
	5	0,976

Table 7. Normality test results

Asymp.Sig. (2-tailed)	0,000 .

Table 8. Multicollinearity test results

Variable	VIF
Understanding Accounting (X1)	3.382
Perception of Accounting Benefits (X2)	2.960
Herding Behavior (X3)	1.829

Table 9. Heteroscedasticity test results

Variable	Sig.
Understanding Accounting (X1)	.846
Perception of Accounting Benefits (X2)	.670
Herding Behavior (X3)	.418

Table 10. Hypothesis test results/determination coefficient test

Adjusted R. Square	0.803 .

Table 11. Partial test result (t)

Variable	t	Sig.
Understanding Accounting (X1)	5.634	.000
Perception of Accounting Benefits (X2)	16.390	.000
Herding Behavior (X3)	.225	.822

Based on the table above, it is known that accounting understanding has a coefficient of 0.254 and t count of 5.634 with a significance (sig) of 0.000. This significance value (sig) is less than 0.05, so it can be concluded that accounting understanding affects MSME financial records. Thus, H1 is accepted or in other words, accounting understanding has a positive effect on MSME accounting records.

Based on the table above, it is known that the perception of accounting benefits has a coefficient of 0.715 and t count of 16.390 with a significance (sig) of 0.000. This significance value (sig) is less than 0.05, so it can be concluded that the perception of accounting benefits affects the financial recording of MSMEs. Thus, H2 is accepted or in other words, the perception of accounting benefits has a positive effect on MSME accounting records.

Based on the table above, it is known *that herding behavior* has a coefficient of 0.012 and t count of 225 with a significance (sig) of 0.822. This significance value (sig) is more than 0.05, so it can be concluded that *herding behavior* does not affect MSME financial records. Thus, H3 is rejected or in other words*, herding behavior* does not have a positive effect on MSME accounting records.

Understanding accounting has a positive effect on MSME accounting records. This finding is in line with previous results from Nahar and Widiastuti (2011), Hanum (2013), Wiratno, Setyaningrum, and Sukirman (2014), and Whetyningtyas and Mulyani (2016) that found understanding accounting affects the financial recording of MSMEs. It implies that a good understanding of accounting will influence MSME owners in compiling financial records. Therefore, it can be concluded that a good accounting understanding greatly affects MSME actors in conducting financial records. The results of this study are also supported by most MSME actors in East Bolaang Mongondow Regency who understand accounting, such as understanding on cash, balance sheet statements, income statements, revenues, production costs, and types of production. MSME owners who have a good understanding of preparing financial statements and adhere to applicable standards are willing to show the financial condition of their business whether there is progress or setback, can understand the meaning of profit or loss obtained, and can evaluate the financial statements.

The perception of accounting benefits has a positive effect on MSME accounting records. This result is consistent with Wahyudi (2009) which found the benefits of accounting affect the financial records of MSMEs. It is also shown in the result of the research done by Failian and Diptyana (2012) that revealed the more MSMEs feel the benefits of accounting, the more it will influence MSMEs in compiling financial records. It can be inferred that the more useful accounting is, the more it will increase MSME actors carry out financial records in running a business. This result is supported by most MSMEs in East Bolaang Mongondow Regency who feel the benefits of accounting, such as financial records can be useful to know the number of raw material purchases and financial records can be useful to know the amount of production every day.

Herding behavior does not affect MSME accounting records. This is in line with the research results of Gozalie and Anastasia (2015) which show that herding behavior has no significant effect on property investment decisions. It means that the herding behavior of MSME entrepreneurs will not be affected to carry out accounting records. Most MSME actors in East Bolaang Mongondow regency do not interact with fellow MSME entrepreneurs in making accounting records. Hence, herding behavior cannot improve and emerge MSME owners in compiling accounting records in running their businesses.

CONCLUSION

The results of this study show that understanding accounting and the perception of accounting benefits have a positive effect on MSME financial records while herding behaviour does not affect MSME financial records. Understanding accounting has a positive effect that affects MSME owners in compiling financial records. The perception of the benefits of accounting has a positive effect in increasing MSME entrepreneurs to carry out financial records in running their businesses. Herding behaviour does not affect financial records, so MSME entrepreneurs are not influenced to carry out financial records.

Based on the results and discussion of the study, several suggestions are recommended by the researchers. MSME actors in East Bolaang Mondongow can strengthen their relationships with fellow business actors. Thus, they can exchange experiences about the businesses they run. Doing it will help them in making good and correct financial records that can also increase their skills and knowledge to make financial statements that are under applicable regulations. As a result, they can easily make funding loans at banking financial institutions. The Department of Trade, Cooperatives, Small, and Medium Enterprises of East Bolaang Mongodow Regency can socialize the importance of financial records under applicable standards so that all MSME actors in East Bolaang Mongondow can easily make financial records of their businesses. Other researchers can examine further factors affecting MSME accounting recording to re-evaluate the development of accounting understanding, perceptions of accounting benefits, and herding behaviour in financial records.

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Analysis of Measurement of Financial Difficulties and Financial Report Fraud (A Case Study at PT ASABRI (Persero) 2010-2018)

Fajar Yulianto Dwi Kusuma
Isna Putri Rahmawati*
Accounting Department, Faculty of Economics and Business, Universitas Sebelas Maret, Indonesia
*Corresponding Author: isnaputrirahmawati@staff.uns.ac.id

ABSTRACT

This study aims to examine the financial health condition and whether there is an indication of fraudulent financial statements or not at PT ASABRI (Social Insurance for the Armed Forces of the Republic) in 2010-2018 by using the Altman Z-Score, Springate S-Score, Grover G-Score, Beneish M-Score, and Dechow F-Score methods. PT ASABRI became the object of the study due to the result of an audit conducted by the BPK (The Audit Board of the Republic of Indonesia) in 2021 that found fraud in financial management and investment funds at PT ASABRI. To measure financial distress, the researchers used the Altman, Springate, and Grover models. While to examine financial statement fraud, the researchers used the Beneish and Dechow models. The results revealed that each model showed varied results. In the financial distress model, the Altman Z-Score could show financial distress 4 times while the Springate S-Score showed financial distress 5 times in 9 years of observation. Moreover, the other models showed different results. The Grover G-Score model did not indicate any financial distress at PT ASABRI. While in the fraud model, the Beneish M-Score could detect indications of fraudulent statements at PT ASABRI 5 times in 8 years of observation. Different conditions occurred in the Dechow F-Score model that did not show fraudulent financial statements at PT ASABRI in 9 years of observation, from 2010 to 2018.

Keywords: corruption; financial distress; financial statement fraud; insurance

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INTRODUCTION

Nowadays, Indonesian citizens are starting to be aware of the significance of insurance in protecting health, life, property, and others. Insurance has functions to protect individuals from the risk of uncertainty and give them self-confidence. By using insurance, individuals will receive guarantees. To avoid unwanted risks, many people choose to become customers of insurance institutions. The Indonesian Life Insurance Association (*Asosiasi Asuransi Jiwa Indonesia*/AAJI) reported that 63.87 million Indonesians had life insurance in the first quarter of 2021 (Kontan, 2021b). It is followed by the growth of the insurance industry in Indonesia. Based on the data from the Central Bureau of Statistics, there were 228 insurance companies and insurance support companies in Indonesia in 2020.

The relationship between insurance companies and their customer sometimes encounters issues that lead to disagreements. These disagreements can result from varied factors, such as customer and insurance company misunderstandings about financial services (Fauzi, 2019). Because of these misunderstandings, customers cannot accept insurance claims from insurance companies. Aside from the customer, the issues can likewise emerge from the insurance company side that is involved. The company's poor financial management is one of the issues, and it has the potential to default on the policy. It can occur when the company suffers losses that leave it without enough assets to fulfil insurance customer policies (Trivena, 2020). The investments made by insurance companies could be to blame for those losses.

PT ASABRI is a State-Owned Enterprise that functions to manage social insurance programs for members of the Indonesian National Police (POLRI), the Indonesian National Armed Forces (TNI) soldiers, and State Civil Apparatus, including Government Employees with Work Agreements (*Pegawai Pemerintah dengan Perjanjian Kerja*/PPPK) and Civil Servants within the Ministry of Defense and POLRI (PT ASABRI, 2021). Since its inception in 1971, PT ASABRI has received numerous awards. One of them is becoming the 2019's TOP Compulsory/Social Insurance Company. Sonny Widjaja, President Director of PT ASABRI has also received the TOP Insurance CEO of 2019 award from Top Bank, Insurance, and Multi-Finance 2019 (PT ASABRI, 2019). However, surprisingly, the company that received the Best Strategic Brand Award at the 2018 BUMN Branding & Marketing Award from BUMN Track was hit by a corruption case in 2020. According to the findings of an audit carried out in 2021 by the Audit Board of the Republic of Indonesia, this case resulted in state losses of IDR 22.78 trillion (BPK RI, 2021).

According to the BPK RI audit results, there were irregularities in the cultivation of investment and financial funds at PT ASABRI between 2012 and 2019 in the form of controlling the placement of investment funds in the form of shares and mutual funds with multiple company owners or shareholders (BPK RI, 2021). According to data from Stockbit, PT ASABRI owns 17 company shares. According to Thertina (2020), the majority of these stock prices decreased by 50% to 90%. Since this company's investment is regarded as high-risk and illiquid, it is not profitable.

The primary source of income for insurance companies is premium revenue (Triana, 2020). Insurance companies also earn money from investment returns and other income, in addition to paying premiums. PT ASABRI itself generates income from premium payments, investment returns, and other sources, as indicated by data from its financial statements. Throughout the study period, investment returns always account for more than half of total income. This indicates that PT ASABRI relies heavily on investment as a component.

Every business will do everything possible to make a profit. Nevertheless, it cannot be denied that a business can fail and experience financial distress. Financial distress begins when a business fails to fulfil its obligations or when its cash situation indicates that it cannot immediately pay off its debts (Rahmawati et al., 2021). A company's financial distress is the first stage of bankruptcy if this is not anticipated early on (Putri, 2021). Management must pay attention and regularly use financial indicators to analyse financial statements.

The Altman Z-Score and Springate S-Score methods can be used to analyse financial distress to determine whether a company is in good health or not (Imran et al., 2021). The Altman, Springate, and Grover models can be used to predict financial distress and provide an early indication of a company's bankruptcy (Kukreja et al., 2020). Management of the company can use the findings of this analysis to decide on policies and next steps. According to Husein & Pambekti (2014), businesses must conduct internal and managerial analyses of financial distress as well as for business owners to anticipate the occurrence of financial distress. According to Aviantara (2021), the Altman model, along with two other models, produces a strong sign of financial distress at PT Garuda Indonesia Tbk. The same sign appears in each model 14 times between 2007 and 2018. Laksmana & Darmawati (2019) demonstrate that the Springate Model accurately predicted PT Citra Maharlika Nusantara Corpora Tbk's bankruptcy. This model demonstrates that PT Citra Maharlika Nusantara Corpora Tbk was declared bankrupt between June 2013 and September 2016. Munawarah et al. (2019) conducted research to demonstrate that the Grover G-Score has an IDX financial distress determination accuracy of 97% for trade and service businesses. According to this model, only one trade and service company on the IDX was categorized as unhealthy between 2013 and 2017, while 33 others were categorized as healthy.

PT ASABRI's 2018 Financial Statement received a disclaimer of opinion from KAP Tanudiredja, Wibisana, and Rintis & Partners in addition to the corruption case involving the board of directors. If the auditor believes that there is a material deviation from accounting principles, a disclaimer of opinion may be issued (Setiyanti, 2012). This motivates researchers to investigate the company's detection of financial statement fraud. Financial statement fraud, according to the Association of Certified Fraud Examiners (ACFE), is the deliberate misrepresentation or omission of disclosure amounts in financial statements to deceive financial statement users (Ratmono et al., 2020). The Beneish M-Score and the Dechow F-Score are two models that can be used to identify fraud statement. Research conducted by Kukreja et al. (2020) on Comscore Inc. showed The Beneish M-Score's ability to accurately detect the possibility of financial statement manipulation. In 2016, Comscore obtained an M-Score of more than -2.22, indicating that financial statement fraud was possible. Study of Meiryani et al. (2021) for manufacturing companies that are listed on the IDX, showed that 6% of the sample companies have a very high risk of fraudulent financial statements, 4% of the sample companies have a high risk of fraudulent financial statements, 2% of the sample companies have a risk of fraudulent financial statements that is above the normal level, and 88% of the sample companies have a risk of fraudulent financial statements that is normal or below the normal level.

The purpose of this study is to investigate the conditions under which the company can identify financial statement issues and fraud. To get an in-depth analysis of the conditions at PT ASABRI, the research was conducted qualitatively. The object of the study was PT ASABRI (Persero).

The mega-scandal PT ASABRI (Persero), which was a corruption case with the largest total state loss at the time, was heating up, so researchers took this case. Based on the BPK RI audit, the fraud committed by PT ASABRI occurred between 2012 and 2019 (BPK RI, 2021). As a result, the period used is 2010-2018. This research is expected to contribute to expanding the literature on measuring financial distress and financial statement fraud.

RESEARCH METHODS

Object of the Study

As the insurance company, PT ASABRI has a job to manage social insurance programs for the Indonesian National Police (POLRI), the Indonesian Armed Forces soldiers (TNI), and some State Civil Apparatus (*Aparatur Sipil Negara*/ASN) employees, which is the subject of this study. The result of an audit that was done by the BPK in 2021 revealed that there were irregularities in the cultivation of investment and financial funds at PT ASABRI from 2012 to 2019 in the form of controlling the placement of investment funds with multiple company owners or shareholders in the form of shares and mutual funds. The researcher chose this company because of these findings (BPK RI, 2021). The observation periods were from 2010 to 2018 because the researchers wanted to know the trends of the companies' performances during that period which includes suspected cases of fraud in financial management and investment funds.

Sources of Data

The data used in this study is secondary data, in the form of PT ASABRI (Persero)'s 2010-2018 Financial Statements and Annual Reports. To collect the data, the researchers used documentation that was by collecting the documents needed in this study, namely the Financial Statements and Annual Reports of PT ASABRI. The data were obtained from the official website of PT ASABRI located at www.asabri.co.id.

Method of Analysis

The researcher used a case study to get an in-depth analysis of the company's case. To measure financial distress and financial statement fraud in this case each model was used, namely:

Financial Distress Analysis

The financial distress analysis model is a tool used to predict the financial condition of an entity or company by estimating the possibility of financial distress using a combination of company financial ratios (Aminian et al., 2016). Analysis of financial distress at PT ASABRI was carried out using the Altman Z-Score, Springate S-Score, and Grover G-Score models. These models are the development of each previous model.

Altman Z-Scores e

This research used Altman Z-Score Modification by using following similarity:

$$Z\ Score = (6{,}56X1) + (3{,}26X2) + (6{,}72X3) + (1{,}05X4)$$

Description:
X1: Working Capital/Total Assets. This ratio measures a company's ability to generate net working capital from its total assets; X2 = Retained Earnings/Total Assets. This ratio measures the profit that a company can get from reinvesting the company's retained earnings; X3 = Profit Before Interest and Tax/Total Assets. This ratio shows the actual return of a company that comes from company assets before deducting interest and taxes; X4 = Total Equity/Total Debt. This ratio shows how much the company's assets value decreases before the liabilities exceed the company's asset value which can cause the company to be depressed. A score <1.1 indicates a company with the potential to go bankrupt, a score from 1.1 to 2.6 is classified as a grey zone, and a score > 2.6 is classified as a safe zone.

Springate S-Score

The Springate S-Score is an extension of the Z-Score model which also uses Multiple Discriminate Analysis (MDA). The Springate model similarity is as follows:

$$S\ Score = (1{,}03X1) + (3{,}07X2) + (0{,}66X3) + (0{,}4X4)$$

Description:
X1 = Working Capital/Total Assets. This ratio measures a company's ability to generate net working capital from its total assets; X2 = Profit Before Interest and Tax/Total Assets. This ratio shows the actual return of a company that comes from company assets before deducting interest and taxes; X3 = Profit Before Tax/Short Term Liabilities. This ratio is used to measure a company's ability to pay off its short-term debt; X4 = Sales/Total Assets. This ratio can show the level of efficiency in using company assets in generating sales volume. If the S-score > 0.862, the company is in good health, otherwise, if the S-score is < 0.862, the company has the potential to experience financial distress.

