Perkumpulan Praktisi Bisnis International dan Manajemen (Association of International Business and Professional Management)

SUSTAINABLE GOVERNANCE AND FINANCIAL STRATEGIES:

EMPIRICAL STUDIES ON BUSINESS, PUBLIC SECTOR, AND ENVIROMENTAL MANAGEMENT

2026

BOOK CHAPTER BY:

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Sustainable Governance and Financial Strategies: Empirical Studies on Business, Public Sector, and Enviromental Management

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Foreword by Expert

Sustainable Governance and Financial Strategies: Empirical Studies on Business, Public Sector, and Environmental Management presents a timely and insightful collection of studies addressing critical issues at the intersection of governance, finance, and sustainability. The diversity of contributors and topics highlights the dynamic challenges faced by organizations across sectors in an era marked by rapid environmental, economic, and regulatory shifts.

This book successfully bridges academic theory and practical implementation, offering valuable perspectives for scholars, policymakers, and practitioners alike. It explores how financial strategies and sustainable governance models can be effectively applied to enhance institutional performance, accountability, and environmental stewardship.

As someone who has observed the evolving landscape of financial governance and sustainability practices, I find this volume to be a vital contribution that not only informs but also inspires future research and collaboration.

Dr. Liem Gai Sin
Founder & President of AIBPM

Foreword by Editor

Sustainable Governance and Financial Strategies: Empirical Studies on Business, Public Sector, and Environmental Management represents the collaborative spirit and intellectual rigor of contributors from various backgrounds, united by a shared interest in finance, innovation, and academic advancement.

Our goal in creating this book was not only to present quality research but also to provide a platform where theory meets practice—offering valuable perspectives to finance professionals, public sector practitioners, environmental managers, and academic readers.

We hope this book contributes meaningfully to the development of financial and governance knowledge and encourages further collaboration among stakeholders in the academic, professional, and policy-making sectors.

The Editorial Team

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1. Introduction

The contemporary global landscape is characterized by rapid socio-economic transformation, environmental concerns, and increasing demands for good governance, transparency, and accountability. In response to these challenges, both private and public sector organizations are required to adapt their strategies to achieve sustainability, financial resilience, and community well-being.

This book presents a compilation of empirical research studies focusing on key issues that define sustainable business and governance practices. The chapters encompass various themes, including earnings management influenced by financial distress and ownership structures, the accountability mechanisms in managing village funds, circular economy applications in public waste management, and the institutional readiness for public service agencies.

Each study contributes unique insights into how institutions—whether corporate, governmental, or quasi-public—navigate financial, governance, and operational challenges while striving to align with the principles of sustainability and stakeholder responsibility.

The goal of this book is not only to provide rigorous academic analyses but also to offer practical recommendations for policymakers, practitioners, and researchers in the fields of business, public administration, and environmental managemen

Chapter 1. Financial Distress, Institutional Ownership, and Earnings Management: Evidence from the Energy Sector

1.1. Abstract

This study seeks to analyze the effect of financial distress on earnings management, focusing on institutional ownership as a potential moderating variable. Employing a quantitative research approach, this study utilizes secondary data sourced from the financial statements of energy industry sector companies listed on the Indonesia Stock Exchange (IDX) and the companies' official websites during the period 2019–2023. The purposive sampling technique was used to select a representative sample, ensuring relevance and data quality. The findings reveal that financial distress positively influences earnings management, indicating that companies experiencing financial difficulties are more likely to engage in earnings management practices, possibly as a strategic response to mitigate the appearance of financial instability. However, the study also finds that institutional ownership does not moderate the relationship between financial distress and earnings management. This suggests that the presence of institutional investors does not significantly alter or mitigate the impact of financial distress on a company's propensity to engage in earnings management. These results provide important insights for stakeholders, including regulators and investors, by highlighting the implications of financial distress on corporate reporting behavior and the limited role of institutional ownership in curbing earnings management practices

1.2 INTRODUCTION

Earnings management is a manager's choice of accounting policies or actual actions to influence earnings in order to achieve certain profit objectives (Scott, 2015). According to Yahaya et al. (2020), earnings management is carried out to influence earnings reports using certain accounting methods, accelerating transactions, or other means that affect short-term profits. This action aims to change financial statements to reflect company performance or affect the outcome of contractual agreements. Earnings management is often used to attract investors, who pay attention to financial conditions such as financial distress, which is a

situation when a company has difficulty meeting its financial obligations. Financial distress encourages management to carry out earnings management in order to maintain the company's image and avoid consequences such as falling stock prices and difficulty obtaining funding. Institutional ownership plays an important role in corporate governance, with institutional investors able to monitor management actions, including earnings management practices, and moderate the effect of financial distress on these practices.

PT Petrosea Tbk (PTRO), a mining company owned by Prajogo Pangestu, experienced a decline in performance in 2023 with net profit falling 70.18% to US$ 12.20 million, even though its revenue increased 21.26% to US$ 577.61 million. The decline in profit was due to an increase in operating and administrative expenses and a 166.8% jump in interest expense, reflecting high debt and funding costs. PT Petrosea generates its main revenue from coal mining, construction, and sales services, with several large clients including PT Kideco Jaya Agung and PT Freeport Indonesia. In addition, PT Petrosea earns revenue from related party transactions that have the potential to impact financial reporting.

PT Kreasi Jasa Persada, a subsidiary of PT Petrindo Jaya Kreasi Tbk (CUAN), is now the new controller of PT Petrosea after acquiring 34% of its shares. The company is planning a long-term strategy to strengthen business lines, develop new projects, and improve efficiency, which is expected to overcome financial distress. Based on the 2024 Work Plan and Budget (RKAB), PT Petrosea's coal production is approved at 1.19 million tonnes per year until 2026. This study focuses on the effect of financial distress on earnings management with institutional ownership as a moderating variable, given the uncertainty of previous research results regarding the role of financial distress in earnings management. The objectives of this study are (1) to empirically examine the effect of financial distress on earnings management, and (2) to analyze institutional ownership influence on financial distress on earnings management.

In agency theory, the relationship between agents and owners is the basis of corporate earnings management. The leader gives the agent the authority to manage the company and is responsible for his actions. A conflict of interest can occur when there is an

information imbalance between the two. Although they are tasked with optimizing profits for the principal, agents also have self-interest that drives them to manage profits for their own benefit. During difficult times, managers may be more compelled to alter financial statements to preserve the company's reputation. Since institutional shareholders tend to have the ability to monitor and reduce earnings management practices, institutional ownership plays a role in controlling managers' behavior, according to agency theory. Overall, agency theory is relevant to examine the effect of financial distress on earnings management with institutional ownership as a moderating variable, due to the conflict of interest between managers and shareholders.

Earnings Management

Earnings management refers to a manager's deliberate choice of accounting policies or real actions aimed at achieving specific reported earnings objectives. According to Scott (2015), various motivations drive earnings management. One common motivation is bonus purposes, where managers, aware of the company's profitability, act opportunistically to inflate current profits and secure larger bonuses. Political motivation plays a role in public companies, as managers often reduce reported earnings to avoid public scrutiny and stricter government regulations. Another key driver is taxation or tax-saving motivation, where companies adopt accounting methods to minimize income tax liabilities. CEO turnover also influences earnings management, as retiring CEOs may inflate earnings to enhance bonuses or safeguard their positions during poor company performance. Additionally, in Initial Public Offerings (IPO), earnings management may be employed to inflate share prices due to the absence of a base value. Lastly, providing favorable information to investors motivates financial reporting practices that portray a positive image of the company.

Scott (2015) also outlines specific patterns of earnings management. "Taking a bath" involves significant profit declines or increases in a given period compared to others. Income minimization reduces reported earnings below actual figures, while income maximization inflates them. Income smoothing, on the other hand, ensures consistent profit trends by maintaining stability in financial reports, reflecting desired profit levels over time.

Financial Distress

According to Sumajow et al. (2022), Financial distress is a condition where a company is having financial difficulty. According to Sari and Hermi (2023), financial distress is the initial symptom of bankruptcy in a company as evidenced by a decline in financial condition. This begins with the company's inability to pay off obligations in the company, such as liquidity obligations, as well as obligations in the solvency category.

Altman et al. (2019) mentioned four terms related to financial distress, namely (1) Failure occurs when the return on capital is lower than similar standards, or income is insufficient for cost, (2) Insolvency means debt exceeds assets, so real wealth is negative, (3) Default is a breach of payment promises to creditors, and (4) Bankruptcy occurs when debts exceed the value of assets, and the company is declared bankrupt by the court. This condition can be caused by a temporary lack of liquidity or cash flow.

Institutional Ownership

According to Tumiwa and Mamuaya (2018), institutional ownership is the ownership of shares of companies owned by institutions and institutions such as insurance companies, banks, and investment companies. Institutional ownership has significance in monitoring or monitoring management actions. The existence of institutional ownership will encourage more optimal supervision. Institutional ownership is important for keeping an eye on management activities. The presence of institutional ownership will promote better oversight.

Table 1.1 Previous Studies

Author, Year	Variable	Research Results
Sari & Hermi (2023)	Independent Variable: Financial Distress Dependent Variable: Earnings Management Moderating Variable: Institutional Ownership	Financial Distress has a negative effect on earnings management. The Institutional Ownership variable has a negative impact on Earnings Management.

		Institutional ownership, which is proxied by institutional ownership, weakens the effect of financial distress and leverage on earnings management.
Putri & Naibaho (2022)	Independent Variable: Financial Distress Dependent Variable: Earnings Management	Financial distress has a positive effect on earnings management
Khairin & Suryana (2022)	Independent Variable: Financial Distress Dependent Variable: Earnings management	Financial distress has a strong effect on earnings management
Li et al. (2020)	Independent Variable: Financial Distress Dependent Variable: Earnings management	Financial distress has a positive effect on earnings management
Chairunnisa et al. (2021)	Independent Variable: Financial Distress Dependent Variable: Earnings management	Financial distress has a positive effect on earnings management
Mustika et al. (2020)	Independent Variable: Financial Distress Dependent Variable: Manajemen Laba	Financial distress has a positive effect on earnings management

Hypotheses Development

The Effect of Financial Distress on Earnings Management

Financial distress is when a company faces significant financial difficulties, which if not handled properly can lead to bankruptcy. In such a situation, the company is usually under intense scrutiny from creditors, investors, auditors, and regulators, which may reduce the business's chances of making a profit. In addition, financial distress can also reduce the amount of resources available to management so that they may focus more on saving the business than on earnings management. Mustika et al. (2020) say that financial distress occurs when a company is no longer able to fulfill its obligations that should be paid, thus disrupting its operational conditions. However, when a company faces financial problems, management usually uses earnings management to improve

financial reports to become more attractive to new investors and avoid liquidation.

According to Chairunnisa et al. (2021), using agency theory, namely, when companies experience higher levels of financial distress, earnings management behavior will increase, while when companies experience lower levels of financial distress, earnings management behavior will decrease. This theory is in accordance with the research results of Chairunnisa et al. (2021), which found that earnings management is profitable when facing financial difficulties. This suggests that managers are more likely to use earnings management when the company faces increasing financial distress because they want to maintain good financial performance.

H1: Financial distress has a positive effect on earnings management

The Relationship Between Financial Distress and Earnings Management with Institutional Ownership as a Moderating Variable

According to agency theory, when directors appoint agents to provide services and authorize decision-making, this is called an agency relationship. Institutional ownership is very influential in decision-making by managers regarding earnings management and when financial distress occurs.

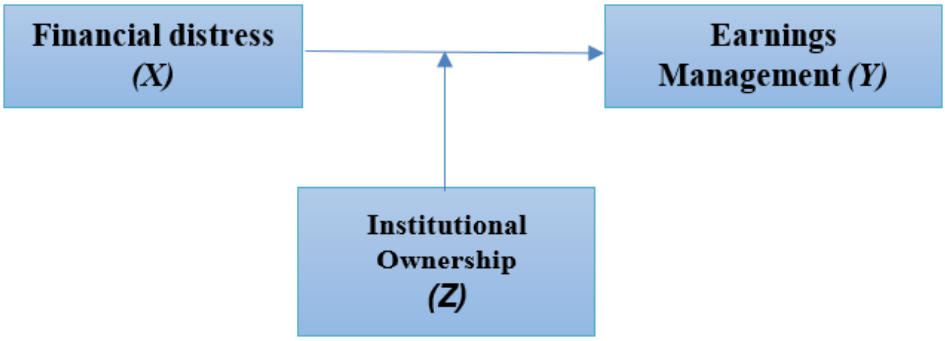
Financial distress and earnings management are important aspects that are interrelated in the world of finance and accounting. Financial distress describes the financial condition of a company that is experiencing difficulties in fulfilling its obligations, while earnings management is an attempt by management to influence financial statements in order to achieve certain goals. Companies in financial distress are required to show better financial performance than their actual condition in order to continue to attract investors and creditors, thus encouraging management to carry out earnings management. Institutional ownership has an important role in moderating the relationship between financial distress and earnings management.

Sari and Helmi's research (2023) states that when corporate governance is implemented, financial distress will be smaller than earnings management because the implementation of good

corporate governance is considered as a way to close all loopholes for profit manipulation that can be utilized by the business world. So that the results of the study show that institutional ownership weakens the effect of financial distress on earnings management.

H2: Institutional ownership weakens the relationship between financial distress and earnings management.

Figure 1 The Conceptual Framework



1.3 Research Method

This research uses quantitative methods that involve numerical data to analyze the relationship between variables. The goal is to test the theory or find patterns in the data. The data used is secondary data from the financial statements of energy sector companies listed on the IDX in 2019-2023, namely 52 energy companies with 260 samples, obtained through purposive sampling. The variables in this study include earnings management as the dependent variable, financial distress as the independent variable, and institutional ownership as the moderating variable.

Dependent Variable

Florencia and Susanty (2019) stated that earnings management is an action taken by company management in the selection of accounting policies for the purpose of increasing earnings, decreasing earnings, or balancing earnings reported in the financial statements. This practice includes various strategies such as manipulating income or costs, as well as the use of aggressive or conservative estimates in financial reporting. Earnings management is often used by managers as a tool in the process of

determining the amount of profit to be reported to stakeholders, such as investors and creditors.

Earnings management can be measured by accrual earnings management as indicated by discretionary accruals measured by the Modified Jones Model (Dechow et al., 1995):

a. Calculating total accruals: $\mathrm{TAcc_{it}} = \mathrm{NI}_{it} - \mathrm{OCF}_{it}$ ……..(1)
b. Determine the value of accruals estimated by the Ordinary Least Square (OLS) linear regression model equation:

$$\frac{TA_{it}}{A_{it-1}} = \beta_1 \left(\frac{1}{TA_{it-1}}\right) + \beta_2 \left(\frac{\Delta REV_{it}}{TA_{it-1}}\right) + \beta_2 \left(\frac{\Delta PPE_{it}}{TA_{it-1}}\right) + \varepsilon$$

……..(2)

c. Determining the value of *non-discretionary accrual* :

$$\mathrm{NDAcc_{it}} = \beta_1 \left(\frac{1}{TA_{it-1}}\right) + \beta_2 \left(\frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it-1}}\right) + \beta_2 \left(\frac{\Delta PPE_{it}}{TA_{it-1}}\right) + \varepsilon$$

……..(3)

d. Determining the value of *discretionary accrual:* $\mathrm{DAcc_{it}} = \left(\frac{\mathrm{TAcc}_{it}}{\mathrm{TA}_{it-1}}\right) - \mathrm{NDAcc}_{it}$ ..(4)

Description:

$\mathrm{TAcc_{it}}$	= Total accrual,
$\mathrm{NI_{it}}$	= Net income,
$\mathrm{OCF_{it}}$	= Operating cash flow,
$\mathrm{NDAcc_{it}}$	= non-discretionary accrual,
$\mathrm{DAcc_{it}}$	= Discretionary accrual,
TA_{it-1}	= Total Asset,
$\Delta\mathrm{REV_{it}}$	= Chance in revenue,
$\Delta\mathrm{REC_{it}}$	= Chance in receivable,
$\mathrm{PPE_{it}}$	= Fix asset,
β_i	= Regression coefficient,
ε	= Error term.