Grover G-Score

The Grover G-Score model is the result of a redesign and reassessment of the Altman Z-score model. The calculation is as follows:

$$G\ Score = (1{,}65X1) + (3{,}404X2) + 0{,}16ROA + 0{,}057$$

Description:
X1 = Working Capital/Total Assets. This ratio measures a company's ability to generate net working capital from its total assets; X2 = Profit Before Interest and Tax/Total Assets. This ratio is used to measure a company's ability to generate profits; ROA = Net Profit/Total Assets. ROA measures the overall profitability of an asset in terms of the income earned from the asset. If the G-score > 0.01, then the company is in good health, and if the G-score < -0.02, the company has the potential to experience financial distress.

Analysis of Financial Fraud Statement

Analysis of financial statement fraud at PT ASABRI was carried out using the Beneish M-Score and Dechow F-Score models.

Beneish M-Score

The Beneish M-Score focuses on estimating the extent of earnings manipulation. The Beneish M-Score model similiarity is as follows:

$$M\ Score = -4{,}84 + 0{,}92\text{DSRI} + 0{,}528\text{GMI} + 0{,}404\text{AQI} + 0{,}892\text{SGI} + 0{,}115\text{DEPI} - 0{,}172\text{SGAI}$$

Table 1. Description of M-Score

Variable	Calculation	Description
Day's sales receivable index (DSRI)	$(Receivables_t/Sales_t)/(Receivables_{t-1}/Sales_{t-1})$	The DSRI ratio is used to calculate deviations in accounts receivable that can result from income inflation.
Gross Margin Index (GMI)	$Gross\ Margin_{t-1}/Gross\ Margin_t$ • *Gross Margin* = 1 – *Cost of Revenue/Sales*	The GMI ratio explains that deteriorating margins affect companies to manipulate earnings.
Asset Quality Index (AQI)	$[1-(PPE_t+CA_t)/TA_t]/[1-(PPE_{t-1}+CA_{t-1})/TA_{t-1}]$ • PPE = *Plants, Properties, and Equipments* • CA = *Current Assets* • TA = *Total Assets*	The AQI ratio can be used to calculate deviations in other assets that can occur when expenses are over budget.
Sales Growth Index (SGI)	$Sales_t/Sales_{t-1}$	The SGI ratio explains that sustainable growth and capital requirements influence company growth to manipulate sales and earnings.
Depreciation Index (DEPI)	$Depreciation\ Rate_{t-1}/Depreciation\ Rate_t$ • *Depreciation Rate* = *Depreciation/(Depreciation* + PPE)	The DEPI ratio is used to calculate the decrease in the depreciation rate as a form of income manipulation.
Sales and General Administration Expenses Index (SGAI)	$(SGA_t/Sales_t)/(SGA_{t-1}/Sales_{t-1})$	The SGAI ratio explains that a decrease in administrative and marketing efficiency affects companies to manipulate earnings.
Accruals	(*Income before extraordinary items – Cash from operations*)/$Total\ Assets_t$	The Accruals Ratio explains that accounting profits are not supported by cash profits.
Leverage Index (LEVI)	$Leverage_t/Leverage_{t-1}$ • *Leverage* = (*Current Liabilities + Total Long-Term Debt*)/*Total Assets*	The LEVI ratio explains that an increase in leverage tightens debt limits and influences companies to manipulate earnings.

Source: Aviantara (2021)

If the result of M-Score is higher than -2,22, the company most likely manipulated the accounting data.

Dechow F-Score

The Dechow F-Score is a fraud risk assessment tool, an earnings management indication of the likelihood of financial statement fraud. The Dechow F-Score model similarity is as follows:

$$F\ Score = \frac{Probability\ Value}{Unconditional\ Probability}$$

By:

1. $Unconditional\ Probability = 0{,}0037$
2. $Probability\ Value = e^{(Predicted\ Value)}/(1 + e^{(Predicted\ Value)})$
3. $e = 2{,}71828183$
4. $Predicted\ Value = -7{,}893 + 0{,}79RSST + 2{,}518\Delta REC + 1{,}191\Delta INV + 1{,}979SOFTASSETS + 0{,}171\Delta CASHSALES - 0{,}932\Delta ROA + 1{,}029ISSUE$

Description:

Table 2. Description of F-Score

Variable	Abbreviation	Calculation
RSST accruals	RSST	(ΔWC+ΔNCO+ΔFIN)/*Average Total Assets* • ΔWC (*working capital*) = [*Current Assets – Cash and Short-term Investments*] – [*Current Liabilities – Debt in Current Liabilities*] • ΔNCO (*non current operating*) = [*Total Assets – Current Assets – Investments and Advances*] – [*Total Liabilities – Current Liabilities – Long-term Debt*] • ΔFIN (*financial accrual*) = [*Short-term Investments + Long-term Investments*] – [*Long-term Debt + Debt in Current Liabilities + Preferred Stock*]
Account Receivable Changes	ΔREC	*ΔAccounts Receivables/Average Total Assets*
Inventory Changes	ΔINV	*ΔInventories/Average Total Assets*
Soft Assets Percentage	SOFTASSETS	(*Total Assets* – PPE – *Cash and Cash Equivalent)/Total Assets*
Cash Sles Changes Perubahan	ΔCASHSALES	*(Sales*$_t$ – *ΔAccount Receivables*$_t$*)/ (Sales*$_{t-1}$ – *ΔAccount Receivables*$_{t-1}$*)*
ROA Changes	ΔROA	[*Earnings*$_t$*/Average Total Assets*$_t$] – [*Earnings*$_{t-1}$*/Average Total Assets*$_{t-1}$]
Securities Issuance	ISSUE	Given a value of 1 if the company issued securities during year t, and given a value of 0 if the company does not issue securities during year t

Source: Aviantara (2021)

If F-**score** > 1,00, so there is indication that the company did the financial statement fraud.

RESULTS AND DISCUSSION

Descriptive Statistics of Financial Ratio

The financial ratios used in each of the financial distress models and the financial statement fraud models are described in Table 3. The researcher used the codes "Z" for the Z-Score, "S" for the S-Score, and "G" for the G-Score in the table. The company has a good average X1 (Working Capital/Total Assets) ratio of 0.2468, as shown in Table 3. It indicates that the company's ability to generate working capital from total assets is considered quite good. This working capital can be used by the company to pay insurance claims in the short term.

However, the Altman Z-Score model indicates that the company has a ratio of X4 (Total Equity/Total Debt), with an average value of 0.1192. As a result, the company's financial situation reflects a higher debt-to-equity ratio. Additionally, the company has an average ratio of X2 on the Z-Score (Retained Earnings/Total Assets) and X2 on the relatively low S-Score and G-Score (Earnings Before Interest and Tax/Total Assets) of 0.0252 and 0. 0173. This indicates that the company as a whole has difficulty generating earnings before interest and taxes from its assets in the form of retained earnings. The Springate S-Score's ratios X3 (Profit Before Tax/Short Term Liabilities) and X4 (Sales/Total Assets) exhibit distinct conditions. The company has an acceptable average value of 1.1821 in X3 and 0.1567 in X4 at this ratio. This demonstrates the company's ability to pay off its short-term debt and use its assets effectively to boost sales volume. The situation at PT ASABRI, in which the business invests in financial assets for the benefit of specific parties, is confirmed by this ratio. Whereas investment activities account for the majority of an insurance company's profits.

Table 3. Descriptive statistics of financial ratio

Ratio	*N*	*Minimum*	*Maximum*	*Mean*	SD
X1 (Z, S, G)	9	0,0067	0,6900	0,2468	0,2727
X2 (Z)	9	0,0071	0,0531	0,0252	0,0160
X2 (S, G) dan X3 (Z)	9	0,0072	0,0356	0,0173	0,0085
X4 (Z)	9	0,0272	0,2152	0,1192	0,0780
X3 (S)	9	0,2017	6,4521	1,1821	2,0236
X4 (S)	9	0,0872	0,1963	0,1567	0,0431
ROA	9	0,0071	0,0356	0,0171	0,0085
DSRI	8	0,2134	4,5879	1,5198	1,5675
GMI	8	0,3639	2,3555	0,9979	0,6261
AQI	8	0,3179	1,5601	0,9584	0,3409
SGI	8	0,8721	1,9599	1,2032	0,3253
DEPI	8	0,9835	4,1322	1,4743	1,0795
SGAI	8	0,7306	1,3600	1,0930	0,2032
Accruals	8	-0,0484	0,0325	-0,0022	0,0231
LEVI	8	0,9636	1,0869	1,0173	0,0436
RSST	9	-0,8506	-0,2953	-0,4796	0,1838
ΔREC	9	-0,0422	0,1069	0,0141	0,0409
ΔINV	9	0,0000	0,0000	0,0000	0,0000
SOFTASSETS	9	0,9601	0,9906	0,9841	0,0092
ΔCASHSALES	9	0,5837	3,6917	1,3140	0,9716
ΔROA	9	-0,0283	0,0157	-0,0014	0,0132

ISSUE	9	0,0000	0,0000	0,0000	0,0000

Desc: X1: Working Capital/Total Asset; X2 (Z): Retained Earnings/Total Asset; X2 (S, G) and X3 (Z): Earnings Before Interest and Tax Payment/Total Asset; X4 (Z): Total Equity/Total Liabilities; X3 (S): Earnings Before Tax/Short Term Liabilities; X4 (S): Sale/Total Asset; ROA: Net Income/Total Asset; DSRI: ($Receivables_t$/$Sales_t$)/($Receivables_{t-1}$/$Sales_{t-1}$); GMI: *Gross* $Margin_t$/*Gross* $Margin_{t-1}$; AQI: [1-(PPE_t+CA_t)/TA_t]/[1-(PPE_{t-1}+CA_{t-1})/TA_{t-1}]; SGI: $Sales_t$/$Sales_{t-1}$; DEPI: *Depreciation* $Rate_{t-1}$/*Depreciation* $Rate_t$; SGAI: (SGA_t/$Sales_t$)/(SGA_{t-1}/$Sales_{t-1}$); Accruals: (*Income before extraordinary items – Cash from operations*)/*Total* $Assets_t$; LEVI: $Leverage_t$/$Leverage_{t-1}$; RSST: (ΔWC+ΔNCO+ΔFIN)/*Average Total Assets*; ΔREC: Δ*Accounts Receivables*/*Average Total Assets*; ΔINV: Δ*Inventories*/*Average Total Assets*; SOFTASSETS: (*Total Assets* – PPE – *Cash and Cash Equivalent)*/*Total Assets*; ΔCASHSALES: *(*$Sales_t$ – Δ*Account* $Receivables_t$*)/ (*$Sales_{t-1}$ – Δ*Account* $Receivables_{t-1}$*)*; ΔROA: [$Earnings_t$/*Average Total* $Assets_t$] – [$Earnings_{t-1}$/*Average Total* $Assets_{t-1}$]; ISSUE: Given a value of 1 if the company issued securities during year t, and given a value of 0 if the company does not issue securities during year t.

Days sales receivables index or DSRI ratio has an average value of 1.5198. This demonstrates the way that PT ASABRI can gather its receivables appropriately. An increase in the company's capacity to collect its receivables is indicated by a higher DSRI value. The DEPI (depreciation index) ratio has an average value of 1.4743. The company saw a significant decrease in the depreciation rate in 2015, which contributed to the magnitude of this value. The Accruals ratio, which has varying conditions and an average negative value of -0.0022, is negative. This depicts PT.'s operating cash flow. ASABRI's extraordinary products surpass the profit before them. The Asset Quality Index (AQI) ratio typically has a value of 0.9584. This suggests that the current assets and fixed assets of PT ASABRI as a whole increased in value. A decrease in the quality of the company's assets is indicated by the AQI ratio's higher value. The average value of the GMI (Gross Margin Index) ratio is 0.9979. The fact that the gross margin for the current year is only marginally higher than the gross margin for the previous year, suggests that the business has unfavourable prospects for profit.

The average value of 1.3140 for the ΔCASHSALES (Change in Cash Sales) ratio is quite high. It occurred in 2015, with a ratio value of 3.6917, and became one of the years with a high ratio value. This indicates that the company's cash income significantly increased in 2015 compared to 2014. The RSST ratio, which has varied conditions and an average negative value of -0.4769, is negative. This is because the company has more short-term investments and cash than its current assets have value. The change in inventories, or ΔINV, has an average value of -0.000005. This indicates the increase in PT ASABRI's inventory is very low when compared to the average value of its total assets and the value of its inventory always decreases every year. Inventories owned by PT ASABRI consists of printed materials, office stationery, and medicines. PT ASABRI has an average ΔROA (Percentage Change in ROA) value of -0.0014. This negative value indicates that the company's ability to generate profit from its total assets as a whole has decreased. In addition, the average value of the ISSUE ratio is 0. This is because, during the year of observation, the company never issued securities such as stocks, bonds, deposits, and so on.

Financial Distress Analysis

The bankruptcy prediction model is a tool for anticipating and early warning of financial distress because the model can be used as a means to identify and even improve conditions before a crisis or bankruptcy. Additionally, financial statements can be used as a basis for measuring a company's financial distress through analysis of financial statements using existing financial ratios (Husein & Pambekti, 2014). Analysis of financial distress at PT ASABRI was carried out by incorporating the coefficients of the company's financial statements related to indications of financial distress into the three models used for analysis, namely the Altman Z-Score, Springate S-Score, and Grover G-Score models with the calculation results as follows:

Table 4. Financial distress score

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Z-Score	0,8331	0,3848	0,4412	0,2327	1,8068	1,2739	4,7464	3,7877	3,981
Description	*Distress*	*Distress*	*Distress*	*Distress*	*Grey Area*	*Grey Area*	Healthy	Healthy	Healthy
S-Score	4,4788	0,4511	1,1419	0,2578	0,9572	0,3876	0,9952	0,8408	0,8422
Description	Healthy	*Distress*	Healthy	*Distress*	Healthy	*Distress*	Healthy	*Distress*	*Distress*
G-Score	0,2109	0,0997	0,1167	0,0877	0,4794	0,3586	1,2384	0,9949	1,0215
Description	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy

Altman Z-Score

Table 4 shows the calculation results of the three financial distress models, namely Altman, Springate, and Grover at PT ASABRI in the periods of 2010-2018. Each model has varied calculation results. Altman Z-Score indicates PT ASABRI in the category of financial distress 4 times, 2 times in the grey area, and 3 times in the healthy category.

The ratio in the Altman Z-Score shows the ability of a company's assets to generate working capital, retained earnings, and earnings before interest and taxes. However, there is one ratio that shows the company's ability to know the amount of company capital used to bear long-term debt burden (Idi & Borolla, 2021). Meanwhile, assets at PT ASABRI itself is dominated by components of financial assets in the form of investments so profits are also generated more from the company's profits in carrying out investment activities. Altman Z-Score in 2010-2013 indicates that the company was experiencing financial distress. This is because of PT ASABRI experienced a decrease in current assets in 2012 by 24.17%. Current assets were mainly due to a significant decrease in investment receivables, which was 29.75%. This decrease in current assets caused the value of the company's working capital to decrease, resulting in a lower Z-Score for that year. Moreover, in 2013, the company experienced an increase in short-term liabilities caused by an increase in investment items of 18,180.30%. The increase was due to the company buying shares and bonds, one of which was PT Citra Maharlika Nusantara Corpora Tbk that worth IDR 29.9 billion.

Different conditions emerged in 2014 and 2015. The Altman Z-Score for that year categorized PT ASABRI into the grey zone. The grey zone means that the company has indications that it is prone to experiencing financial distress (Trivena, 2020). The change in status was due to the company's current assets in 2014 increasing by 709.8% from the previous year and in 2015 also increasing by 140.5%, thus, affecting the company's ability to generate net working capital from the company's total assets. The increase in current assets was mainly due to an increase in financial assets in the form of investments, namely the number of shares available for sale compared to the year 2013. The number of shares available for sale owned by PT ASABRI in 2014 reached IDR 1.47 trillion, an increase of 2,509.6% from the previous year. One of the reasons for this increase was that the company bought PT. Eureka Prima Jakarta shares worth IDR 309.7 billion and PT. Hanson International shares are worth IDR 236.9 billion. In addition, the increase in current assets was also due to a letter from the Ministry of Finance Number S-884/MK.02/2014 dated 30 December 2014 which stipulated that PT ASABRI had the right to receive Receivable Future Benefit Liability for the implementation of the Old Age Savings (*Tabungan Hari Tua*/THT) program (2001-2012) of 1.087 trillion rupiahs.