Independent Variable

Financial distress is a condition where the company is experiencing financial difficulties or liquidity is in a period of bankruptcy which is indicated by a decrease in the company's ability to fulfill its obligations to creditors. The cause of financial distress or financial difficulties experienced by the company is due to the decline in the company's economic activities, namely to predict the continuity or survival of the company.

The Altman Z-Score model was first introduced in 1968 and can only be applied to publicly listed manufacturing companies. In 1983, the Altman Z-Score was revised so that it could be used for manufacturing companies, both public and private.

The last change occurred in 1995 when the Altman Z-Score was modified so that it could be applied to various types of industries, both public and private. The formula for the Modified Altman Z-Score (Tania, et al., 2020) is:

$$ZSCORE = 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$$

Information:

Z-Score	= Financial Distress
X_1	= Working Capital/Total Asset
X_2	= Retained Earnings /Total Asset
X_3	= Earnings Before Interest and Tax /Total Asset
X_4	= Book Value of Equity /Total Debt

Moderation Variable

Jensen and Meckling (1976) state that institutional ownership has an important role in minimizing agency conflicts that occur between shareholders and managers. The existence of institutional investors is considered capable of optimizing the supervision of management performance by monitoring every decision made by management as company managers. Institutional ownership has an effective formula, namely:

$$\text{Institutional Ownership} = \frac{\text{Total institusional shares}}{\text{Total shares outstanding}}$$

Normality Test

According to Ghozali (2018), the normality test is used to determine whether the confounding or residual variables in the regression model have a normal distribution. As is known, the t and F tests assume that the normal distribution follows the residual values.

Multicollinearity Test

According to Ghozali (2018), the purpose of the multicollinearity test is to determine whether the regression model finds a correlation between independent variables. In other words, a good regression model should not find any correlation between independent variables.

Heteroscedasticity Test

According to Ghozali (2018), the purpose of the heteroscedasticity test is to determine whether in the regression model, there is an inequality in the variation of residuals from one observation to another.

Autocorrelation Test

According to Ghozali (2018), the purpose of the autocorrelation test is to determine whether there is a correlation between confounding errors in period t and confounding errors in periods 1-1 in a linear regression model. Autocorrelation is a problem that arises when there is a correlation. Autocorrelation occurs when successive observations over time are related to each other.

Multiple Linear Regression Testing

According to Ghozali (2018), multiple linear regression analysis is used to determine the direction and how much influence the independent variable has on the dependent variable, regardless of whether each independent variable has a positive or negative correlation. In addition, this analysis is also used to predict whether the value of the dependent variable will increase or decrease.

Hypothesis Testing

The regression equation in this study is formed in a mathematical model:

$$DA_{it} = \alpha + \beta_1 FD_{it} + \beta_2 IO_{it} + \beta_3 FD^{*} IO_{it} + \varepsilon_{it}$$

Information:

DA_{it} = Earnings Management

FD = Financial Distress

IO	= Institutional Ownership
α	= Constant
β_{1-3}	= Regression coefficient
ε	= Residual error (error)

F Statistical Test

This test is used to determine whether the independent variable, namely financial distress, and the dependent variable, namely earnings management, have a significant influence on each other. In this study, the F test, which is often used to evaluate the overall significance of the regression model, was used with a significant level (α) of 5%. The F-test value in this study is if the probability value is less than 0.05, then the independent variable and the dependent variable have a significant effect. If the probability value is less than 0.05, then the independent variable and the dependent variable have a significant effect.

Statistical Test t

According to Ghozali (2018), basically, the classic t-test shows how far the influence of one explanatory or independent variable is on the explanation of the dependent variable. The t-test is conducted to test the significance of the effect of the independent variable, namely financial distress, on the dependent variable, namely earnings management partially.

Determination Coefficient Test

According to Ghozali (2018), the coefficient of determination (R2) is a measure of how well the model can explain variations in the dependent variable. A low R2 value indicates that the independent variables cannot provide much information about the variation in the dependent variable, and a high R2 value indicates that the independent variables cannot provide much information. Due to the large variation between individual observations, the coefficient of determination for crosssection data is usually relatively low. In contrast, the coefficient of determination for time series data is usually high.

1.4 Results

Descriptive Statistics

Table 1.2. Descriptive Statistics Results

	N	Minimum	Maximum	Mean	Std. Deviation
Earnings Management	260	-0.44	0.39	-0.0008	0.12119
Financial Distress	260	-22.85	667.88	7.5590	55.66391
Institutional Ownership	260	8.14	99.51	63.0421	22.98029
Valid N (listwise)	260				

Based on Table 2, the earnings management variable has a minimum value of -0.44, a maximum value of 0.39, an average value of -0.0008, and a standard deviation value of 0.12119. Financial distress has a minimum value of -22.85, a maximum value of 667.88, an average value of 7.5590, and a standard deviation value of 55.66391. Institutional Ownership has a minimum value of 8.14, a maximum value of 99.51, an average value of 63.0421, and a standard deviation value of 22.98029.

Normality Test

Table 1.3. One-Sample Kolmogorov-Smirnov Test Results

		Unstandardized Residual
N		260
Normal Parameters[a,b]	Mean	0.0000000
	Std. Deviation	0.13815959
Most Extreme Differences	Absolute	0.051
	Positive	0.051
	Negative	-0.046
Test Statistic		0.051
Asymp. Sig. (2-tailed)		0.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Based on the data in Table 3, it shows the Asymp Sig value of 0.200> 0.05, which means that the residual data is normally distributed.

Multicollinearity Test

Table 1.4. Multicollinearity Test Results

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.006	0.022		-0.293	0.770		
	Financial Distress	0.000	0.000	0.188	3.045	0.003	0.984	1.016
	Institutional Ownership	3.857E-5	0.000	0.007	0.118	0.906	0.984	1.016
a. Dependent Variable: Earnings Management								

Based on the data in Table 4, it shows that the tolerance value> 0.10 and VIF < 10, which means that there is no correlation between the independent variables.

Heteroscedasticity Test

Table 1.5. Heteroscedasticity Test Results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.150	0.030		5.014	0.000

	Financial Distress (FD)	0.001	0.002	0.678	0.300	0.765
	Institutional Ownership (IO)	-0.001	0.000	-0.145	-1.449	0.150
	FD*IO	-8.441E-6	0.000	-0.718	-0.317	0.752
	(Constant)	0.150	0.030		5.014	0.000
a. Dependent Variable: Abs_RES						

Based on the data in Table 5, it shows a significant value (SIG)> 0.05, which means that there is no heteroscedasticity in the research model.

Autocorrelation Test

Table 1.6. Autocorrelation Test Results

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.195[a]	0.038	0.027	0.11956	1.865
a. Predictors: (Constant), Moderation, Institutional Ownership, Financial Distress					
b. Dependent Variable: Earnings Management					

Based on the data in Table 6, it shows the Durbin-Watson value of 1.865 and then looks at the Du value of 1.779 (Ghozali, 2016) and the 4-du value of 2.221. From these results, it can be seen that the equation does not occur autocorrelation, namely Du < Durbin Watson < 4-Du or 1.779 < 1.865 < 2.221.

Determination Coefficient Test

Table 1.7. Determination Coefficient Test Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.220[a]	0.048	0.034	0.10272
a. Predictors: (Constant), Moderation, Institutional Ownership, Financial Distress				

Based on the data in Table 7, it shows that the Adjusted R Square value is 0.034, which means that financial distress and institutional ownership can explain earnings management by 3.4%. The remaining 96.6% is explained by other variables.

F Test of Model Appropriateness

Table 1.8. F Test of Model Appropriateness Results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.103	3	0.034	3.242	0.023[b]
	Residual	2.015	191	0.011		
	Total	2.118	194			
a. Dependent Variable: Earnings Management						
b. Predictors: (Constant), Moderation, Institutional Ownership, Financial Distress						

Based on the data in Table 8, it shows a significant F value of 0.023 <0.05, which means that financial distress and institutional ownership simultaneously affect earnings management, or the model can be said to be feasible.

T-Test

Table 1.9. T-Test Results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.009	0.072		-0.119	0.905
	Financial Distress (FD)	0.003	0.000	0.191	2.373	0.019
	Institutional Ownership (IO)	0.003	0.019	-0.002	-0.020	0.984
	FD*IO	0.004	0.007	0.052	0.583	0.560
a. Dependent Variable: Earnings Management						

$$DA_{it} = -0.009+0.003*FD_{it}+0.003*KI_{it}+0.004FD^{*}KI_{it}$$

Based on Table 9, it can be concluded that the Financial Distress variable has a coefficient value of 0.003 with a significance level of 0.019, which is less than 0.05. This indicates that financial distress has a positive and statistically significant effect on earnings management, suggesting that as financial distress increases, the likelihood of earnings management also rises. However, the moderation model variable (FD*KI), which examines the role of Institutional Ownership in moderating the relationship between financial distress and earnings management, has a coefficient value of 0.004 and a significance level of 0.560, which is greater than 0.05. This result indicates that Institutional Ownership does not significantly moderate the effect of financial distress on earnings management, implying that the presence of institutional ownership does not influence or alter the relationship between these variables in a meaningful way.

1.5 Discussion

The Effect of Financial Distress on Earnings Management

The statistical result shows that financial distress has a positive effect on earnings management. Financial distress puts great pressure on management to display stable financial performance, even if it means manipulating financial data. This is consistent with Putri & Naibaho (2022), Li et al. (2020), Chairunnisa et al. (2021), and Mustika et al. (2020).

The Relationship Between Financial Distress and Earnings Management with Institutional Ownership as a Moderating Variable

The statistical result shows that institutional ownership does not moderate the effect of financial distress on earnings management this is not in accordance with the hypothesis. In line with agency theory which reveals that conflicts of interest between managers (agents) and owners (principals) often occur. Some institutional investors have different goals, there are institutional investors who only focus on short-term profits without regard to earnings management. This is not in accordance with the hypothesis and is not consistent with Sari and Hermi's (2023) study.

1.4 Conclusion

Based on the research above, it can be concluded that financial distress has a positive effect on Earnings Management. Institutional ownership does not moderate the effect of financial distress on earnings management, so the results are not in accordance with previous research. And some suggestions that can be given. First, future research samples should be added from other mining fields. Second, the research period should be extended. Third, to determine the effect of different determinant variables on earnings management, future research can also change the number of determinant variables other than this analysis.

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Chapter 2. Determinants of Village Fund Management Accountability

2.1 Abstract

This study seeks to analyze the effect of financial distress on earnings management, focusing on institutional ownership as a potential moderating variable. Employing a quantitative research approach, this study utilizes secondary data sourced from the financial statements of energy industry sector companies listed on the Indonesia Stock Exchange (IDX) and the companies' official websites during the period 2019–2023. The purposive sampling technique was used to select a representative sample, ensuring relevance and data quality. The findings reveal that financial distress positively influences earnings management, indicating that companies experiencing financial difficulties are more likely to engage in earnings management practices, possibly as a strategic response to mitigate the appearance of financial

instability. However, the study also finds that institutional ownership does not moderate the relationship between financial distress and earnings management. This suggests that the presence of institutional investors does not significantly alter or mitigate the impact of financial distress on a company's propensity to engage in earnings management. These results provide important insights for stakeholders, including regulators and investors, by highlighting the implications of financial distress on corporate reporting behavior and the limited role of institutional ownership in curbing earnings management practices

2.2 Introduction

Village governance in Indonesia has undergone major changes since the Village Government Law No. 6 of 2014 was passed. This new law gives village governments full authority to regulate and manage all community affairs and interests. Villages that meet the specific requirements become new autonomous institutions that receive an annual budget of around IDR 1 billion, or approximately $71,439, from the central government. For Indonesian peasants, this funding is crucial, even though it may not seem significant compared to budgets in wealthier nations (Sofyani et al., 2022).

Since 2015, the government has contributed IDR 20.8 trillion in village funds through transfers; this sum has increased steadily until 2022 when it reached IDR 68 trillion (Cabinet Secretariat of the Republic of Indonesia). The Republic of Indonesia's Ministry of Finance then used the proportion and weight formula to allocate funds across provinces, regencies, and cities into villages (DJPK, n.d.). The weak capacity of village officials and heads (Aziz, 2016; Heru et al., 2020) as village fund management resources is an important issue. Many argue that this new policy could lead to corruption and inefficiency of the state budget at the village level and fail to support village development (Sofyani et al., 2022). Collaboration between village governments and communities can accelerate village progress. Nonetheless, some scholars and politicians contend that implementing efficient governance procedures at the village level is inherently challenging. This challenge highlights the underdevelopment and numerous constraints of village government resources, particularly in terms

of human resources, organizations, and technology (Sofyani et al., 2018).

Research on accountability over the past decade has shown varied findings. For instance, research conducted by Ardiansyah (2021) discovered that village officials' roles and level of competency affected the accountability of local fund management. Aziz and Prastiti (2019), Hayyuani & Hidayat (2024), and Sabdosih (2023) demonstrated how information technology utilization and the proficiency of village authorities influenced the accountability of village revenues. Yusuf et al. (2022) found that the role of village officials had a significant positive influence on the accountability of village fund management. The competence of village officials also showed a significant positive impact on the accountability of village fund management. Diansari et al. (2023) and Kerihi (2024) concluded that the competence of village governments influenced the accountability of village fund management. Ginting et al. (2024) suggested that strengthening sub-district administrations to assist in managing village finances, increasing the capacity of village authorities to mitigate risks, and enhancing direct community engagement in village fund planning and budgeting were all crucial measures. Other findings by Wu and Christensen (2021) revealed that village cadres were more corrupt than sub-district cadres. Embezzlement of poverty funds was the primary type of corruption; individual corruption was more prevalent than group corruption; and political accountability was the most significant form of accountability.

The results of different studies conducted by Indriasih & Sulistyowati (2022), Latifatul Qulub (2023), and Kuncahyo & Dharmakarja (2022) discovered that the accountability of village fund management was unaffected by the proficiency of village authorities. The administration of the Village Revenue and Expenditure Budget was not significantly impacted by the role of village authorities (Saputra et al., 2022). The responsibility of local financial management was not entirely influenced by the function of village authorities or their competence (Pongantung et al., 2022).

With the varying research findings above, the researcher aims to conduct a study in a different location, specifically in Se Kesamatan Lasalimu Selatan Village, Buton Regency.

2.3 Literature Review

Agency Theory

When the partners have multiple goals and division of labor, agency theory emerges (Homayoun et al., 2015). According to agency theory, the central and local governments (principals) elect village officials as authorities (agents) to manage village funds. Therefore, village authorities must not only explain how local funds are used by the federal and state governments but also by the villagers.

According to agency theory, management is an agent and shareholders are a principal (Restuningdiah & Sidharta, 2023). The person hired by shareholders to operate in their best interests is known as management. Because of this, management has some authority to decide what is best for shareholders. As a result, management must answer to shareholders for all of its efforts (Jensen & Meckling, 1976 in Wardoyo et al., 2021)

Village Apparatus' Function

Regulation No. 84 of 2015, issued by the Minister of Home Affairs of the Republic of Indonesia, outlines the duties and functions of the village head and village apparatus in Articles 6 through 10 of the Organizational Structure and Work Procedures of Village Government (PVG). Article 6 defines the role of the village head as the leader responsible for the execution of village governance. The village head's duties encompass planning village governance, implementing development programs, and empowering the community.