Altman Z-Score categorizes ASABRI from 2016 to 2018 in the healthy category. This is because in 2016-2018 the company experienced quite good growth in current assets. Even in 2016, the growth reached 287.47% from the previous year. The increase in current assets was mainly due to the transfer of THT program membership between PT. Taspen and PT ASABRI. In the transfer, PT ASABRI acknowledged a debt of Rp. 37.29 billion and a receivable of Rp. 2.99 billion to PT. Taspen which will be implemented in January 2017. In addition, in 2016 there was also a penalty receivable due to delays in receiving MTN interest (Medium Term Note) PT. Prima Network and MTN PT. Hanson International. Another factor that led to an increase in current assets in 2016 was an increase in investment receivables due to an increase in Medium Term Note (MTN) interest receivables by 2,234.07%, an increase in bond interest receivables by 67.39%, and an increase in deposit interest receivables of 174.02%.

The increase in current assets was also due to the emergence of receivables for investment management fees and receivables for reimbursement of operational costs in 2016. These assets arose as a result of the issuance of PMK No. 53/PMK/02/2016 dated 4 April 2016 and PMK Number 211/PMK.02/2015 dated 30 November 2015. The calculation of the value of receivables for investment management services is 5% of the investment return after deducting the investment costs for the current year. Meanwhile, Receivables for Reimbursement of Operational Costs (*Biaya Operasional Penyelenggaraan*/BOP) originate from the State Revenue and Expenditure Budget (*Anggaran Pendapatan dan Belanja Negara*/APBN) by taking into account the state's financial capacity. Pension BOP Reimbursement Receivables from PT ASABRI as of December 31, 2016, amounted to IDR 37.2 billion.

Springate S-Score

Based on Table 4, the Springate S-Score indicates that from 2010 to 2018 PT ASABRI experienced 5 financial distress and was healthy 4 times. The Springate S-Score is the same as the Altman S-Score which shows the company's ability to generate profits from its total assets. However, there is one ratio that involves profit before-tax information in its calculations. This ratio is profit before tax divided by short-term liabilities which can show the company's ability to pay off its short-term debt from the profits generated (Peter & Yoseph, 2011).

The Springate S-Score shows that in 2011, 2013, 2015, 2017, and 2018 the company experienced financial distress. This is because in 2011 and 2013 the ratio of earnings before interest and taxes to the company's total assets was very low so the actual return generated by the company from its assets was low. The company's small profit was due to the increase in claims and benefits expenses for PT ASABRI. The increase in claims expense was the result of the company's activities in the previous year, namely the activity of improving data on PT ASABRI participants and coordinating counselling and socialization activities regarding PT ASABRI to participants and organizational devices. This activity has the impact of increasing the number of insurance participants who submit claims so that the claim burden on the company increases. In addition, the company's ability to pay off short-term debt in 2011 and 2013 was also small because the value of the company's profit before tax was less than the value of the company's short-term liabilities. This was caused by an increase in short-term liabilities in 2011 of 52.5% and an increase in investment costs incurred by the company in 2013 of 14,595.2%.

In 2015, 2017, and 2018 the company is also categorized as distressed in the Springate model. This is because the company experienced a decrease in sales of services in that year. The decline in sales of services in 2017 was mainly due to reduced company revenue from the accumulated pension contribution program. Whereas in 2018 it was caused by reduced company revenue in the THT, Work Accident Benefit (*Jaminan Kecelakaan Kerja*/JKK), and Death Benefit (*Jaminan Kematian*/JKm) programs. The low value of sales of these services proves that the company is not efficient in using all of the company's assets in generating sales volume of services in the THT, JKK, and JKm programs as well as the pension contribution accumulation program.

The Springate S-Score shows that in 2010, 2012, 2014, and 2016 it is included in the healthy category. In 2010, 2012, and 2014 the company has a high profit-before-tax ratio against short-term liabilities which indicates that the company has a good ability to pay off its short-term debt. The high ratio was caused by a decrease in the value of the company's short-term liabilities compared to the previous year. This decrease was the impact of a decrease in the value of Estimated Claim Liabilities in 2012 which reached 98.48% and a decrease in the value of Other Liabilities in 2012 amounted to 89.50% from the previous year. Whereas in 2016 the company experienced an increase in the value of current assets by 287.47% from the previous year. This increase was due to an increase in Medium Term Note (MTN) interest receivables by 2,234.07%, an increase in bond interest receivables by 67.39%, and an increase in deposit interest receivables by 174.02%. In addition, the increase in current assets was also due to the existence of receivables for investment management fees and receivables for reimbursement of operational costs, which only took effect in 2016.

Grover G-Score

The Grover G-Score is generally similar to the Altman Z-Score, which shows the ability of the company's assets to generate working capital and profit before interest and taxes. However, the Grover G-Score adds the Return on Assets (ROA) ratio by measuring the value of net income divided by the total value of the company's assets. Hidayat & Farhan (2020) stated that the low value of the Grover G-Score model was caused by the negative value of operating profit/net profit obtained by the company. Then, after the researchers looked at the Grover G-Score model formula, companies that did not experience losses could not have a negative G-Score score. Financial distress occurs when companies have negative net operating income for several years and do not pay dividends or eliminate dividend payments, and layoffs *(Pemutusan Hubungan Kerja*/PHK) (Almilia & Kristijadi, 2003).

Table 4 shows that from 2010 to 2018, the Grover G-Score indicated that PT ASABRI was in the healthy category. The company has fairly good Grover ratios, so according to the Grover model, the company can generate good net working capital from total assets, can generate good profits, and has good asset profitability as well. These results are not in line with the research of Laksmana & Darmawati (2019) which proved that the Grover Model can detect financial distress at PT Citra Maharlika Nusantara Corpora Tbk.

Descriptive Statistics Model for Financial Distress

Table 5. Descriptive statistics model for financial distress

Model	***N***	***Distress***	***Minimum***	***Maximum***	***Mean***	**SD**
Z-Score	9	4	0,2327	4,7464	1,9431	1,7579
S-Score	9	5	0,2578	4,4788	1,1503	1,2844
G-Score	9	0	0,0925	1,2483	0,5235	0,4537

Descriptive statistics on observations of financial distress at PT ASABRI for nine years, from 2010 to 2018, are presented in Table 5. The year 2013 was the year that all three models achieved their lowest score. This indicates that the three models concur that 2013 was PT ASABRI's peak year. The highest score for the Altman and Grover models was in 2016, while the highest score for the Springate model came in 2010. This demonstrates that the Z-Score and G-Score agree that the company's financial performance improved in 2016. The standard deviation of the Z-Score and G-Score models is below the average score so that the variations in the Z-Score and G-Score values are not too high. While the standard deviation of the S-Score model is higher than the average value, so the S-Score value has a high variation.

Altman Z-Score categorized distress 4 times, Springate S-Score 5 times, and Grover G-Score never classify PT ASABRI to distress. It shows that the Altman Z-Score model and Springate S-Score can predict the financial distress condition of PT ASABRI. Meanwhile, the average score of Altman is 1,94 (above the limit of 1,1), the average Springate is 1,15 (above the limit of 0,86), and the average Grover is 0,52 (above the limit -0,02). It is because the score of each model varied for every year of observation or showing the company performance that fluctuated.

Analysis of Financial Fraud Statement

Financial statement fraud in this study referred to the definition of fraud by the Association of Certified Fraud Examiners (ACFE), which is an intentional error of a company's financial condition through misrepresentation or omission of disclosure amounts in financial statements to deceive financial statement users (Ratmono et al., 2020). An example of financial statement fraud is exaggerating assets, income, and profits and understating liabilities, costs, and losses. In this case, the researchers used two models, namely Beneish M-Score and Dechow F-Score as tools to detect indications of fraud in the financial statements of PT ASABRI. Analysis of financial statement fraud at PT ASABRI was carried out by incorporating the company's financial statement coefficients related to the possibility of financial statement fraud into the two models used. The following is the result of calculating the financial statement fraud scores using the M-Score and F-Score models:

Table 6. Financial fraud score statement

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
M-Score	-1,842	-1,8429	-3,0981	-0,3203	0,8073	-2,0609	-3,3236	-2,848	-
Description	*Fraud*	*Fraud*	Not	*Fraud*	*Fraud*	*Fraud*	Not	Not	-
F-Score	0,6725	0,6079	0,5404	0,5614	0,6439	0,693	0,6847	0,5988	0,6663
Description	Not	Not	Not	Not	Not	Not	Not	Not	Not

Beneish M-Score

Table 6 shows the calculation results of the Beneish M-Score model and the Dechow F-Score model at PT ASABRI from 2010-2018. The Beneish M-Score indicates PT ASABRI is in the fraud category 5 times and 3 times does not indicate fraud. The Beneish M-Score shows that there are indications of fraud in companies in 2010, 2011, 2013, 2014, and 2015. This is due to the large value of the day's sales receivable index (DSRI) ratio in 2010, 2013, and 2014. The DSRI ratio itself is a ratio that compares trade receivables to sales generated by the company in one year with the previous year (Kartikasari & Irianto, 2010). A large value on the DSRI indicates the possibility of recording too much income (Christy & Stephanus, 2018). Whereas in 2015 the company experienced a decrease in the depreciation rate which was manifested by an increase in the value of the depreciation index (DEPI). According to Kartikasari & Irianto (2010), the DEPI ratio is the ratio that calculates the comparison between depreciation expenses and fixed assets before depreciation in a year with the previous year. Beneish (1999) states that the large value of the DEPI ratio can indicate a decrease in depreciation expense. The decrease in the value of depreciation expense on the company indicates that the company is more conservative than the previous year in depreciating. This also indicates the possibility for the company to increase the life of its fixed assets. This is what makes Beneish's score high enough to be categorized as a fraud in 2015.

The indications of fraud shown by the Beneish model can be linked to the former director of PT ASABRI, Adam R Damiri who is currently a suspect in the PT ASABRI corruption case based on the verdict of the panel of judges at the Tipikor Court at the Central Jakarta District Court. Adam R Damiri is the former President and Director of PT ASABRI from 2009-2016. From 2012 to 2016, Adam R Damiri together with Benny Tjokro (Director of PT. Hanson Internasional) agreed to regulate and control transactions and investments in shares and mutual funds of PT ASABRI through Benny Tjokro and parties affiliated with Benny Tjokro and Lukman Purnomosidi (Director of PT. Prima Network) which harmed PT ASABRI personally benefited Benny Tjokro, Lukman Purnomosidi, and other parties (Kontan, 2021a). PT ASABRI was the holder of 11.58% of PT. Hanson International's series C shares in 2016, while Benny Tjokro was also the holder of 10.85% of PT. Hanson International's series C shares. Based on the percentage of share ownership owned and based on the position of Benny Tjokro who is the President Director of PT Hanson International and Adam Damiri's position as the President Director of PT ASABRI, it is clear that they have the control to regulate investments and control investment transactions in both companies.

Different conditions occurred in 2012, 2016, and 2017 where the DSRI ratio was slightly smaller so that in those years the company was not categorized as fraud. The year before 2016 when PT ASABRI was categorized as fraud, was the year when there was a change in the board of directors namely the appointment of Sonny Widjaja as the new Main Director of PT ASABRI. Sonny Widjaja is currently also one of the suspects in the PT ASABRI corruption case. He agreed with Heru Hidayat (Director of PT. Trada Alam Minera and Director of PT. Maxima Integra) to regulate and control transactions and investments in shares and mutual funds of PT ASABRI (Kontan, 2021b). Whereas in 2018, researchers were unable to calculate the Beneish model due to incomplete data obtained from PT ASABRI's 2018 financial statements.

Dechow F-Score

Dechow F-Score calculations from 2010 to 2018 show results that are consistent with not categorizing companies as fraud. This is caused by the low value of the accrual RSST ratio during the observation period. According to Skousen & Twedt (2009), RSST Accrual measures changes in current assets (except cash) reduced by changes in current liabilities (except short-term liabilities) and depreciation. This ratio also takes into account changes in long-term operating assets and long-term operating liabilities. Another factor that can cause ASABRI to be categorized as a non-manipulator is that from 2010 to 2018 PT ASABRI never issued securities. Companies that do not issue securities have a much lower risk of committing financial statement misstatements or fraudulent financial statements (Dechow et al. 2011). This shows that the Dechow F-Score is suitable for companies that issue securities such as stocks, deposits, bonds, and others. The results of this study are in contrast to the research of Meiryani et al. (2021) on manufacturing companies listed on the IDX which showed that the Dechow F-Score model can detect 6% of companies in the sample have very high risk and 4% of sample companies have a high risk of fraudulent financial statements.

Descriptive Statistics of Fraud Model

Table 7. Descriptive statistics of fraud model statement

Model	N	*Fraud*	*Minimum*	*Maximum*	*Mean*	SD
M-Score	8	5	-3,3236	0,8073	-1,8161	1,4223
F-Score	9	0	0,5404	0,6930	0,6299	0,0553

Table 7 shows descriptive statistics on observations of indications of financial statement fraud for 9 years for the Dechow model and 8 years for the Beneish model, from 2010 to 2018 at PT ASABRI. The minimum score for Beneish occurred in 2016, while Dechow occurred in 2012. This shows that according to the M-Score, the year with the highest risk of fraud is 2016, while the F-Score is in 2012. The maximum score for the Beneish model occurs in 2014, while Dechow occurred in 2015. This means that the smallest risk of financial statement fraud according to the M-Score occurred in 2014, while according to the F-Score, it occurred in 2015. The standard deviation of the Beneish model is at 1.4223 or is greater than the average Beneish score, so the Beneish score has a high variation. Meanwhile, the standard deviation of the Dechow model is lower than the average value so that the variation in the Dechow score is not too high.

Beneish's M-Score categorizes fraud 5 times while Dechow's F-Score never categorizes PT ASABRI as fraud. This indicates that the Beneish M-Score can detect fraudulent financial statements at PT ASABRI, while the Dechow F-Score cannot detect fraudulent financial statements at PT ASABRI. The mean of the Beneish scores is -1.8161 (above the -2.22 threshold), while the Dechow average is 0.6299 (below the 1 threshold). This is because the score of each model varies every year of observation or shows very fluctuating company performance.

CONCLUSION

The purpose of this study was to determine the condition of PT ASABRI's financial health condition using the Altman Z-Score, Springate S-Score, and Grover G-Score methods, as well as to detect the possibility of PT ASABRI's financial statement fraud using the Beneish M-Score and Dechow F-methods. Based on the analysis and discussion in the previous chapter, the researchers conclude:

First, each financial distress model, namely Altman, Springate, and Grover has varied calculation results. In this study, the Altman Z-Score and Springate S-Score models can predict financial distress compared to the Grover G-Score model. The Altman Z-Score model can indicate financial distress 4 times while the Springate S-Score is 5 times in 9 years of observation. Different things happened to the Grover model which did not indicate any financial distress at PT ASABRI during the observation period.

Second, the Beneish M-Score can detect indications of financial statement fraud at PT ASABRI compared to the Dechow F-Score model. The M-Score has detected indications of fraudulent statements at PT ASABRI 5 times in 8 years of observation. Different conditions occurred in the F-Score model which did not detect fraudulent financial statements at PT ASABRI in 9 years of observation, from 2010 to 2018.

This study has several limitations that can be considered for further research. The first limitation of this study is that researchers only used internal financial conditions that exist in PT ASABRI's financial statements and annual reports as indicators of financial distress and fraudulent financial statements. Second, researchers only analysed each variable but saw the relationship between each variable used. Third, the Beneish M-Score and Dechow F-Score are probabilistic financial statement fraud detection tools, so they cannot show 100% accuracy (Christy & Stephanus, 2018).

Based on the drawing of conclusions and limitations, the suggestions for further research are; firstly, further research can look at and calculate factors outside the company, such as the company's industry economic condition, the country's economic conditions, and others. Secondly, according to Dechow et al. (1995) and Beneish (1997) in Soepriyanto et al. (2021), there is a relationship between accounting manipulation and financial conditions. It means when a company manipulates accounting or fraudulent financial statements, it is because the company is in a bad financial condition. Therefore, further research can relate the relationship of each variable to other variables. Thirdly, future research can include several variables which include financial factors and non-financial factors to make more accurate predictions.