Article 7 elaborates on the responsibilities of the Village Secretary, who serves as a leadership element within the Village Secretariat. The Village Secretary assists the village head, particularly in managing government administration. Article 8 describes the duties of the Head of Affairs (Kaur) for General Administration, Finance, and Planning. As a member of the secretariat staff, the Head of Affairs provides administrative support to the Village Secretary to ensure the smooth execution of governmental duties.

The role of the Head of the Government, Public Welfare, and Services Section is detailed in Article 9. This position serves as a technical implementing element, aiding the village head in

performing operational tasks. Finally, Article 10 explains the responsibilities of the Head of Regional Affairs or Head of Hamlet (Kadus). This role is part of the regional task force and supports the village head in overseeing specific areas under their jurisdiction.

The village apparatus, which includes the Village Secretary and other members, operates under the authority of the village head. Together, they are responsible for managing village funds and ensuring their effective use. Collaboration between the village head and the apparatus enhances transparency in the administration of village finances.

Competence

According to Regulation Number 108 of 2017 on Government Competence issued by the Minister of Home Affairs of the Republic of Indonesia, competence is the capacity and qualities that a state civil servant possesses in the form of the knowledge, abilities, and behavioral attitudes required to perform their duties in a way that is professional, effective, and efficient.

Village officials who are competent and capable of managing village funds will find it easy to carry them out, therefore their level of competency is also a standard for good and accountable village fund administration. The community will receive inaccurate information that may affect future decisions if they are unable to comprehend this, which will result in errors in their financial reports and inconsistencies with government-mandated information standards. local authorities with the necessary skills can minimize potential variations in the administration of local funds (Mispa et al., 2024).

Information Technology Use

Information technology is the use of computers, software, networks (such as the internet and intranet), and other forms of information technology to create financial reports for the village government. Information technology has been used by numerous industries, including business and government, to assist with financial management (Aziiz & Prastiti, 2019)

Accountability of Village Fund Management

To meet the demands for openness in management processes, accountability patterns built through accountability systems are needed to raise performance standards in public service delivery, improve management accountability processes, and form a component of management control in organizations. One form of management responsibility to the grantor or grantee of the trust is accountability, which shows that management is responsible for managing the resources given to the trust (Prasetio & Sabihaini, 2023).

According to the Republic of Indonesia Minister of Home Affairs Regulation Number 113 of 2014, village financial management encompasses all operations related to the planning, execution, management, reporting, and accountability of village money. With the guiding principle that all village fund management operations must be responsive to the village community in compliance with rules and regulations, the village head is expected to provide a report to the Regent detailing their performance and activities, Marlina et al. (2021).

Village Financial Management

Government Regulation Number 43 concerning Villages, 2014) Article 93 Planning, Execution, Administration, Reporting, and Accountability are all components of village financial management. The village head has the authority to manage the village's finances, and he delegated some of his authority to the village apparatus in order to do so. Village financial management must be finished in a single budget year, which spans from January 1 to December 31, according to Government Regulation Number 43 of 2014.

Hypotheses Development

If they are competent, village authorities will have a better understanding of village money management methods (Hasanah et al., 2020). More accountability can be attained by local leaders with greater competency. The role is the informal and formal behavior of an individual dependent on their social status (Sunarti & Kadir, 2020). If village financial management is good, it means that the role of the village apparatus has been carried out according to its responsibilities (Kusumaningrum et al., 2020). Based on research

by Yesinia et al. (2018), a better role of village officials will increase accountability in village financial management.

H1: Village financial management's responsibility is influenced by the function of village officials.

Ardiansyah (2021) discovered that the accountability of village fund management is influenced by the role and skill of village authorities. Aziiz and Prastiti (2019), Hayyuani & Hidayat (2024), and Sabdosih (2023) showed that the skill of village administrators impacts the accountability of village funds. Competent village administrators are better equipped to manage village funds, thereby reducing the likelihood of mistakes in financial management.

H2: Competence influences village financial management accountability.

Aziiz & Prastiti (2019), Hayyuani & Hidayat (2024), and Sabdosih (2023) demonstrated that the use of information technology and the proficiency of village authorities affect the accountability of village revenues. Information technology primarily supports cost efficiency, time savings, convenience, and accuracy in managing village revenues. To implement the principle of accountability effectively, village governments require sufficient information technology support. Utilizing programs for accountability reports can minimize errors. Research by Mayowan (2016) illustrates that inadequate use of information technology leads to poor services for rural populations. Enhancing information accuracy and precision through information technology is essential for reducing errors.

H3: Information technology use affects the accountability of village financial management.

2.4 Research Method

This study was conducted in all 16 villages of the Lasalimu Selatan sub-district. Eighty respondents were selected using the purposive sampling technique, with five respondents from each village involved in village financial management. The research employed quantitative data, collected through a questionnaire. A Likert scale ranging from 1 to 5 was used in the questionnaire. Descriptive statistical data analysis was the method applied in this

investigation. The hypotheses in this study were examined and evaluated using multiple linear regression testing, conducted with SPSS software.

2.5 Results

The following table shows the outcomes of multiple linear regression testing conducted with SPSS 25 software.

Table 2.1. Multiple Linear Regression Test Results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.548	2.349		-1.080	0.284
	X1_Role_of_Village_Devices	0.306	0.089	0.305	3.432	0.002
	X2_DD_Manager_Comp.	0.445	0.109	0.384	4.067	0.000
	X3_Utilization_of_IT	0.343	0.115	0.273	3.011	0.004
Dependent Variable: Y_Accountability_Regulation._FV						

Source: Primary data, processed (2024)

Table 1 displays the outcomes of the information processing used in the multiple linear regression test. A multiple linear equation is then produced using the following formula:

$$Y= -2.548 + 0.306X1 + 0.445X2 + 0.343X3$$

The Village Apparatus Role Variable (X1) has a significance level of 0.002 < 0.05, which is a partial test result table. Thus, it may be concluded that the function of the village apparatus (X1) influences the accountability of village fund management (Y), proving that the hypothesis (H1) is correct. The significance level for the Village Fund Manager Competence Variable (X2) is 0.000 < 0.05. Given that

the hypothesis (H2) is accepted, it can be concluded that the accountability of village fund management (Y) is influenced by the competency of the fund manager (X2). The significance level for the Information Technology Utilization Variable (X3) is 0.004 < 0.05. As a result, it can be said that hypothesis (H3) is accurate since information technology use (X3) affects village fund management accountability (Y).

The F test, also known as the simultaneous test, is used to determine whether independent factors have an impact on dependent variables separately or in tandem.

Table 2.2. Simultaneous Test Results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig
1	Regression	626.461	3	209.493	82.937	0.000[b]
	Residual	188.726	77	2.495		
	Total	816.167	78			
a. Dependent Variable: Y_Accountability_Regulation. FV						
b. Independent: (Constant), X3_IT_Utilization, X1_Village_Device_Role, X2_FV_Management_Comp.						

Source: Primary data, processed (2024)

The hypothesis is accepted since the test results in Table 3 show that the significance value of 0.000 is less than 0.05. Therefore, the accountability of village fund administration (Y) is influenced by the function of the village apparatus (X1), the skill of the village fund managers (X2), and the use of technology (X3).

Table 2.3. Determination Coefficient Test Outcomes

Model Summary				
Model	R	R Square	Adjusted R Square	Std.Error of the Estimate
1	0.875[a]	0.767	0.75 8	1.560
a. Predictors: (Constant), X3_IT_Utilization, X1_Village_Device_Role, X2_VF_Management_Comp.				

Source: Primary data, processed (2024)

Based on Table 3, an adjusted R-squared value of 75.8%, or 0.758 was determined. This indicates that, of 75.8%, the village fund manager competency variable, the village apparatus role variable, and the information technology utilization variable can explain or have an effect on the village fund management accountability variable; variables not covered in this study account for the remaining 24.2%.