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Do Intellectual Capital and Corporate Governance have Value Relevance to the Market Performance? Evidence from Indonesia

Nadhira Hardiana[1]
Noorina Hartati[1*]
Pesi Suryani[1]
Lasando Lumban Gaol[1]
Lies Zulfiati[2]
Dahlifah[2]
[1]Public Financial Accounting Department, Faculty of Economics and Business, Universitas Terbuka, Indonesia
[2]Accounting Department, Sekolah Tinggi Ilmu Ekonomi Indonesia Jakarta, Indonesia
*Correspondence Author: orin@ecampus.ut.ac.id

ABSTRACT

We examine whether intellectual capital and corporate governance have value relevance to market performance. Intellectual capital is measured by VAIC™ (Pulic, 1998). We use annual report data from companies listed on the Indonesia Stock Exchange (IDX) and Corporate Governance Perception Index (CGPI) data from the Indonesian Institute for Corporate Governance (IICG) in the period of 2015–2019. Preliminary findings suggest that intellectual capital does not have value relevance to market performance, but corporate governance does have value relevance to market performance. This paper contributes to stakeholders in making economic decisions.

Keywords: corporate governance; intellectual capital; market performance

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INTRODUCTION

Creating value has been a major goal for companies over the past decade (Haksever et al., 2004; Bowman & Toms, 2010). Various studies have stated that it is important to create company value not only for the owners (shareholders), but also for all parties who have interests in the company (stakeholders). The emerge of consensus related to stakeholder view as stated by Meek and Gray (1998); Riahi-Belkaoui (2003), Bowman and Toms (2010), namely accounting profit is only a measure of return for shareholders and value added is a more accurate measurement created by stakeholders and distributed to other stakeholders. Accounting profit is an escalation of welfare created from the productive use of company resources before these resources are allocated among shareholders, bondholders-workers and government. To evaluate the performance achieved, stakeholder view uses added value as measurement of the welfare obtained.

The resource-based view (RBV) has a perspective that some resources controlled by a company are the main causes of competitiveness and performance of the company. These resources include both tangible and intangible assets which have been internalized by company and used effectively and efficiently to implement competitive and profitable strategies (Hitt et al., 2001). A company has necessary resources to conduct its operations, which are also important to create competitive advantage and strong financial performance. Some resources in the form of tangible assets, such as property, plant, equipment, and physical technology are common assets and can be obtained or sold in the open market. Meanwhile, strategic resources which are generally intangible assets, valuable, unique and difficult to duplicate or replace will provide a competitive advantage for the company (Riahi-Belkaoui, 2003). This competitive advantage in its turn will provide a positive return. The fundamental characteristics of intangible assets as strategic assets are scarce, not duplicable, irreplaceable, and unobservable. Especially the application of this criterion leads to intellectual capital (IC) (Riahi-Belkaoui, 2003; Bharathi Kamath, 2008).

The value of the company is not only assessed from the physical aspect but there are other factors in the form of non-physical aspects (intangibles) that has influence. Companies must have a competitive advantage through increasing intellectual capital which is well explored as a potential to support competitiveness in global market. Companies with good intellectual capital have ability to create innovations and the ability to compete in business world, so that they can generate economic benefits in the future.

An event related to intellectual capital began to develop since the appearance of PSAK No. 19 on intangible assets. According to PSAK No. 19 revised 2009, it was stated that intangible assets were non-monetary assets which could be identified but did not have a physical form and owned to fulfill the need to deliver goods or services or to be rented out to other parties (Indonesian Accounting Association, 2009*).* Intellectual capital is known as an intangible asset that is also most popular defined as valuable knowledge to a company. Therefore, intellectual capital is more important than capital to determine competitive advantage (Sawarjuwono & Kadir, 2003).

Research on the topic of intellectual capital (IC) and company's marketing performance has been developed for decades (Riahi-Belkaoui, 2003; Bharathi Kamath, 2008; Pulic, 2000) and it has been widely used. The majority of these studies focus on IC as personal knowledge and organizational knowledge that together contribute to a sustainable competitive advantage. IC functions as all employee capabilities create additional value or everything that can be used by companies to increase competitive advantage (knowledge, information, intellectual property rights, experience).

Mainstream research examined the effect of IC on financial performance (Lazzarotti et al., 2011). It shows that there are many other potential roles of IC on financial performance that can be considered. The appearance of new economy that is caused by information and knowledge, intangible assets whose characteristics are very knowledge based and relevant to resource based theory, becomes an important element in creating added value. IC which is a strategic intangible asset with effective and efficient use will be able to improve company performance (Goh, 2005; Carmeli & Tishler, 2004; Striukova et al., 2008). Thus, corporate governance is seen as one of the components that can support how IC has an impact on company's marketing performance. The interests of stakeholders will be more accommodated by the existence of corporate governance in the company (Shahzadet al., 2016). Therefore, this research also considers the corporate governance mechanism as one of the components which mediates the role of IC on company's marketing performance.

This study aims to analyze the effect of intellectual capital and corporate governance on the performance of company and analyze indirect effects of intellectual capital on company performance through corporate governance.

Stewardship Theory

Stewardship theory is a theory stated by Donaldson and Davis (1991) which asserts that management is not motivated for individual interests but for organizational interests. The purpose of all activities done in the organization is for the success and satisfaction of the organization. Organizational success is the maximum satisfaction or pleasure of principal group and management. Maximum satisfaction or pleasure can maximize individual's interests in the organizational group. The value of company can increase the economic value of the company in the future through intellectual capital which can be managed properly by management, where one of the goals of manager is to maximize the value of company (Nuraina, 2012). Managers who are motivated to maximize company value will make efforts to increase it, one of which is through intellectual capital in the organization or entity to achieve company goals. By harnessing technology, strategic planning, profitability, innovation, and improved productivity, intellectual capital serves as a powerful tool to counter uncertainty that poses a threat to a company's continuity. This comprehensive approach does not only minimize risks but also enhances the overall value of the organization. Furthermore, implementing various improvements within the company leads to a sense of fulfillment among both management and stakeholders, as it signifies the successful achievement of organizational goals and objectives.

Resources Based Theory

Resources Based theory is a theory put forward by Penrose (1959) which is related to how companies can manage their resources so that they can be superior to other companies and beneficial for the sustainable performance of company. A company with superior resources from within the company itself will be superior compared to those that have resources from the outside. Constant good performance of a company can be maintained if the company has unique and well-managed resources (Widyaningdyah & Aryani, 2013). To be able to make intellectual capital to become one of the added values in their company, management must be able to manage the intellectual resources they own so that the resources can be used as one of the advantages of the company compared to other companies. The advantages created within the company can make a company have a competitive advantage that can increase the interest of investors to invest in that company. Several investors investing in companies can increase stock prices and it is an indication that market gives good value to the companies.

Agency Theory

The agency relationship is a contract between principal and agent which is developed by Jensen and Meckling (1976), and Fama and Jensen (1983). Agency theory tries to answer agency problems that occur between parties who work together to achieve goals with different divisions of labor. Agency theory discusses the existence of an agency relationship, where a certain party (principal) delegates to another party (agent), to carry out the activities of a company. The principal wants the agent to act based on his interests, but because the agent and principal have different preferences, these different preferences have the potential to cause a conflict between the agent and the principal which is called agency conflict.

Agency conflict between the principal of company and the agent occurs when there is an information gap between those two parties. Principals usually concentrate more on diversifying their portfolios and making operational decisions delegated to agents, so the agent is the party who has more information about the condition of the company than the principal. The existence of this information gap encourages agents to take moral hazard actions, where agents neglect their duties and take company management policies to maximize their personal interests. In addition, the information gap also causes adverse selection problem, namely the problem of uncertainty whether the information presented by the agent, which are used for taking principal decision is the information that reflects the actual performance of the agent.

Intellectual Capital

Intellectual capital is appropriate capital in all knowledge-based organizations. Intellectual capital is the interaction of human capital, customer capital and structural capital (Sudibya & Restuti, 2014). Company resources are not merely in the form of tangible assets, there are intangible assets which are rare, endless, priceless and cannot be replaced (Lestari, 2017).

Value Add Intellectual Coeficiency (VAICTM) model is a model used to provide information of value creation efficiency of tangible and intangible assets in a company developed by Pulic (1998). The calculation of Value Add (VA) is started by measuring the difference between the output and the input. The output (OUT) is the total sales or income covering all sales activities of products or services. Input (IN) is all expenses spent to obtain income. In this model, employee expenses are not included in the IN because of the active role of employees in the process of creating value and intellectual abilities (which are represented by labor expenses) are not counted as costs.

Modified-Value Added Intellectual Coefficiency (M-VAIC) model is a measurement of intellectual capital based on VAICTM as a model proposed by Pulic (1998) which is begun by calculating the Value Add. The difference between the M-VAIC method and VAICTM method lies on the addition of a new Relation Capital Efficiency (RCE) component that is obtained from the amount of costs for marketing. Based on research conducted by Ulum et al., (2014) about measuring Intellectual Capital in the banking industry with the implementation of the M-VAIC method shows that the M-VAIC method can be used to measure intellectual capital in all industrial sectors, not only in the banking sector.

Marketing Performance Measurement

The value or performance of a a company is an important factor for investors in making investments because it is related to how the company is valued in the market. The increase of company's marketing performance can attract investors to invest. The maximalization of company value can fulfil shareholders' prosperity (Kherismawati et al., 2016). To measure firm value, one of the methods which can be used is Tobin's Q. The Tobin's Q ratio was developed by Professor James Tobin (1967). This ratio shows the return value of the amount invested based on current financial market estimation.

The Influence of Intellectual Capital on Company's Marketing Performance

Intellectual capital is a capital owned by knowledge-based companies. Intellectual capital is an interaction created from human capital, organizational capital, and customer capital. Intellectual capital that has been managed properly will produce economic benefits which are useful for the company's survival in the future. Investors will invest in companies that have economic benefits in the future. Studies conducted by Berzkalne and Zelgalve (2014) and Chizari et al., (2016) have confirmed that

intellectual capital with the VAICTM method influences the firm value. In addition, a research by Hariyati, Subroto, Wahyudi, and Riyanto (2017) with M-VAIC method in measuring intellectual capital confirmed hat there is a significant effect of intellectual company on company's marketing performance. Based on the explanation above, a hypothesis that can be formulated is as follows;
H1: Intellectual capital has value relevance to the market performance

The Influence of Corporate Governance on Company's Marketing Performance

Research examining the relationship between corporate governance and company's marketing performance. still shows various results. This is due to differences in proxies of corporate governance used. Corporate governance is a series of mechanisms that can protect minority parties (outside investors/minority shareholders) from the expropriation of managers and insiders with an emphasis on legal mechanisms (Shleifer & Vishny, 1997). The legal approach of corporate governance means that the key mechanism of corporate governance is the protection of external investors, both shareholders and creditors through the legal system, which can be interpreted by law and its implementation.

Research by Razali and Arshad (2014), proved that the corporate governance structure can reduce fraud in financial reporting, showing that corporate governance is an important element in improving the quality of financial reports. Armstrong, Balakrishnan, and Cohen (2012) and Anderson, Mansi, and Reeb (2004) proved that the structure of corporate governance improves the quality of financial statement information. The hypothesis that explain the result is formulated as follows:
H2: Corporate Governance has value relevance to the market performance

The Influence of IC on Company's Marketing Performance through Corporate Governance

Lev (2000) stated that intangible capital is defined as a collection of claims for future profits that have no financial or physical manifestation. Braune, Sahut, and Teulon, (2020) classify IC into three categories, namely human capital, organizational (structural) capital, and relational capital. Based on the OECD definition, corporate governance is a management and control system that is implemented in a company. This system has characteristics that explain the relationship between the board of directors of a company and stakeholders. The general standard of implementing corporate governance is to maximize the value of company or in other words fulfill the interests of shareholders and managers at the lowest cost. IC which is a strategic intangible asset with effective and efficient use will be able to improve company performance (Goh, 2005; Carmeli & Tishler, 2004; Striukova et al., 2008). Related to this, corporate governance is seen as one of the components that can support how IC has an impact on the performance of a company. Stakeholders' interests will be more accommodated by the existence of corporate governance in the company (Shahzad & Sharfman, 2016). Therefore, this research also considers the corporate governance mechanism as one of the elements that mediates the role of IC on the performance of company. The hypothesis is formulated as follows;
H3: Intellectual Capital has an indirect value relevance to the marketing performance through Corporate Governance

RESEARCH METHOD

Some data used in this study are secondary data in the form of these following data, namely: Financial Report Data from manufacturing companies listed on the Indonesia Stock Exchange for the period of 2015-2019, Corporate Governance Perception Index (CGPI) data from The Indonesian Institute for Corporate Governance (IICG), and purposive sampling method was used as data collection method in this research. It was used to take the research samples. The research sample criteria are as follows: All companies are listed on the Indonesia Stock Exchange (IDX), the financial data and other data needed in the operationalization of research variables are available, and complete data for the period of 2015-2019 are present.

Manufacturing companies are chosen as the focus of this research because they often rely heavily on intellectual capital, which includes technological know-how, research and development capabilities, and brand value. Moreover, manufacturing companies typically have significant tangible and intangible assets, making it relevant to examine the value relevance of intellectual capital in this sector. The selected timeframe of 2015-2019 allows for a comprehensive analysis of the relationship between intellectual capital, corporate governance, and market performance over a specific period. By studying this period, the research can capture the influence of various economic, social, and regulatory factors that might have affected the selected manufacturing companies during those years.

RESULTS AND DISCUSSION

Table 1. Results of the H1 and H2 tests

```
. xtreg market_trf vaic cgedit lev_n growth ln_asset, re

Random-effects GLS regression                   Number of obs     =        177
Group variable: id                              Number of groups  =         36

R-sq:                                           Obs per group:
     within  = 0.0584                                         min =          2
     between = 0.0383                                         avg =        4.9
     overall = 0.0393                                         max =          5

                                                Wald chi2(5)      =       9.88
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =     0.0786
```

market_trf	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
vaic	-.0050792	.0046474	-1.09	0.274	-.0141878	.0040295
cgedit	9.304704	5.129441	1.81	0.070	-.7488152	19.35822
lev_n	-.0020232	.0024243	-0.83	0.404	-.0067747	.0027283
growth	.543305	2.445659	0.22	0.824	-4.250099	5.336709
ln_asset	.1161589	.0473267	2.45	0.014	.0234003	.2089175
_cons	-7.636234	4.476264	-1.71	0.088	-16.40955	1.137081
sigma_u	3.1395331					
sigma_e	1.2364725					
rho	.86571869	(fraction of variance due to u_i)				

Hypothesis testing was done using panel data with STATA15. Testing the influence of intellectual capital and CG on marketing performance was carried out using the best model based on the Chow Test, Lagrange Multiplier (LM), and Hausman. The test results show that random effect model is used as suitable test. Multicollinearity is detected by using the VIF value of each variable with a VIF value of is less than 10. Variables which show multicollinearity problems can be solved by doing data centering. Variables that still had indications of multicollinearity after data centering were decided to continue to be included in the model because theoretically these variables influence the dependent variable and the estimation results were still used for hypothesis testing. The results of the H1 and H2 tests are presented in Table 1.

Intellectual Capital has Value Relevance to the Market Performance (H1)

The results of data calculations for H1 which test Intellectual capital on marketing performance show the coefficient value of -0.0050792 and the prob value. t-stat of 0.274 (significance value at = 0.5).

Prob significance value of t-stat of intellectual capital was above 0.5, so that it can be concluded that intellectual capital has no value relevance to the marketing performance, meaning that hypothesis 1 (H1) was rejected.

This is consistent with a previous research done by Lestari (2017) which stated that intellectual capital has no effect on marketing performance. However, this result is not in accordance with the research conducted by Berzkalne & Zelgalve (2014) and Chizari et al., (2016) which explained that intellectual capital by applying AICTM method has an effect on firm value. Research by Hariyati et al. (2017) applying -VAIC to measure intellectual capital show that there is a significant effect on marketing performance. This study does not prove the influence of intellectual capital on marketing performance. This indicates hat the existence of intellectual capital is not able to create firm value yet. The increase of marketing performance is higher because of the ability of the company to generate profits through company's production. In addition, these results also show the lack of ability of company to manage funds to create good routine structures and processes, such as the operational system of company, organizational culture, procedures, database, management philosophy and all forms of structural capital owned by the company in supporting the efforts of its employees.