2.6 Discussion

Village Apparatus's Effect on Accountability for Village Fund Management

The first hypothesis, according to the regression analysis test results, is that village leaders' engagement affects how accountable village fund administration is. The significance value, 0.002 < 0.05, derived from the partial test (t-test) results, serves as the foundation for the conclusion.

The role of the indicators namely, (1) participation in the planning process for the use of village funds, (2) participation in financial verification, (3) participation in the management of village funds, (4) participation in the process of implementing budget use, (5) participation in the process of administering the use of village funds, and (6) participation in conducting participatory audits determine the significant influence of the role of village officials. The indicator from the first statement, which has an average value of 4.73, is the most dominant and influential of the numerous indicators.

Accountability for financial management applies to the full financial management process, one of which is budget preparation. The village community also plays a role in determining budget preparation priorities. The role of the village head in preparing the budget is as the person responsible for preparing and determining the budget. The role of the village secretary together with other village officials is to prepare and document the preparation of the budget. Because of the role of the village apparatus in the process of managing village funds, the quality of village fund management will be better, more transparent, and more accountable. Village apparatus must actively participate in designing the Village Budget, as well as participate in participatory audits during the village fund management process. This can increase accountability in village fund management. As stated in Article 49 of Law Number 6

of 2014 concerning Villages, the village apparatus is one of the village government organs that has the position and duty to assist the village head in running the village government. Village apparatus must also assist in managing village funds so that no village head manages village funds themselves for the benefit of certain individuals.

The findings of this investigation are consistent with those of studies carried out by Ardiansyah (2021), Yusu et al. (2022), Kuncahyo & Dharmakarja (2022), Kusumaningrum et al. (2020), and Rukmini et al. (2023) discovered that village officials' roles impact accountability for managing village funds, and accountability is crucial.

The Impact of Village Fund Manager Competence on Accountability in Village Fund Management

According to the analysis, the hypothesis that is, the impact of village fund managers' proficiency on their accountability was accepted. This is based on the significance value of 0.000 <0.05 that was found in the partial test (t-test) results.

The significant influence of village fund manager competence is very much determined by the role of the indicators, namely (1) understanding, (2) technical expertise, (3) training, (4) initiative in working, and (5) employee code of ethics. Of the several indicators, the indicator that dominates and has the most influence is the indicator from the seventh statement with an average value of 4.76.

The findings of this investigation are consistent with those of studies conducted by Dewi & Gayatri, 2019) and Mispa et al. (2024) which demonstrate that village fund managers' competence has a significant impact on the accountability of the village fund managers. In agency theory, conflicts of interest between agents and principals cause agency problems. By improving the ability of village officials to manage village funds, accountability demands can be met. Adequate involvement in the village system can increase accountability.

The results of different studies conducted by Indriasih & Sulistyowati, (2022), Latifatul Qulub (2023), and Kuncahyo & Dharmakarja, (2022) found that the competence of village officials had no effect on the accountability of village fund management.

The Impact of Information Technology Use on Accountability for Village Fund Management

The hypothesis was shown to be true based on the regression analysis test findings, indicating that information technology utilization had an impact on village fund management accountability. This is predicated on the significance value of 0.004 <0.05 that was derived from the partial test results (t-test).

The extent to which the indicators that comprise information technology namely, (1) the presence of supporting software, (2) the availability of an internet network, (3) utilization in accordance with provisions, and (4) a computerized process play a significant role in determining the use of this technology. The indicator from the fourth statement, which has an average value of 4.88, is the most dominant and influential of the various indicators.

The findings of this investigation are consistent with those of Kuncahyo & Dharmakarja, (2022), Marlina et al. (2021), and Aziiz & Prastiti (2019) who discovered that the accountability of village fund management is impacted by the usage of information technology. Data processing using information technology (computers and networks) will offer numerous benefits in terms of information accuracy and precision, as both multipurpose and multiprocess machines, according to empirical findings from earlier studies on the use of information technology.

The benefits of the internet in the field of government are relatively diverse, one of which is to simplify the administration system. The internet-assisted administration system provides online data delivery and management facilities, making it easier to send data and standardize systems between government agencies including reporting, financial, personnel, and other administration. The use of the Siskeudes application also helps speed up reporting and facilitates supervision by the central government because it provides real-time information (Aziiz & Prastiti, 2019).

Furthermore, according to Wardana, (2022) village finance management will be more accountable if information technology is implemented effectively. A dependable village administration that upholds the public interest by performing its responsibilities and operations effectively for the community's well-being. Presenting transparent and accountable financial reports as a village government

according to its characteristics and responsibility for financial accountability. High-quality financial reports that can be reported to the central government are the outcome of effective control, which enables the creation of transparent and accountable financial reports. The village government can handle village finances more readily by using information technology directly. The federal and regional governments, as well as the people, can readily receive services from the apparatus.

The Role of Village Equipment, the Competence of the Village Fund Manager, and Concurrent Use of Information Technology in Relation to Village Fund Management Accountability

The statistical test indicates that the use of IT, the function of village authorities, and the skills of village fund management all have an impact on the accountability of village fund management simultaneously. A significant value of 0.000 was obtained from the simultaneous test (F-test), which validates the hypothesis.

The findings of this investigation are consistent with those of studies carried out by Kuncahyo and Dharmakarja (2022) which provide empirical evidence that the accountability of village fund management is influenced simultaneously by the function of village officials, the proficiency of village fund managers, and the usage of information technology.

Village regulations, which include financial and accountability reports, allow for the assessment of village government accountability. Village officials are the ones who play the most role in drafting village regulations, and they must have the ability to draft accountability in village regulations so that the reports they make are in accordance with laws and regulations. According to Government Regulation (PP) No. 56 of 2005, the government is required to support the delivery of its financial accountability with information technology

2.7 Conclusion

The research findings and discussion that have already been presented allow for the following deductions to be made: The role of village officials affects their accountability. The competence of the fund managers affects accountability for village fund management. The adoption of information technology affects village financial management accountability. According to the

significance value of the simultaneous test results (F-test), which is 0.000 < 0.05, responsibility for village fund management is considerably impacted simultaneously by the use of information technology, the role of village officials, and the expertise of village fund managers

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Chapter 3. Implementation of Circular Economy in Regional Public Service Agencies in Waste Management as a Waste Reduction Strategy in Indonesia

3.1 Abstract

This study explores the implementation of the circular economy in waste management at UPTD Pelayanan Persampahan Kota Cimahi, which operates as a Regional Public Service Agency (BLUD) and functions as a quasi-public entity. As a BLUD, UPTD has the flexibility to manage waste processes independently and efficiently, converting waste into Refuse Derived Fuel (RDF), which is then sold to PT Indocement as an alternative fuel in cement production. The research uses a qualitative case study approach, gathering data through in-depth interviews, observations, and documentation to examine the systematic stages of waste processing. Waste collected from various sources, such as offices, hospitals, markets, and residential areas, is processed into RDF. This circular economy cycle enables the cement produced with RDF to be reused by the community, including the original waste-generating consumers. Findings reveal that this model not only reduces environmental impact by diverting waste from landfills but also generates economic value, highlighting the potential for sustainable partnerships between public waste management and private industry. The study suggests that optimizing BLUD's quasi-public entity status and applying a circular economy model could enhance the effectiveness of responsible, sustainable waste management practices

3.2 Introduction

Waste management in Indonesia is a critical issue requiring special attention from the government. The continuous increase in waste generation, driven by population growth and economic activities, has become a significant challenge in achieving a clean and healthy environment. The responsibility for waste reduction lies with the government, which is expected to provide sustainable solutions for waste management.

To significantly reduce waste volume, the concept of a circular economy emerges as a relevant and effective approach. This concept promotes waste management by transforming waste into

something useful or of market value, thereby reducing dependence on new resources. In a circular economy, waste is not merely considered as material to be disposed of but as a potential resource that can be processed into new products, such as compost, Refuse-Derived Fuel (RDF), or other recycled products. Thus, waste management becomes part of a broader and more sustainable economic cycle.

However, one of the main challenges in waste management is funding. Waste processing activities, especially on a large and sustainable scale, require substantial financial resources. The government often faces budgetary constraints, which limit its capacity to manage waste effectively. The required funding includes infrastructure, technology, and skilled human resources for waste processing activities.

To address funding challenges without excessively burdening the government budget, a suitable institutional framework for waste management is the Regional Technical Implementation Unit (UPTD) with the status of a Regional Public Service Agency (Badan Layanan Umum Daerah, BLUD). As a quasi-public entity, BLUD offers financial flexibility, allowing revenues generated from waste processing activities to be reinvested to improve services. The BLUD status enables UPTD to achieve greater financial independence and fosters the implementation of circular economy practices in waste management across Indonesia

3.3 Literature Review

The circular economy concept, first introduced by Walter Stahel (1982) and further expanded by Pearce and Turner (1990), emphasizes the reduction, recycling, and reuse of resources to create a sustainable product lifecycle. For governments, this concept offers an efficient approach to managing waste and natural resources.

On the other hand, the quasi-public entity theory by Osborne and Gaebler (1992) encourages the public sector to adopt managerial flexibility, enabling public organizations to operate as semi-autonomous entities to enhance efficiency and responsiveness. This concept aligns with the New Public Management (NPM) approach, which advocates for transparency and accountability in public services.

In Indonesia, the quasi-public concept is implemented through BLUD under Government Regulation No. 23 of 2005 on the Financial Management of Public Service Agencies, later updated by Government Regulation No. 74 of 2012, and further detailed in Ministry of Home Affairs Regulation No. 61 of 2007 and No. 79 of 2018. These regulations enable BLUDs to adopt managerial flexibility and integrate circular economy principles into their operations.

The interconnection between the circular economy concept, quasi-public entities, and BLUD regulations in Indonesia lies in their shared goal of creating more efficient and sustainable public services. The circular economy framework provides a foundation for optimizing resource utilization and minimizing the environmental impact of waste. Meanwhile, the quasi-public concept and its implementation in BLUDs offer the necessary flexibility to effectively apply circular economy principles within the public sector.

3.4 Research Method

This study employs a qualitative approach using a case study method to analyze the implementation of the circular economy in waste management by BLUD, focusing on the Waste Management Service Unit (UPTD Pelayanan Persampahan) in Cimahi City. The case study was chosen to gain an in-depth understanding of circular economy-based waste management practices.

Data were collected through in-depth interviews with waste management authorities, direct observations of operational activities, and documentation of reports and policies obtained from local government sources.

Data analysis was conducted using a thematic approach to identify key themes, such as the effectiveness of waste management and the challenges in applying circular economy principles in the UPTD. Data triangulation was employed to ensure the validity of findings by cross-verifying results from interviews, observations, and documentation. This study also adhered to ethical standards, including maintaining respondent confidentiality and obtaining participant consen

3.5 Results

The Waste Management Service Unit of Cimahi City manages an average of 100 tons of waste per day, which is transported to the Integrated Waste Processing Facility (Tempat Pengolahan Sampah Terpadu, TPST). This waste originates from various sources, such as offices, hospitals, markets, sports facilities, and residential areas. Each source generates different types of waste, ranging from organic waste like food scraps to inorganic waste such as plastics, paper, metals, and glass. Table 1 details the sources and types of waste generated.

Table 1. Sources and Types of Waste

Sources	Types of Waste
Offices	Paper, cardboard, plastic, used printer cartridges, food waste
Hospitals	Paper, used cotton, syringe wrappers, used syringes, medicine bottles, broken glass, medical waste
Markets	Organic waste, plastic, paper, cardboard, packaging wood, rubber
Restaurants	Food waste, wrapping paper, plastic wrappers
Sports Facilities	Paper, plastic, food waste, grass clippings
Open Fields	Twigs, dry leaves, grass clippings
Roads and Parking Lots	Paper, plastic, dry leaves
Residential Areas	Food waste, paper, cardboard, plastic, metal, fabric, leaves, twigs
Building Construction	Broken bricks, concrete fragments, roof tiles, wood, paper, plastic

Waste from each category is systematically processed upon arrival at the Integrated Waste Processing Facility (TPST). The waste undergoes several stages of treatment aimed at converting a significant portion of high-calorific-value materials into Refuse-Derived Fuel (RDF). This processing involves a combination of mechanical equipment and modern technology to separate organic and inorganic materials, compact high-value materials, and prepare the final RDF product. The stages of the waste processing to RDF conversion are summarized in Figure 1.

Figure 1. Waste Processing Process into RDF

Waste received at the Integrated Waste Processing Facility (TPST) begins its journey with an initial reception and weighing process to determine the total weight of the waste to be treated. The waste is then directed to a conveyor belt for preliminary mechanical sorting. At this stage, the waste is separated into two main categories using a *gibrig* machine: organic materials such as food scraps, leaves, and twigs, and inorganic materials such as plastic, paper, metal, and glass.

Separated organic waste is typically processed further for various purposes, such as composting or maggot cultivation. Meanwhile, inorganic materials with high calorific value, such as plastic and paper, are directed to the drying stage to reduce moisture content. This drying process prepares the inorganic materials for easier processing in subsequent stages.

Dried inorganic materials are then shredded into small, uniform pieces using a shredding machine to ensure they meet the size specifications for Refuse-Derived Fuel (RDF). The shredded waste is subsequently compacted using a pressing machine, forming RDF bales ready for distribution. As a final step, the produced RDF is re-weighed to verify its quantity and quality before being delivered to PT Indocement, the designated offtaker, for use as an alternative fuel.

The process of converting waste into RDF requires significant investment in infrastructure and equipment to support daily

operations. The initial capital expenditure (capex) for constructing the facility and procuring processing equipment totaled approximately IDR 15 billion. The infrastructure includes a specially designed waste processing facility, a conveyor system for initial sorting, a *gibrig* machine for separating organic and inorganic waste, drying machines to reduce the moisture content of inorganic waste, and shredders and pressing equipment for producing RDF according to industry standards.

In addition to the initial investment, managing this facility requires daily operational expenditure (OPEX). These expenses cover costs for labor, electricity consumption, fuel (diesel) for machinery, and equipment maintenance. A detailed breakdown of operational costs is provided in Table 2.

Table 2. Operational Expenditure

Cost Type	Unit (ton)	Price (Rp)	Total Cost (Rp)
Human Resources, Electricity, Fuel	100	120.000	12.000.000
Equipment Maintenance	100	20.000	2.000.000
Total OPEX per day			14.000.000
Total OPEX per Year			168.000.000

Out of the 100 tons of waste processed daily, approximately 60% or 60 tons are successfully converted into Refuse-Derived Fuel (RDF). The produced RDF possesses a calorific value suitable for use as an alternative fuel in the cement industry. The RDF is re-weighed to ensure accuracy before being delivered to PT Indocement, where it is utilized as a substitute fuel to reduce dependence on fossil fuels.

3.6 Discussion

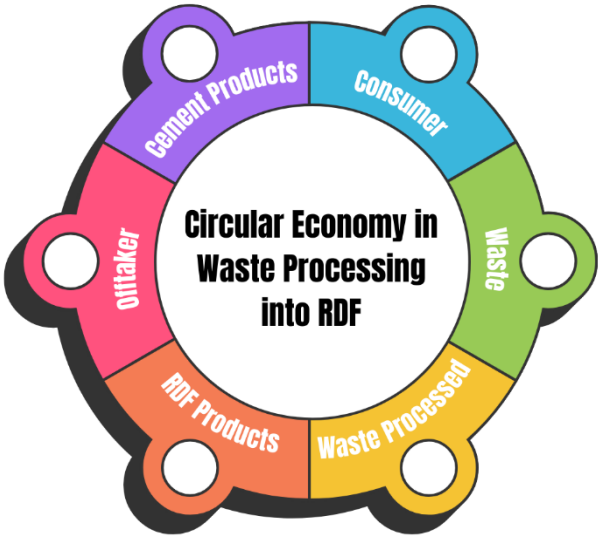
The waste management approach at The Waste Management Service Unit of Cimahi City reflects a paradigm shift from the traditional linear economy model of *take-make-waste* to a circular economy model. In a linear economy, waste is generated after the consumption cycle and typically ends up in landfills without efforts to recover its value. This approach not only wastes resources but also places immense pressure on the environment (MacArthur Foundation, 2013). To address these challenges, The Waste Management Service Unit of Cimahi City has

adopted circular economy principles by processing solid waste into Refuse-Derived Fuel (RDF), an economically valuable product used as a substitute fuel alongside coal in cement production (Korhonen et al., 2018).