The results of this study are also confirmed by the condition of Bank Mandiri company which has a VAIC ratio of 219.43 but is followed by a low market performance of 0.00167.

These results indicate that investors do not properly appreciate the efforts of company in fulfilling the company's routine processes and structures which support the efforts of employees and company operations to generate added value. It shows the lack of ability of company to manage funds to create good routine structures and processes, such as the operational system of company, organizational culture, procedures, database, management philosophy and all forms of structural capital that the company have in supporting the efforts of its employees.

Corporate Governance has Value Relevance to the Market Performance (H2)

The results of data calculation for H2 examining corporate governance on marketing performance showed the coefficient value of -9.304704 and the value of prob. t-stat was 0.070 (significance value at = 0.5). The significance value of prob. t-stat of corporate governance was below 0.5, so that it can be concluded that corporate governance has value relevance of marketing performance, it means that hypothesis 2 (H2) was accepted.

Corporate governance is a series of mechanisms that can protect minority parties (outside investors/minority shareholders) from expropriation done by managers and insiders with an emphasis on legal mechanisms (Shleifer & Vishny, 1997). The legal approach of corporate governance means that the main mechanism of corporate governance is the protection of external investors (outside investors), both shareholders and creditors, through the legal system, which can be interpreted by law and its implementation.

This is consistent with research by Razali and Arshad (2014), which proved that the structure of corporate governance can reduce fraud in financial reporting, which shows that corporate governance is an important element in improving the quality of financial reports. Armstrong et al. (2012) and Andersonet et al. (2004), proved that the structure of corporate governance improves the quality of financial statement information.

IC has an Indirect Value Relevance to the Market Performance through Corporate Governance

The test results for H3 examing indirect value relevance of intellectual capital on marketing performance through corporate governance showed the coefficient value -0.0009805 and the prob value. t-stat was 0.507 (significance value at = 0.5). The Prob significance value of t-stat was above 0.5, so that it can be concluded that intellectual capital does not have value relevance to marketing performance through corporate governance, which means that hypothesis 3 (H3) was rejected.

Table 2. Results of the Chow Test, LM and Husman Test

Indirect effects

	Coef.	OIM Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
cgedit						
vaic	0	(no path)				
ln_asset	0	(no path)				
lev_n	0	(no path)				
growth	0	(no path)				
market_trf						
cgedit	0	(no path)				
vaic	-.0009805	.0014776	-0.66	0.507	-.0038766	.0019155
ln_asset	-.0179444	.0113367	-1.58	0.113	-.0401641	.0042752
lev_n	.0015162	.0010545	1.44	0.150	-.0005507	.0035831
growth	-.2192574	.7540371	-0.29	0.771	-1.697143	1.258628

It shows that governance or corporate governance is not the right component which can mediate the role of intellectual capital on the marketing performance.

CONCLUSION

The purpose of this study is to analyze the effect of intellectual capital and corporate governance on the performance of company and analyze indirect effects of intellectual capital on company performance through corporate governance.

This research was conducted in the context of companies listed in the Corporate Governance Perception Index (CGPI) of The Indonesian Institute for Corporate Governance (IICG).

This research cannot prove that intellectual capital have value relevance to marketing performance. It indicates that the existence of intellectual is not able to create firm value. The increase of marketing performance is higher because of the ability of company itself to generate through company's production. In addition, the results also show the lack of ability of company in managing funds to create good routine structures and processes, such as the operational system of company, organizational culture, procedures, databases, management philosophy and all forms of structural capital owned by company in supporting the efforts of its employees.

The testing of the indirect value relevance of intellectual capital on marketing performance through corporate governance in this study is also not proven yet. It shows that governance or corporate governance is not the right component which can mediate the role of intellectual capital on marketing performance.

Corporate governance is proven to have value relevance of marketing performance. Corporate governance has a major contribution in increasing company value and marketing performance. This study has several limitations as follows: First, the number of companies which already have a Corporate Governance Perception Index (CGPI) from The Indonesian Institute for Corporate Governance (IICG) is relatively limited and it consists of companies from various types of industries. Future research can consider the use of corporate governance mechanism measurements by using elements, such as the composition of the board of commissioners, the composition of the board of directors, the audit committee, and the structure of ownership. Second, intellectual capital measured by VAIC does not fully measure the role of intellectual capital on marketing performance. Future research may consider different VAIC measurement, such as M-VAIC. Third, this study does not consider the effect of interaction of intellectual capital and corporate governance on marketing performance.

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The Influence of Managerial Ownership and Firm Size on Corporate Environmental Disclosure

Nikmatus Sholikha
Ibnu Al Saudi
Hilmi Satria Himawan*
Accounting Syariah, Faculty of Economics and Bussines Islamic, Institut Agama Islam Negeri Palangka Raya, Indonesia
*Corresponding Author: himawanhs@iain-palangkaraya.ac.id

ABSTRACT

Companies in the primary and chemical industry sector are involved in producing chemical substances. These industries process raw materials obtained through mining, agriculture, and other sources into materials, chemical substances, and chemical compounds to become final and intermediate products used in different industries. This study aims to investigate and prove the effect of managerial ownership and firm size on corporate environmental disclosure. The ratio used in this study is the percentage of managerial shares, total company assets, and corporate environmental disclosure reports.

This is quantitative research with the type of ex-post facto (cause and effect) research. The population of this study is a manufacturing company in the primary and chemical industry sector listed on the Indonesia Stock Exchange. The sample was selected using a purposive sampling method to obtain ten samples of primary and chemical industry companies from 2017 to 2021. The data analysis method used in this study was Eviews 12 software.

The results of the model estimation test show that the selected model, the Random Effect Model (REM), becomes a regression analysis method. This study indicates that partially managerial ownership does not significantly affect environmental disclosure. Moreover, firm size gives positive findings and significantly affects corporate environmental disclosures. The R-Square value of this study is only 3.8% because the results of the F test state that managerial ownership and simultaneous firm size do not significantly affect corporate environmental disclosures.

Keywords: environmental disclosure; firm size; managerial ownership

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INTRODUCTION

Following the advances in technology, information, and globalization flow, companies try to always follow market demands dynamically. In addition, companies are not only required to seek profit. Moreover, they must also pay attention to social responsibility in the community. From an economic point of view, the company is expected to get the highest profit. However, from the social aspect, companies must contribute to society by improving the quality of society and the environment. According to (Andreas et al., 2015), companies that pay attention to corporate social and environmental responsibility can improve their reputation from the trust of the surrounding community, consumers, and investors towards company performance. It will also make a good impact on company sales which will ultimately increase company profits. In Indonesia, manufacturing companies dominate environmental pollution cases. It is supported by the phenomena of natural damage and complaints about environmental pollution in several media (Kamil & Primasari, 2021).

Several complaints regarding environmental pollution cases by manufacturing companies in the primary industrial sector and supported by the media also highlight this chemical substance. Head of the DKI Environment Agency, Andono Warih, stated: "We were subject to administrative sanctions against PT Mahkota Indonesia on the basis that the emission in question violated, exceeded the established quality standards." This was conveyed when the DKI Jakarta Environment Agency conducted inspections of two factories whose chimneys were proven to have polluted and polluted the air. The two factories proven to have violated the DKI Jakarta governor's regulations are PT Mahkota Indonesia and PT Hong Xin Steel (Alfons, 2019). Financial accounting standards in Indonesia do not require companies to disclose social information, especially information regarding corporate responsibility for the environment. Therefore, the case occurs in practice. Companies will consider the costs and benefits that will be obtained when they decide to disclose social information. As a result, from year to year, there is an increase in cases regarding environmental damage received by the Ministry of Environment. In 2017, there were 529 cases received. In 2018, it increased to 902 cases received. In 2019, there were 1,426 cases received (Kamil & Primasari, 2021).

The object of this research is a firm engaged in primary and chemical industries listed on the IDX. Companies in the primary and chemical industry sector are involved in producing chemical substances. These industries are involved in processing raw materials obtained through mining, agriculture, and other sources into materials, chemical substances, and chemical compounds that can be final products or intermediate products used in other industries. According to Deputy IV of the Minister of Environment for the Management of B3 Waste and Garbage, Dra. Masnellyarti Hilman, M.Sc as the Ministry of Environment, in Pramesti's writing, said that industry in Indonesia is the most significant contributor to B3 waste compared to households. The industries in Indonesia that are the most dangerous in producing B3 waste are the oil and gas and the chemical industries. These industries are widely spread in Eastern Indonesia. Concerning B3 waste management among industries, out of 1,002 industries, only 62% have complied with proper environmental standards (Hakim, 2016). In addition, in the 2017-2021 period, it is known that there were various reports regarding environmental pollution cases and inconsistent increases in the value of the Environmental Quality Index.

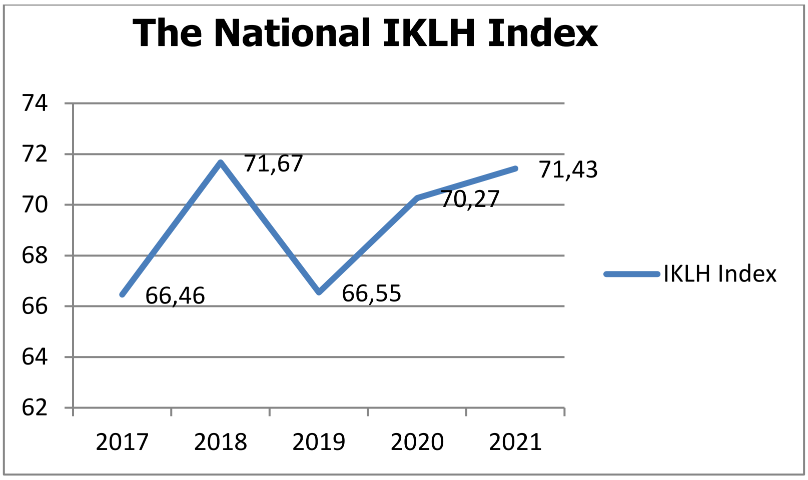


Figure 1. 2017-2021 Environmental Quality Index Values (*Indeks Kualitas Lingkungan Hidup*/IKLH)

Sigit Reliantoro, Director General of Pollution Control and Environmental Damage, Ministry of Environment and Forestry, revealed that the Environmental Quality Index in 2018 increased by 5.21 from the previous year. In 2017, the National IKLH score is 66.46 whereas in 2018 the National IKLH score is 71.67. However, in 2019 the IKLH value decreased from 2018 to 5.12. IKLH value in 2019 is 66.55. In 2020, IKLH experienced an increase again which is 3.72. The national IKLH score in 2020 is 70.27. In 2021 the national IKLH value is 71.43. It means the IKLH score in 2021 also increased by 1.16 points from the previous year's which is 70.27. It is due to an increase in the value of the Air Quality Index and Seawater Quality Index. Twenty-eight provinces have succeeded in achieving the 2021 IKLH target, while six provinces have yet to be able to reach the target. The provisional IKLH value for 2021 is in the excellent range (Kehutanan, 2021). Based on the background of the problems described above, the researcher is interested in conducting further research on corporate environmental disclosures by raising the topic "The Influence of Managerial Ownership and Firm Size on Corporate Environmental Disclosure."

Environmental Disclosure

According to (Ghozali & Chariri, 2007), corporate environmental disclosure is a company's process of disclosing information related to company activities and their impact on social communities and environmental conditions. This environmental disclosure is the output of Social Responsibility Business Practices. Social Responsibility Business Practices are activities of adjusting and implementing business and investment operational practices that support improving people's welfare and protecting the environment, for example, building waste treatment facilities, choosing suppliers, and choosing environmentally friendly packaging.

The indicators used in environmental disclosure in this study were the Global Reporting Initiative (GRI) standard for the environmental category, which consisted of 30 items in its reporting. The measurement of the variable used a score disclosure dummy variable. If the company discloses an item, it is given a score of 1 or 0. If the company does not disclose an object, the calculation result of environmental disclosure is the result of the sum of the scores of the items disclosed.

$$\textbf{CED} = \frac{\textbf{Total items disclosed by the company}}{\textbf{The complete total of environmental disclosure items}}$$

Managerial Ownership

According to (Nursanita et al., 2019), managerial ownership is the owner/shareholder of the company's management who actively takes a role in making company decisions. According to (Sintyawati & S, Dewi, 2018), managerial ownership, namely shareholders, in this context also means owners from management who actively participate in decision-making in the company concerned. Significant managerial ownership within the company will be effective in supervising the company's activities. Managerial ownership will encourage management to improve company performance, deal with environmental problems, and make organizational policies because they own the company.

The indicator used to measure managerial ownership is the percentage of shares owned by management to the total number of shares owned by the company (Romadoni & Pradita, 2020).

$$\mathbf{MO} = \frac{\textbf{Percentage of shares owned by management}}{\textbf{Total number of shares owned by the company.}} \times \mathbf{100\%}$$

Firm Size

According to (P. M. Sari et al., 2020), firm size is described as the size of a company shown in total assets, number of sales, average sales, and total assets." (Krisnando & Novitasari, 2021) stated that firm size is a scale where companies can be classified in various ways. Firm size is divided into three categories, namely: large companies, medium companies, and small companies.

The prviuos research that was done by (Ningrum et al., 2021) classified firm size into Small Business Administration (SBA), namely:

Table 1. Criteria of firm size

Firm Size	Employent Size	Asset Size	Sales Sizes
Family Company	1-14	Under $100,000	$100,000-500,000
Small Company	5-19	$100,000-500,000	$500,000-1million
Intermediate Company	20-99	$500,000-5million	$1million-10million
Large Company	100-499	$5-25 million	$10million-50 million

Sources: Adaptation from Small Business Administration (Restuwulan, 2013)

The indicator used to calculate firm size is as follows:

$$\mathbf{SIZE = LN\ (Total\ Asset)}$$

Agency Theory

According to (Siallagan, 2020), the agency relationship theory requires delegation of authority either in whole or in part from the principal to the agent. The principal monitors the agent's performance through an accountability mechanism. Agency theory emphasizes the importance of company owners (shareholders) handing over company management to professional staff called agents who understand better how to run the day-to-day business. In this theory, accounting is a system of accountability. Accounting is used as a medium to account for the management of a company or institution to its employer (principal) (Ervina et.al,. 2022). The purpose of environmental disclosure in financial accounting is as a side of the agent's responsibility to the principal for the impact of the company's operations. In this context, accounting in agency theory is a decision-making side.

Stakeholder Theory

According to (Anggusti, 2019), the stakeholder theory states that the primary obligation of management is not to maximize the company's financial success but to ensure its survival by balancing the conflicting demands of various stakeholders. The company must be managed by its stakeholders, customers, suppliers, owners, employees, and local communities.

Based on the Decision of the Constitutional Court of the Republic of Indonesia No. 53/PUU-VI/2008, company management solely aimed at the interests of shareholders is not consistent with the principles of economic democracy adopted by the State of Indonesia. The company's management must be directed to the welfare of the Indonesian people. Therefore, the company must be managed by considering the interests of all stakeholders, including the employees of the company. Management of the company that pays attention to the interests of all stakeholders is not only the company's moral responsibility, but it is also a legal obligation carried out by the company.

According to (Freeman & McVea, 2001), the primary concern of the stakeholder approach is the company's survival, which is stated by Freeman "attainment of organizational goals." Based on the understanding above, it can be concluded that stakeholder theory is the company's operational activities that are not only beneficial to the entity itself. Furthermore, it must also be beneficial to stakeholders (shareholders, creditors, government, society, consumers, suppliers, analysts, and other parties).

Accounting Sharia Theory

Sharia accounting deals with recognizing, measuring, and recording transactions and fairly disclosing the rights and obligations (Pratama et al., 2017). The concept of accounting in Islam emphasizes accountability based on the Qur'an. Caring for the environment is one form of manifestation of corporate responsibility in disclosing reports about its environment (Muhammad, 2022). The importance of environmental issues was then initiated by the presence of views on environmental jurisprudence (Fiqh Al-Biah). The fiqh is a set of rules for human ecological behavior established by competent scholars. In addition to hadiths, environmental jurisprudence is also sourced from the Al-Qur’an, one of which is in fragments of the firman Allah QS: Al-A'raf: 85.

... وَلَا تُفْسِدُوا۟ فِى ٱلْأَرْضِ بَعْدَ إِصْلَٰحِهَا ۚ ذَٰلِكُمْ خَيْرٌ لَّكُمْ إِن كُنتُم مُّؤْمِنِينَ ۚ

Meaning: *"Don’t do damage on Earth after (created) well. That is better for you if you are believers."* (QS: Al-A'raf: 85).

Based on the explanation above, Islamic accounting theory recommends recording all types of transactions involved, no matter how small the nominal. Here with the aim and intention to avoid disputes in the future and accordance with Sharia accounting principles, namely: Accountability, fairness, and truth.

Green Accounting

Green accounting is an accounting science that recognizes the existence of environmental cost factors in the results of company activities. Green accounting is a combined approach that provides a data transition from financial accounting and cost accounting to improve material efficiency and reduce environmental impacts as well as risks while reducing environmental protection costs (Abdullah, 2020).

The concept of green accounting describes efforts to combine environmental benefits and costs into making economic decisions (Abdullah, 2020). Environmental accounting can be a tool for environmental management and communication to the public regarding operational activities carried out by companies. Some companies or industries have been responsible for the surrounding environment and society. However, currently, there is no standard regarding environmental accounting disclosure items. Moreover, several institutions have issued environmental disclosure recommendations, including the Economic and Social Council of the United Nations (ECOSOC-UN), Ernst and Ernst, the Institute of Chartered Accountants in England and Wales (ICEAW), and the Global Reporting Initiative (GRI). Voluntary factors dominate the motivation behind companies to report environmental problems.

Managerial Ownership towards Corporate Environmenetal Disclosures

According to (Siallagan, 2020), the agency relationship theory requires delegation of authority either in whole or in part from the principal to the agent. The principal monitors the agent's performance through an accountability mechanism. Agency theory emphasizes the importance of company owners (shareholders) handing over company management to professional staff called agents who understand better how to run the day-to-day business. In this theory, accounting is an accountability system. Accounting is used as a medium to account for the management of a company or institution to its employer (principal).

Managerial ownership can be taken as a consideration in environmental disclosure. Based on agency theory, when managerial ownership of a company is high, it can reduce agency problems in the company. Agency issues are conflicts of interest inherent in any relationship where one party is expected to act in the other party's best interest. In companies, agency problems usually refer to conflicts of interest between management and shareholders. If the company's management has share ownership, the company's management will automatically be more focused and concerned with company performance and environmental disclosure. The manager will be careful in making company decisions because it will affect himself as the company's shareholders. Disclosure of the company's environment that is high and productive will make a sustainable company and prevent costs that will be incurred later by the impact of the company's operational activities on the environment.

This research also carries the theory of Sharia accounting where several companies whose shares are registered as shares must undoubtedly carry out the concept of Sharia accounting. Sharia accountanting has several Sharia principles that support this research. Sharia accounting deals with recognizing, measuring, and recording transactions and fairly disclosing their rights and obligations (Pratama et al., 2017). The more informative a manager provides information about the company; the more manager automatically fulfills principles that align with Sharia accounting theory. It is in line with research conducted by (Oktafianti & Rizki, 2015) and (G. A. C. N. Sari et al., 2018) which found that managerial ownership had a positive and significant effect on environmental disclosure.

Based on this description, the hypotheses in this study can be formulated:

Ha: Managerial ownership has a positive and significant effect on environmental disclosure.

H0: Managerial ownership has no significant effect on environmental disclosure.

Firm Size Towards Corporate Environmental Disclosures

According to (P. M. Sari et al., 2020), firm size can describe the size of a company as indicated by total assets and total sales. It also aligns with stakeholder theory which states stakeholders can control company resources. Activities that are carried out by larger organizations or companies that have more stakeholders are more inclined to satisfy their stakeholders to keep their companies operating. It is also supported by the concept of green accounting theory. According to the United

States Environmental Protection Agency the United States Environment Protection Agency (US-EPA) about environmental accounting: "An important function of environmental accounting is to present environmental costs to company stakeholders which can encourage in identifying ways to reduce or avoid costs. While at the same time, the company is improving the quality of the environment."

It is consistent with research conducted by (Oktafianti & Rizki, 2015), (Dicko et al., 2015), (Rizka, 2020), and (Kiswanto et al., 2020) which found that firm size had a positive and significant effect on environmental disclosure.

Based on this description, the hypotheses in this study can be formulated:

Ha: Firm size has a positive and significant effect on environmental disclosure.

H0: Firm size has no significant effect on environmental disclosure

Managerial Ownership and Simultaneous Firm Size Towards Environmental Disclosure

According to (Mutmainah & Indrasari, 2017), environmental disclosure is the disclosure of information relating to the environment in the company's annual report. According to (Ghozali & Chariri, 2007), corporate environmental disclosure is a company's process of disclosing information related to company activities and their impact on social communities and environmental conditions. In this way, the company will get positive benefits, namely: attention, trust, and support from the community. Environmental disclosure aims to provide relevant and significant information for users' decision-making regarding financial statements. In previous studies, there was no simultaneous test (t-test) between the two independent variables above managerial ownership and firm size.

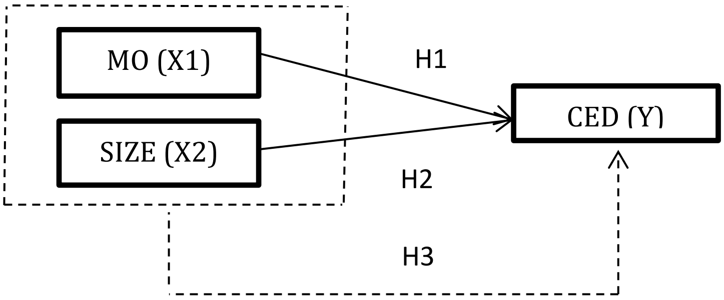
Based on this description, the hypotheses in this study can be formulated:

Ha: Managerial ownership and simultaneous firm size have a significant effect on environmental disclosure.

H0: Managerial ownership and simultaneous firm size have no significant effect on environmental disclosure.

RESEARCH METHODS

This study used two independent variables, namely managerial ownership (MO) and firm size (SIZE). The dependent variable was also used that was corporate environmental disclosure (CED). The data used in this study was panel data. Panel data is a combination of time series data and cross-section data (Algifari, 2021). The time series data in this study included one object/individual based on annual period data, namely company data listed on the IDX for the 2017-2021 period. It is called cross-data because this research consists of several or many objects that were often called respondents. In this context the respondents are companies. There were several types of data used, namely data regarding total assets, manager shares, and outstanding shares. The following is the framework of this study:



Keterangan:
Y : Environmental Disclosure
X1 : Managerial Ownership
X2 : Firm Size
→ : Relationship between partial variables
- - - - - -> : Relationship between simultaneous variables

Figure 2. Theoretical framework

The data obtained is sourced from annual reports and sustainability reports of primary and chemical industrial companies listed on the IDX for the 2017-2021 period which can be downloaded on the idx.com website or the company's official website.

Table 2. Sample criteria

No.	Sample Criteria	Total
1	**Population** Primary and chemical industrial companies listed on the BEI for the 2017-2021 period.	93
2	**Non-Criteria** Primary and chemical industrial companies unlisted on the BEI for the 2017-2021 period.	(0)
3	Companies that do not regularly report annual reports and sustainability reports from 2017-2021.	(71)
4	Companies that do not have a minimal managerial share ownership composition are included in the category of intermediate levels of managerial ownership (5% -25%).	(12)
	The amount the criteria	**10**
	Total observation data = total sample × length of the study period	**50**

Table 3. Sample data company

No.	Code	Name
1.	LMSH	Lionmesh Prima Tbk
2.	BRNA	Berlina Tbk
3.	INCI	Intanwijaya Internasional Tbk
4.	ALDO	Alkindo Naratama Tbk
5.	BAJA	Saranacentral Bajatama Tbk
6.	BRPT	Barito Pacific Tbk
7.	GDST	Gunawan Dianjaya Steel Tbk
8.	SRSN	Indo Acidatama Tbk
9.	MDKI	Emdeki Utama Tbk
10	BTON	Betonjaya Manunggal Tbk

The research approach used is a quantitative approach that was done by collecting, processing, presenting, and analyzing data quantitatively to provide a clear picture of the problem under study. (Wahidmurni, 2017) states that quantitative research is a method used to answer research problems related to data in the form of numbers and statistical programs. The type of research used is expo facto (cause and effect). To analyze the data, panel data regression analysis with the help of Eviews 12 software was used. (Algifari, 2021) states that the use of panel data regression with the help of Eviews 12 produces an output of selecting an estimation model which will later be tested for models that are worth choosing, including:

1. Common Effect Model. The Common Effect Model is the most straightforward technique for estimating the parameters of the panel data model that is by combining cross-section and time series data as a single unit without looking at differences in time and entities (individuals). The approach often used is the Pool least square method.
2. Fixed Effect Model. The Fixed Effect Model approach assumes that the intercept of each individual is different while the slope between individuals remains the same. This technique uses a dummy variable to capture intercept differences between individuals.
3. Random Effect Model. The random Effects Approach assumes that each company has different intercepts in which the intercepts are random or stochastic variables. This technique also considers that errors may be correlated across cross-sections and time series.

Of the three models above, CEM, REM, and FEM will be tested for the feasibility of the model to find out which model is selected, along with the feasibility test of the model according to (Algifari, 2021):

1. Chow Test. Chow test is a test to compare the standard effect model with the fixed effect. The hypothesis formed in the Chow test is as follows:
   H0: Common Effect Model
   H1: Fixed Effect Models
   H0 is rejected if the probability of the chi-square cross-section is less than the significance value of 0.05. Conversely, H0 is accepted if the probability of the chi-square cross-section is greater than the significance of 0.05.
2. Hausman Test. The Hausman test is a test to compare the fixed effect model with the random effect model in determining the best model to be used as a panel data regression model. The hypothesis formed in the Hausman test is as follows:
   H0: Random Effects Model
   H1: Fixed Effect Models

H0 is rejected if the probability of a random cross-section is less than the significance value of 0.05. Conversely, H0 is accepted if the probability of a random cross-section is greater than the significance value of 0.05.

3. Lagrange Multiplier Test. The Lagrange multiplier test is a test to compare the random effect model with the common effect model in determining the best model to use as a panel data regression model. The hypothesis formed in the Lagrange multiplier test is as follows:
   H0: Common Effect Model
   H1: Random Effects Model
   H0 is rejected if the probability of cross-section at Breusch-Pagan is less than a significance value of 0.05. Conversely, H0 is accepted if the probability of cross-section at Breusch-Pagan is more significant than a significance value of 0.05.

RESULTS DAN DISCUSSION

Model Estimation Selection

Common effect model

The Common Effect Model technique is the most straightforward technique for estimating the parameters of the panel data model that is by combining cross-section and time series data as a single unit without looking at differences in time and entities (individuals). The approach often used is the Pool least square method. The following are the results of the common effect model:

Table 4. Panel data regression using the common effect model

Dependent Variable: Corporate Environmental Disclosure
Method: Panel Least Squares
Date: 03/10/23 Time: 17:51
Sample: 2017 2021
Periods included: 5
Cross-sections included: 10
Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.078868	0.602711	-3.449197	0.0012
Managerial Ownership	-0.000803	0.000764	-1.050320	0.2989
Firm Size	0.091969	0.022204	4.141925	0.0001

Root MSE	0.143260	R-squared	0.291140
Mean dependent var	0.357533	Adjusted R-squared	0.260976
S.D. dependent var	0.171883	S.E. of regression	0.147762
Akaike info criterion	-0.928308	Sum squared resid	1.026174
Schwarz criterion	-0.813587	Log likelihood	26.20771
Hannan-Quinn criter.	-0.884622	F-statistic	9.651811
Durbin-Watson stat	0.395787	Prob(F-statistic)	0.000308

Fixed effect model

The Fixed Effect Model approach assumes that the intercept of each individual is different while the slope between individuals remains the same. This technique uses a dummy variable to capture intercept differences between individuals. The following are the results of the fixed effect model:

Table 5. Panel data regression using the fixed effect model

Dependent Variable: Corporate Environmental Disclosure
Method: Panel Least Squares
Date: 03/10/23 Time: 17:52
Sample: 2017 2021
Periods included: 5
Cross-sections included: 10
Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.221151	0.858706	-0.257540	0.7982
Managerial Ownership	0.000532	0.001239	0.429133	0.6702
Firm Size	0.020548	0.031555	0.651183	0.5188

Effects Specification

Cross-section fixed (dummy variables)

Root MSE	0.076075	R-squared	0.800110
Mean dependent var	0.357533	Adjusted R-squared	0.742247
S.D. dependent var	0.171883	S.E. of regression	0.087264
Akaike info criterion	-1.834199	Sum squared resid	0.289369
Schwarz criterion	-1.375313	Log likelihood	57.85497
Hannan-Quinn criter.	-1.659453	F-statistic	13.82768
Durbin-Watson stat	1.081479	Prob(F-statistic)	0.000000

Random effect model

The Random Effects Model assumes that each company has different intercepts in which the intercepts are random or stochastic variables. This technique also considers that errors may be correlated across cross-sections and time series. The following are the results of the random effect model:

Table 6. Panel data regression using the random effect model

Dependent Variable: Corporate Environmental Disclosure
Method: Panel EGLS (Cross-section random effects)
Date: 03/12/23 Time: 16:54
Sample: 2017 2021
Periods included: 5
Cross-sections included: 10
Total panel (balanced) observations: 50
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.30026	6.479721	-2.206926	0.0322
Managerial Ownership	0.010919	0.117343	0.093054	0.9263
Firm Size	3.984244	1.946667	2.046700	0.0463

Effects Specification

	S.D.	Rho
Cross-section random	0.333619	0.6580
Idiosyncratic random	0.240511	0.3420

Weighted Statistics			
Root MSE	0.240096	R-squared	0.078060
Mean dependent var	-0.350974	Adjusted R-squared	0.038828
S.D. dependent var	0.252592	S.E. of regression	0.247640
Sum squared resid	2.882297	F-statistic	1.989725
Durbin-Watson stat	0.976907	Prob(F-statistic)	0.148086
Unweighted Statistics			
R-squared	0.270358	Mean dependent var	-1.143796
Sum squared resid	8.615143	Durbin-Watson stat	0.326836

After the results of the common effect model, fixed effect, and random effect are obtained, then the chow test is carried out. This test is needed to choose the most appropriate model between the common effect and fixed effect models.

Model Feasibility Test

Chow test

Chow test is a test to compare the common effect model with the fixed effect. The hypothesis formed in the chow test is as follows:
H0: Common Effect Model
H1: Fixed Effect Models

Table 7. Chow test

Redundant Fixed Effects Tests
Equation: FEM
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	10.750833	(9,38)	0.0000
Cross-section Chi-square	63.294534	9	0.0000

The results of the Chow test in the table above show that if the cross-section probability value is 0.0000 or <0.05, then H0 is rejected. Therefore, the chosen model is the fixed effect. Next, a regression with a random effect model will be carried out to determine which model is correct. Regression results using the random effect model can be seen in table 7 so that H1 is accepted. It can be concluded that the fixed effect model is better than the common effect model so that the Hausman test will be carried out.

Hausman test

The Hausman test is a test to compare the fixed effect model with the random effect model in determining the best model to be used as a panel data regression model. The hypothesis formed in the Hausman test is as follows:
H0: Random Effects Model
H1: Common Effect Models

Table 8. Hausman test

Correlated Random Effects - Hausman Test Equation: REM Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.852340	2	0.2402

Based on the Hausman test results above, it can be seen from the random cross-section probability value equal to 0.24 > 0.05. It means that H0 is accepted and H1 is rejected so that the Random Effect Model (REM) is chosen as the model.

Lagrange multiplier test

The lagrange multiplier test is a test to compare the random effect model with the common effect model in determining the best model to use as a panel data regression model. The hypothesis formed in the lagrange multiplier test is as follows:

H0: Common Effect Model

H1: Random Effects Model

Table 9. Lagrange multiplier test

Lagrange Multiplier Tests for Random Effects Null hypotheses: No effects Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
		Test Hypothesis	
	Cross-section	Time	Both
Breusch-Pagan	33.95729 (0.0000)	2.248387 (0.1338)	36.20568 (0.0000)
Honda	5.827289 (0.0000)	-1.499462 (0.9331)	3.060235 (0.0011)
King-Wu	5.827289 (0.0000)	-1.499462 (0.9331)	1.984770 (0.0236)
Standardized Honda	7.127792 (0.0000)	-1.328405 (0.9080)	0.820041 (0.2061)
Standardized King-Wu	7.127792 (0.0000)	-1.328405 (0.9080)	-0.294330 (0.6157)
Gourieroux, et al.	--	--	33.95729 (0.0000)

Based on the results of the Lagrange multiplier test above, it can be seen from the random cross-section probability value at Breusch-Pagan which is 0.000<0.05. It means that H0 is rejected and H1 is accepted so that the model chosen is the Random Effect Model (REM). In the random effect selected model, there is no need for a heteroscedasticity test because the data is free from heteroscedasticity (Algifari, 2021).

Classic Assumption Test

Normality test

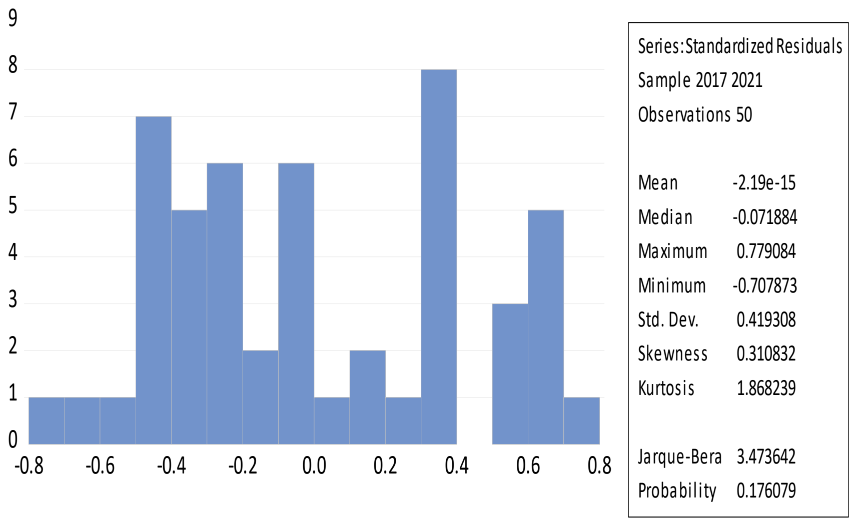


Figure 2. Normality test from Eviews 12

In the figure above, it is known that the Jarque-Bera probability value is 0.17 > 0.05, meaning that the data in this study are normally distributed.

Multicollinearity test

Table 10. Multicollinearity test

Variance Inflation Factors
Date: 03/11/23 Time: 17:48
Sample: 1 50
Included observations: 50

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	27.44379	8916.932	NA
Managerial Ownership	0.008315	37.96055	1.012730
Firm Size	2.485384	8752.492	1.012730

Based on the test above, the centered VIF value for each variable X_1 and X_2 is 1.012 <10, so it can be concluded that the model is free from multicollinearity.

Autocorrelation test

Based on the Tabel 11, obtained Dw value of 0.976 < 2 dan 0.976 > -2. According to (Santoso, 2015), there is no correlation if the value of DW < 2 and DW > -2.

Tabel 11, Autocorrelation test

Dependent Variable: Corporate Environmental Disclosure
Method: Panel EGLS (Cross-section random effects)
Date: 03/12/23 Time: 16:54
Sample: 2017 2021
Periods included: 5
Cross-sections included: 10
Total panel (balanced) observations: 50
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.30026	6.479721	-2.206926	0.0322
Managerial Ownership	0.010919	0.117343	0.093054	0.9263
Firm Size	3.984244	1.946667	2.046700	0.0463
Effects Specification				
			S.D.	Rho
Cross-section random			0.333619	0.6580
Idiosyncratic random			0.240511	0.3420
Weighted Statistics				
Root MSE	0.240096	R-squared		0.078060
Mean dependent var	-0.350974	Adjusted R-squared		0.038828
S.D. dependent var	0.252592	S.E. of regression		0.247640
Sum squared resid	2.882297	F-statistic		1.989725
Durbin-Watson stat	0.976907	Prob(F-statistic)		0.148086
Unweighted Statistics				
R-squared	0.270358	Mean dependent var		-1.143796
Sum squared resid	8.615143	Durbin-Watson stat		0.326836

Significant Test

Coeffisient determinant

The coefficient of determination is used to measure how much influence the independent variable can explain the dependent variable by looking at the value of the Adjusted R-Square. The greater the Adjusted R-Square value is, the better the ability of the variance and the independent variable to explain the dependent variable is. Adjusted R-Square values can be seen in the table below.

Table 12. Coeffisien determinant

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.30026	6.479721	-2.206926	0.0322
Managerial Ownership	0.010919	0.117343	0.093054	0.9263
Firm Size	3.984244	1.946667	2.046700	0.0463
Effects Specification				
			S.D.	Rho
Cross-section random			0.333619	0.6580
Idiosyncratic random			0.240511	0.3420
Weighted Statistics				

Root MSE	0.240096	R-squared	0.078060
Mean dependent var	-0.350974	Adjusted R-squared	0.038828
S.D. dependent var	0.252592	S.E. of regression	0.247640
Sum squared resid	2.882297	F-statistic	1.989725
Durbin-Watson stat	0.976907	Prob(F-statistic)	0.148086

Based on the table above, the Adjusted R-Square value is obtained coefficient of determination of 0.038 or 3.8%. Rate 3.8% shows that the percentage of the influence of the independent variables, namely managerial ownership and firm size on the dependent variable, namely environmental disclosure, is only 3.8%. In other words, the variation of the independent variables used in the model can explain 3.8% of the variation in the dependent variable. In comparison, the remaining 96.2% is influenced by other variables outside this research.

Partial test (t test)

The t-test aims to determine whether the independent variables or independent variables, namely Managerial Ownership (MO) and Firm Size (SIZE), partially from each of the independent variables affect the dependent variable, namely Disclosure of Company Environment. If the significance value is less than 0.05 ($p < 0.05$), it can be concluded that the independent variables partially have a significant effect on the dependent variable.

Table 13. Partial test (t test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.30026	6.479721	-2.206926	0.0322
Managerial Ownership	0.010919	0.117343	0.093054	0.9263
Firm Size	3.984244	1.946667	2.046700	0.0463

Managerial ownership (MO)

It is known that the coefficient of managerial ownership (MO) has a positive value of 0.01 which indicates that variable X1 has a positive influence on Y. The higher the managerial ownership is, the higher the company's environmental disclosure is. In addition, it can be seen from the t-statistic value of 0.09 and the significant value of the managerial ownership variable is 0.92 where the value is greater than 0.05 (0.92 > 0.05). So, it can be concluded that the managerial ownership variable has a positive and insignificant effect on corporate environmental disclosures.

Firm size (SIZE)

It is known that the coefficient of firm size (SIZE) has a positive value of 3.98 which indicates that the variable X2 has a positive influence on Y. It means the higher the company's size, the higher the disclosure of the company's environment is. In addition, it can be seen from the t-statistic value of 2.04 and the significant value of the firm size variable is 0.04 where the value is less than 0.05 (0.04 <0.05). So, it can be concluded that the firm size variable has a positive and significant effect on corporate environmental disclosure.

Simultaneous test (F test)

Table 14. Simultaneous test (F test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.30026	6.479721	-2.206926	0.0322
Managerial Ownership	0.010919	0.117343	0.093054	0.9263
Firm Size	3.984244	1.946667	2.046700	0.0463
		Effects Specification		
			S.D.	Rho
Cross-section random			0.333619	0.6580
Idiosyncratic random			0.240511	0.3420
		Weighted Statistics		
Root MSE	0.240096	R-squared		0.078060
Mean dependent var	-0.350974	Adjusted R-squared		0.038828
S.D. dependent var	0.252592	S.E. of regression		0.247640
Sum squared resid	2.882297	F-statistic		1.989725
Durbin-Watson stat	0.976907	Prob(F-statistic)		0.148086

Based on the output of the eviews above, the value of F-statistic is 1.98 while Ftable with a level of α = 5% is 3.20 thus, F-statistic< Ftable (1.98 < 3.20), then it can also be seen at the probability value, namely of 0.148 which is greater than the significance level of 0.05 with an adjusted R-square value of 0.038, which means that the ability of the independent variable to influence the dependent variable is only 38%. Moreover, 96.2% is influenced by other independent variables. Therefore, it can be concluded that Ha is rejected and H0 is accepted. It indicates that the variable managerial ownership and simultaneous firm size have no significant effect on corporate environmental disclosures.

This research aims to analyze and prove the effect of managerial ownership and firm size on corporate environmental disclosure in parimary and chemical industry companies listed on the IDX in 2017-2021. There are three hypotheses tested in this study.

The influence of managerial ownership on corporate environmental disclosure

Based on testing, the first hypothesis that formulates that there is a positive and significant influence between managerial ownership on corporate environmental disclosure is rejected. Table 13 shows that the results on the managerial ownership variable have a T-statistic value of 0.09 which means it has a positive effect. The sense is that any increase in managerial ownership can also increase corporate environmental disclosure; conversely, any decrease in managerial ownership can decrease corporate environmental disclosure. The significant value of the managerial ownership variable is 0.92 where the value is greater than 0.05 (0.92 > 0.05) which means that the managerial ownership variable has no significant effect on corporate environmental disclosures.

According to agency theory, the higher managerial ownership is, the fewer agency problems within the company is, because the company's management also acts as a shareholder. However, the reality says that a high or low level of managerial ownership can only partially influence corporate environmental disclosures. Environmental disclosure in several countries, including Indonesia, is still voluntary. Companies will prefer to disclose information that will benefit the company. The fact is that until now, there are still many environmental disclosures in Indonesia that are expressed in a narrative form and need to be more comprehensive. Companies can use environmental disclosure to attract the attention of stakeholders, especially investors. Investors will be interested in investing in companies that pay attention to the environment. Companies are considered to have a good image in society and prospects for future business continuity to make investors want more stock returns. This is what Prajogo Pangestu stated which was reported in the Jakarta Economic News news on Thursday, January 6, 2022 "The fifth richest man in Indonesia, Prajogo Pangestu, does not hesitate to spend deeply to buy up shares in the petrochemical and energy company he founded, namely, PT Barito Pacific Tbk (BRPT). The purpose of purchasing BRPT shares is to increase ownership for investment." Technically, high managerial ownership means that the manager acts as the investor.

High managerial ownership in a primary industrial and chemical company can only partially make company managers consistent in disclosing environmental reports. The data shows that companies with high managerial ownership tend to report inconsistently on sustainability reports, for example, Lionmesh Prima Tbk, Intanwijaya Internasional Tbk, Barito Pacific Tbk, and Betonjaya Manunggal Tbk. Barito Pacific, with relatively high managerial ownership that has an annual average of around 71.84, has not reported a sustainability report every year consistently. Even some companies in the primary and chemical industry, such as Berlina Tbk, Alkindo Naratama Tbk, Saranacentral Bajatama Tbk, Gunawan Dianjaya Steel Tbk, Indo Acidatama Tbk, and Emdeki Utama Tbk which have a high percentage of managerial share ownership. They do not report sustainability reports every year. The company discloses that its environmental report needs to be more comprehensive. The company chooses to report it in the annual report only to cancel the company's obligations.

From the results of this study, H01 is accepted that managerial ownership has no significant effect on corporate environmental disclosure, while Ha1 is rejected. This research's results align with research results from Arini Rizka in 2020 that show managerial ownership does not have a significant effect on corporate environmental disclosures because corporate environmental disclosures in Indonesia are still voluntary and still depend on each company's policies. It can be concluded that managerial ownership proxied as a variable (X) has no significant effect on disclosure of the company's environment as a variable (Y) in primary industrial and chemical companies listed on the IDX in 2017-2021.

The influence of firm size on corporate environmental disclosure

Based on testing, the second hypothesis formulates that there is an influence between firm size on corporate environmental disclosure. Table 13 shows that the results on the firm size variable have a T-statistic value of 2.04 with a positive value with a significant value of the firm size variable of 0.04 where the value is smaller than 0.05 (0.046 <0.05) which means that managerial ownership variable has a positive and significant effect on corporate environmental disclosure. From the results of this study, Ha2 is accepted that firm size is positive and has a significant impact on corporate environmental disclosure, while H01 is rejected. Based on the second hypothesis, testing formulates that there is an influence between firm size on corporate environmental disclosure. Table 13 shows that the results on the firm size variable have a T-statistic value of 2.04 with a positive value with a significant value of the firm size variable of 0.04 where the value is smaller than 0.05 (0.046 <0.05) which means that managerial ownership variable has a positive and significant effect on corporate environmental disclosure. From the results of this study, Ha2 is accepted that firm size is positive and has a significant impact on corporate environmental disclosure, while H01 is rejected.

This research's results are in line with research from Kiswanto et al. (2022), Riska (2020), Ayu et al. (2017), Oktafiani et al. (2015), and Nugraha (2015) which stated that firm size results are positive and have a significant effect on corporate environmental disclosure. It means that the larger the firm's size is, the higher the environmental disclosure made by the company is. It is supported by the stakeholder theory which states that large companies that have more stakeholders than small companies will provide the best possible and transparent information regarding environmental disclosures in order to be more responsible and satisfy their stakeholders.

The influence of managerial ownership and simultaneous firm size on corporate environmental disclosure

Based on testing, the third hypothesis in this study which formulated that there is a significant influence between managerial ownership and simultaneous firm size on corporate environmental disclosure is rejected. Simultaneously, the F test shows that the independent variables do not significantly influence the dependent variable. This is proven by the results of the F-statistic, which is equal to 1.98. At the same time, Ftable with a level of $\alpha = 5\%$ is equivalent to 3.20, thus F-statistic < Ftable (1.98 > 3.20), then it can also be seen at the probability value, which is equal to 0.148 which is greater than the significance level of 0.05 so that Ha is rejected and H0 is accepted.

Managerial ownership and simultaneous firm size have no significant effect on corporate environmental disclosures. Field data shows that in Indonesia, managerial ownership and simultaneous firm size do not affect environmental disclosure. It is shown that not all companies report their environment comprehensively. Environmental disclosures still tend to be ignored. Many large companies and companies with high managerial ownership need to be more consistent in preparing and disclosing their environmental reports in a sustainability report. Companies still tend to report environmental disclosures only as a default. It is proven to the present; environmental disclosure is voluntary and there is no standard for corporate environmental disclosure. The company said that the decisions of their respective companies still dominated its environmental reports.

This is contrary to the Sharia accounting theory stated by Pratama et al. (2017), Sharia accounting is related to the recognition, measurement, and recording of transactions and the disclosure of rights and obligations fairly. The assumption is that every transaction must be based on the principle of accountability or accountability based on the Qur'an surah Al-Baqarah: 282, where every transaction must be accounted for in the form of notes or reports. Based on Surah Al-A'raf: 85. It can be concluded that Allah SWT forbids humans to do earth damage. It is why every company's operational activities must be accountable for the activities that have good and bad impacts on the social community and the environment. One condition that companies comply with Islamic accounting is to disclose reports regarding the environment as transparently as possible.

The coefficient of determination in this study was seen based on the Adjusted R-Square value of 0.038 or 3.8%. The value of 3.8% indicates that the percentage influence of the independent variables, namely managerial ownership and firm size on the dependent variable, namely environmental disclosure, is only 3.8%. This value is considered very small. In other words, the variation of the independent variables used in the model can explain 3.8% of the variation in the dependent variable. In comparison, the remaining 96.2% is influenced by other variables outside this study.

Other variables outside this study that can affect environmental disclosure and are part of the 96.2% of the coefficient of determination are Government Regulations, Good Corporate Governance, Industry Type, Profitability, Environmental Performance, Media Exposure, Leverage, and Environmental Certification. This is supported by previous research, such as the research from Putra et al. (2021), and Kiswanto et al. (2020) yielded findings that Profitability significantly affects

Environmental Disclosure. Good Corporate Governance significantly affects Environmental Disclosure. It is supported by research by Gusti Ayu et al. (2018). Industry type significantly affects Environmental Disclosure which is supported by research from Sari et al. (2018). Industry type significantly affects Environmental Disclosure which is supported by research by Nugraha et al. (2015) and Ayu et al. (2017). Environmental Performance significantly impacts Environmental Disclosure which is supported by research from Sari et al. (2018), and Ayu et al. (2017).

It can be concluded that the variables of managerial ownership and simultaneous firm size have no significant effect on corporate environmental disclosures in primary and chemical industrial companies listed on the IDX from 2017 to 2021.

CONCLUSION

Based on the results of research and discussion of research regarding the effect of managerial ownership and firm size on corporate environmental disclosure in primary and chemical industry companies listed on the IDX in 2017-2021, it can be concluded as follows:

1. Managerial ownership with MO indicators results does not significantly affect corporate environmental disclosures. This is indicated by the T-statistic value of 0.09, with a significant value of the managerial ownership variable of 0.92, where the value is greater than 0.05 (0.92 > 0.05). It means that the managerial ownership variable has no significant effect on corporate environmental disclosure. High managerial ownership will also result in increased corporate environmental disclosures. However, this has little impact because this decision-making depends on the policies of each company. Companies with high managerial ownership need to be more fully consistent in reporting sustainability reporting.
2. Firm size with the SIZE indicator results is positive and significantly affects corporate environmental disclosure. This is indicated by the T-statistic value of 2.04 with a significant value of the firm size variable of 0.04, where the value is smaller than 0.05 (0.04 <0.05), which means that the firm size variable has a positive and significant effect on corporate environmental disclosures. The bigger the company, the higher the environmental disclosure of the company is. It is because large companies have more stakeholders than small companies, so they will provide the best possible and transparent information regarding environmental disclosures. Therefore, they are more responsible and satisfy their stakeholders.
3. Managerial ownership and simultaneous firm size do not have a significant effect on corporate environmental disclosures. Simultaneously, the F test shows that the independent variables do not significantly influence the dependent variable. This is evidenced by the results of the F-statistic, which is equal to 1.98. At the same time, Ftable with a level of α = 5% is equivalent to 3.20, thus F-statistic < Ftable (1.98 > 3.20), then it can also be seen at the probability value, which is equal to 0.148, which is greater than the significance level of 0.05. The results of this F test affect the value of the coefficient of determination obtained, which is equal to 3.8%.

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GUIDELINES FOR AUTHOR

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A. Writing format

1. Manuscript is typed using Cambria font.
2. Manuscript is written in a quarto paper size (A4), with upper, below, left, and right margins of 2 cm.
3. The front page of the manuscript includes the title, author's name, institution, country, and email of the corresponding author.
4. The Result of Turnitin Checking (20%) and Author's Statement Letter must be included.
5. All pages are given sequential numbers, including the pages containing references and appendices.
6. Footnotes, headers, and footers are used for additional information about the content (not for providing supplementary information about the author and title of the article).
7. Manuscript is prepared following the template provided by the AKUMULASI: Indonesian Journal of Applied Accounting and Finance available on Paper Template.

B. Manuscript organization

1. **TITLE**. The title should be straightforward, clear, and informative. This section is presented in Cambria 12; 1.15 Space; Capitalize Each Word; Bold; Centered.
2. **NAME OF THE AUTHOR, INSTITUTION, COUNTRY, AND E-MAIL.** This section contains the author's name (without academic title), name of the institution (study program, faculty, and university), name of the country, and e-mail address (corresponding author). If a manuscript is written by a team, the editor only deals with the first author (or corresponding author). This section is presented in the Cambria 11; 1.15 Space; Capitalize Each Word; Centered.
3. **ABSTRACT**. The abstract is composed of a maximum of 250 words, while keywords are composed of 3-5 words (in alphabetical order). The abstract contains the main issues, objectives, methods, research results, and implications. The abstract title is presented in the Cambria 12; 1.15 Space; UPPERCASE; Bold; Centered. The abstract body is written in Cambria 11; 1.15 Space; Sentence case; Justified. Meanwhile, the keywords are typed with the Cambria 11; 1.15 Space; Sentence case; Left.
4. **INTRODUCTION**. This section describes the background on issues, problems, urgency, research novelty, research rationalization, research objectives and contributions, and literature review. For a research article, the literature review details a synchronization of theoretical frameworks, reviews of previous research, and hypothesis development. Meanwhile, for a conceptual article, the problems/issues are discussed in the Introduction. The Introduction and References are presented in uniform writing format: 1) TITLE-INTRODUCTION, RESEARCH METHOD, etc: Cambria, 12; Space 1.15; UPPERCASE; Bold; Justified; and 2) the body of the article: Cambria, 11; Space 1.15; Sentence case; Justified.
5. **RESEARCH METHOD**. This section presents the research design, scope, data collection techniques, and analysis techniques.
6. **RESULTS AND DISCUSSION**. This section presents the results of the research analysis, describes the results of data processing and logical interpretation of findings, as well as links them to relevant reference sources (can be completed with tables, graphs/pictures, or charts).

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7. **CONCLUSION**. This section provides a brief summary of the research results and discussions that address the research objectives and presents certain methodological or procedural difficulties (beyond the researcher's control) as well as practical and theoretical recommendations that are useful for further research.
8. **REFERENCES**. The minimum number of references is 20 (primary reference is recommended), published in the past 10 years. The references only include the works cited in the body of the article. The citations and references are written based on the APA 7th Edition Style (American Psychological Association). To help compile references, please use the Mendeley application tool.

C. Tables and Figures

The following is the format for tables and figures:

1. The title of the table is written above the table with Cambria 11; 1.15 Space; Sentence case; Left. Information in the table is typed with 1 Space, a horizontal line for the first line (table subtitle), and the last line, without a vertical line.
2. The title of the figure (picture) is presented below the picture with Cambria 11; 1.15 Space; Sentence case; Centered. The figure is prepared in printable form (not cropped).
3. Sources of tables and figures must be listed.
4. The titles of tables and figures are numbered sequentially from 1 to the last.

D. References (the APA 7th Edition Style)

Example:

In-text citation

Cocoa is one of the functional foods in Madiun (Ariyantoro *et al.,* 2019). The research by Widodo *et al.* (2019) has concluded the need for an environmentally friendly approach to preventing bad pollution, particularly by increasing the awareness of public and business actors in managing liquid waste by creating an integrated wastewater treatment system.

Reference list citation

Ariyantoro, A. R., Anam, C., Kawiji, K., Minardi, S., Zulfa, F., Purnomo, D., ... Widiatmoko, C. (2019). Pengembangan produk cokelat couverture dengan penambahan pangan fungsional di Desa Randualas Kecamatan Kare Kabupaten Madiun. *PRIMA: Journal of Community Empowering and Services*, *3*(2), 43-38. https://doi.org/10.20961/prima.v3i2.37835

Widodo, T., Budiastuti, M. T. S., & Komariah, K. (2019). Water quality and pollution index in Grenjeng River, Boyolali Regency, Indonesia. *Caraka Tani: Journal of Sustainable Agriculture*, *34*(2), 150-161. https://doi.org/10.20961/carakatani.v34i2.29186

Other Examples (reference list citation):

Journal Article

Dhaliwal, D., Li, O. Z., Tsang, A., & Yang, Y. G. (2014). Corporate social responsibility disclosure and the cost of equity capital: The roles of stakeholder orientation and financial transparency. *Journal of Accounting and Public Policy, 33*(4), 328–355. https://doi.org/10.1016/j.jaccpubpol.2014.04.006

Print Authored Book

Ghozali, I. (2009). *Aplikasi analisis multivariate dengan program SPSS*. Badan Penerbit Universitas Diponegoro.

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Online Newspaper Article
Ricky, M. (2020, September 28). Tak efektif, Pemkot Solo turunkan target pemasangan alat monitoring pajak hotel dan restoran. *Solopos.com.* https://www.solopos.com/tak-efektif-pemkot-solo-turunkan-target-pemasangan-alat-monitoring-pajak-hotel-dan-restoran-1083391

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Online Dissertation From a Database
Wati, T. Z. (2020). *Analisis penerimaan pajak restoran sebelum dan sesudah penggunaan tapping box sebagai Pendapatan Asli Daerah Kota Metro tahun 2015—2019* [Tugas Akhir, Universitas Sebelas Maret]. UPT Perpustakaan Universitas Sebelas Maret. https://digilib.uns.ac.id/dokumen/detail/80624/Analisis-Penerimaan-Pajak-Restoran-Sebelum-dan-Sesudah-Penggunaan-Tapping-Box-sebagai-Pendapatan-Asli-Daerah-Kota-Metro-Tahun-2015-2019

APA STYLE

7th edition

Common Reference Examples Guide

This guide contains examples of common types of APA Style references. Section numbers indicate where to find the examples in the *Publication Manual of the American Psychological Association* (7th ed.).

More information on references and reference examples are in Chapters 9 and 10 of the *Publication Manual* as well as the *Concise Guide to APA Style* (7th ed.). Also see the Reference Examples pages on the APA Style website.

Journal Article (Section 10.1)

Edwards, A. A., Steacy, L. M., Siegelman, N., Rigobon, V. M., Kearns, D. M., Rueckl, J. G., & Compton, D. L. (2022). Unpacking the unique relationship between set for variability and word reading development: Examining word- and child-level predictors of performance. *Journal of Educational Psychology*, *114*(6), 1242–1256. https://doi.org/10.1037/edu0000696

Online Magazine Article (Section 10.1)

Thomson, J. (2022, September 8). Massive, strange white structures appear on Utah's Great Salt Lake. *Newsweek*. https://www.newsweek.com/mysterious-mounds-great-salt-lake-utah-explained-mirabilite-1741151

Print Magazine Article (Section 10.1)

Nicholl, K. (2020, May). A royal spark. *Vanity Fair*, *62*(5), 56–65, 100.

Online Newspaper Article (Section 10.1)

Roberts, S. (2020, April 9). Early string ties us to Neanderthals. *The New York Times*. https://www.nytimes.com/2020/04/09/science/neanderthals-fiber-string-math.html

Print Newspaper Article (Section 10.1)

Reynolds, G. (2019, April 9). Different strokes for athletic hearts. *The New York Times*, D4.

Blog Post (Section 10.1)

Rutledge, P. (2019, March 11). The upside of social media. *The Media Psychology Blog.* https://www.pamelarutledge.com/2019/03/11/the-upside-of-social-media/

Authored Book (Section 10.2)

Kaufman, K. A., Glass, C. R., & Pineau, T. R. (2018). *Mindful sport performance enhancement: Mental training for athletes and coaches.* American Psychological Association. https://doi.org/10.1037/0000048-000

Edited Book Chapter (Section 10.3)

Zeleke, W. A., Hughes, T. L., & Drozda, N. (2020). Home–school collaboration to promote mind–body health. In C. Maykel & M. A. Bray (Eds.), *Promoting mind–body health in schools: Interventions for mental health professionals* (pp. 11–26). American Psychological Association. https://doi.org/10.1037/0000157-002

Online Dictionary Entry (Section 10.3)

American Psychological Association. (n.d.). Internet addiction. *In APA dictionary of psychology*. Retrieved April 24, 2022, from https://dictionary.apa.org/internet-addiction

Report by a Group Author (Section 10.4)

World Health Organization. (2014). *Comprehensive implementation plan on maternal, infant and young child nutrition*. https://apps.who.int/iris/bitstream/handle/10665/113048/WHO_NMH_NHD_14.1_eng.pdf?ua=1

Report by Individual Authors (Section 10.4)

Winthrop, R., Ziegler, L., Handa, R., & Fakoya, F. (2019). *How playful learning can help leapfrog progress in education*. Center for Universal Education at Brookings. https://www.brookings.edu/wp-content/uploads/2019/04/how_playful_learning_can_help_leapfrog_progress_in_education.pdf

Press Release (Section 10.4)

American Psychological Association. (2020, March 2). *APA reaffirms psychologists' role in combating climate change* [Press release]. https://www.apa.org/news/press/releases/2020/03/combating-climate-change

Conference Session (Section 10.5)

Davidson, R. J. (2019, August 8–11). *Well-being is a skill* [Conference session]. APA 2019 Convention, Chicago, IL, United States. https://irp-cdn.multiscreensite.com/a5ea5d51/files/uploaded/APA2019_Program_190708.pdf

Dissertation From a Database (Section 10.6)

Horvath-Plyman, M. (2018). *Social media and the college student journey: An examination of how social media use impacts social capital and affects college choice, access, and transition* (Publication No. 10937367). [Doctoral dissertation, New York University]. ProQuest Dissertations and Theses Global.

Preprint Article (Section 10.8)

Latimier, A., Peyre, H., & Ramus, F. (2020). *A meta-analytic review of the benefit of spacing out retrieval practice episodes on retention.* PsyArXiv. https://psyarxiv.com/kzy7u/

Data Set (Section 10.9)

O'Donohue, W. (2017). *Content analysis of undergraduate psychology textbooks* (ICPSR 21600; Version V1) [Data set]. Inter-university Consortium for Political and Social Research. https://doi.org/10.3886/ICPSR36966.v1

Film or Video (Section 10.12)

Docter, P., & Del Carmen, R. (Directors). (2015). *Inside out* [Film]. Walt Disney Pictures; Pixar Animation Studios.

TV Series Episode (Section 10.12)

Dippold, K. (Writer), & Trim, M. (Director). (2011, April 14). Fancy party (Season 3, Episode 9) [TV series episode]. In G. Daniels, H. Klein, D. Miner, & M. Schur (Executive Producers), *Parks and recreation*. Deedle-Dee Productions; Fremulon; 3 Arts Entertainment; Universal Media Studios.

Webinar (Section 10.12)

Kamin, H. S., Lee, C. L., & McAdoo, T. L. (2020). *Creating references using seventh edition APA Style* [Webinar]. American Psychological Association. https://apastyle.apa.org/instructional-aids/tutorials-webinars

YouTube Video (Section 10.12)

Above The Noise. (2017, October 18). *Can procrastination be a good thing?* [Video]. YouTube. https://www.youtube.com/watch?v=FQMwmBNNOnQ

Song or Track (Section 10.13)

Nirvana. (1991). Smells like teen spirit [Song]. On *Nevermind*. DGC.

Radio Broadcast (Section 10.13)

Hersher, R. (2020, March 19). *Spring starts today all over America, which is weird* [Radio broadcast]. NPR. https://www.npr.org/2020/03/19/817237429/spring-starts-today-all-over america-which-is-weird

Podcast Episode (Section 10.13)

Santos, L. (Host). (n.d.) Psychopaths and superheroes (No. 1) [Audio podcast episode]. In *The happiness lab with Dr. Laurie Santos.* Pushkin Industries. https://www.happinesslab.fm/season-2-episodes/episode-1

Infographic (Section 10.14)

American Psychological Association. (n.d.). *Data sharing* [Infographic]. https://www.apa.org/pubs/journals/

data-sharing-infographic.pdf

PowerPoint From a Classroom Website (Section 10.14)

Mack, R., & Spake, G. (2018). *Citing open source images and formatting references for presentations* [PowerPoint slides]. Canvas@FNU. https://fnu.onelogin.com/login

Tweet (Section 10.15)

Obama, B. [@BarackObama]. (2020, April 7). *It's World Health Day, and we owe a profound debt of gratitude to all our medical professionals. They're still giving* [Tweet]. Twitter. https://twitter.com/BarackObama/status/1247555328365023238

Open Educational Resource (Section 10.16)

Fagan, J. (2019, March 25). *Nursing clinical brain*. OER Commons. Retrieved January 7, 2020, from https://www.oercommons.org/authoring/53029-nursing-clinical-brain/view

Webpage (Section 10.16)

Chandler, N. (2020, April 9). *What's the difference between Sasquatch and Bigfoot?* howstuffworks. https://science.howstuffworks.com/science-vs-myth/strange-creatures/sasquatch-bigfoot-difference.htm

Webpage on a News Website (Section 10.16)

Machado, J., & Turner, K. (2020, March 7). *The future of feminism*. Vox. https://www.vox.com/identities/2020/3/7/21163193/international-womens-day-2020

Webpage With a Retrieval Date (Section 10.16)

Center for Systems Science and Engineering. (2020, May 6). *COVID-19 dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)*. Johns Hopkins University & Medicine, Coronavirus Resource Center. Retrieved May 6, 2020, from https://coronavirus.jhu.edu/map.html

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More information on APA Style can be found in the *Publication Manual of the American Psychological Association* (7th ed.) and the *Concise Guide to APA Style* (7th ed.).

CITE THIS HANDOUT:
American Psychological Association. (2022). *APA Style common reference examples guide*. https://apastyle.apa.org/instructional-aids/reference-examples.pdf

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