The circular economy model implemented by The Waste Management Service Unit of Cimahi City begins with the collection of waste from various sources, such as households, markets, and public facilities. This waste is then systematically processed through several stages, including sorting, drying, shredding, and pressing, to produce RDF. The RDF generated has a high calorific value, making it suitable as a substitute fuel in the cement industry. This circular economy practice not only reduces waste destined for landfills but also adds economic value to materials previously deemed useless. According to Nasoha et al. (2023), circular economy principles allow waste streams to be transformed into high-value products, creating economic opportunities while reducing environmental burdens. Furthermore, Silva et al. (2019) emphasize that circular economy practices enhance the value chain by integrating waste as a new resource, ultimately driving innovation and generating additional revenue streams.

The transition from a linear to a circular economy also yields significant environmental benefits. By utilizing waste as a raw material for RDF, The Waste Management Service Unit of Cimahi City reduces the cement industry's dependence on coal while lowering carbon emissions from combustion processes. A study by Islami (2022) demonstrates that the use of RDF as a substitute fuel not only helps reduce carbon emissions but also improves energy efficiency in cement production. Additionally, diverting waste from landfills contributes to a reduction in methane emissions, which are often produced from the decomposition of organic waste in landfills.

Figure 2 Circular Economy in Waste Processing into RDF



The transformation of waste into Refuse-Derived Fuel (RDF) at the Waste Management Service Unit of Cimahi City establishes a circular economy cycle that begins with consumers and ends with the production of a final product. Consumers, including households, markets, public facilities, and various other sectors, serve as the primary generators of diverse waste types. This waste is collected through a scheduled transportation system that integrates the waste flow into the Integrated Waste Processing Facility (TPST). This initial step marks the beginning of the circular cycle, where materials considered waste are directed toward value recovery processes (Korhonen et al., 2018).

Upon arrival at the TPST, the waste undergoes a series of processing stages aimed at preparing the material for conversion into RDF. These stages include waste sorting to separate organic and inorganic materials, drying to reduce the moisture content of high-calorific-value materials, shredding to achieve the required RDF specifications, and compacting to create efficiently transportable forms. The resulting RDF is an economically valuable product that can be utilized as a substitute fuel in the cement industry alongside coal. According to Shehata et al. (2022), RDF not only reduces dependence on fossil fuels but also provides a practical solution for managing solid waste by leveraging its calorific potential for industrial applications.

In the cement industry, such as at PT Indocement, RDF is utilized to meet energy needs while producing cement as the final product of this cycle. This cement is then redistributed back to society and other sectors, including the very consumers who originally generated the waste. In this circular economy cycle, waste is no longer seen as the end of the material lifecycle but rather as part of a regenerative process connecting consumer and production sectors (Islami, 2022).

This model not only decreases reliance on fossil fuels but also fosters integration between waste management and industrial needs. By utilizing RDF as a substitute material, The Waste Management Service Unit of Cimahi City reduces the burden on landfills while creating collaborative opportunities that support economic and environmental sustainability. A study by Pires and Martinho (2019) highlights that the integration of public and private sectors in a circular economy cycle like this generates dual benefits for both society and industry. Within this context, the circular cycle implemented by The Waste Management Service Unit of Cimahi City serves as a practical and sustainable example of how circular economy principles can be applied.

As a government-affiliated entity, The Waste Management Service Unit of Cimahi City bears the responsibility of ensuring that waste management costs do not overly burden the Regional Budget (APBD). Therefore, the selling price of RDF must at least cover operational costs without aiming for profit. This management approach aligns with the concept of a quasi-public entity, where financial management flexibility allows UPTD to operate more independently. In this regard, the adoption of the Regional Public Service Agency Financial Management Pattern (PPK BLUD) is an ideal solution. BLUDs are designed to provide financial flexibility to government service units, enabling them to establish strategic partnerships with the private sector and set appropriate service tariffs (Malihah & Magfiroh, 2024).

BLUD, as defined by Ministry of Home Affairs Regulation No. 61 of 2007, later amended by Regulation No. 79 of 2018, is a part of the local government granted financial flexibility to operate similarly to a business entity while maintaining public service principles. The BLUD status enables UPTDs to set service fees that reflect operational costs and directly engage in transactions with third parties, such as PT Indocement, the RDF off-taker. In this context, BLUDs do not aim to generate profits but ensure the efficient and sustainable delivery of public services without burdening the Regional Budget (*APBD*). This aligns with the findings of Islami (2022), who highlighted the crucial

role of quasi-public entities in integrating public service principles with operational efficiency.

Waste management at the regional level cannot entirely adopt a business-oriented approach, as its primary focus remains on public service. However, traditional UPTDs face limitations, particularly in financial flexibility and the ability to establish strategic partnerships. Therefore, the BLUD mechanism serves as an ideal bridge between operational efficiency and public service delivery. Pires and Martinho (2019) emphasize that quasi-public models, such as BLUDs, offer local governments opportunities to manage resources more efficiently, particularly in waste management scenarios where economic value potential exists.

BLUDs provide UPTDs with the flexibility to collaborate with third parties, including private companies, non-governmental organizations, and local communities, to support operational sustainability and enhance the quality of public services. In RDF production, such collaborations are essential, especially in ensuring the absorption of RDF products by the cement industry, such as PT Indocement. Without BLUD status, traditional UPTDs would face challenges in managing such transactions due to the financial management constraints under the local government budget system (Karimah et al., 2023).

The process of collaboration under the BLUD framework begins with the preparation of legal and administrative documents in accordance with Ministry of Home Affairs Regulation No. 79 of 2018. As a quasi-public entity, BLUDs have the authority to draft and sign partnership agreements focused on improving the efficiency of public services. In the context of RDF management, a collaboration between Cimahi's BLUD UPTD and PT Indocement could include agreements on RDF delivery volumes, agreed-upon selling prices, and logistics mechanisms for transporting RDF from the TPST to the industrial site. Pires and Martinho (2019) highlight that such partnerships strengthen public-private sector integration, creating synergistic economic and environmental benefits.

One of the key advantages of BLUDs in fostering partnerships is their financial management flexibility. As a BLUD, the UPTD can set business service fees, such as RDF pricing, based on operational costs without undergoing complex bureaucratic procedures. Additionally, BLUDs can directly negotiate and make payments to third parties without adhering to the lengthy government procurement process.

Islami (2022) found that this flexibility enables quasi-public entities to adapt more quickly to market demands while maintaining accountability in financial management.

By adopting the Regional Public Service Agency Financial Management Pattern, the Waste Management Service Unit of Cimahi City not only ensures the sustainability of public services but also expands opportunities for partnerships that support circular economy principles. With BLUD status, the UPTD serves as a bridge between local governments and the private sector in creating more inclusive and sustainable waste management solutions.

These partnerships also open avenues for accessing new technologies and innovations in waste management. Korhonen et al. (2018) emphasize that cross-sector collaboration is a key element in the successful implementation of a circular economy. By implementing BLUD financial management, the The Waste Management Service Unit of Cimahi City ensures the operational sustainability of waste management while promoting circular economy principles

3.7 Conclusion

The application of circular economy principles at the Waste Management Service Unit of Cimahi City through the processing of waste into Refuse-Derived Fuel (RDF) demonstrates a transformational approach to waste management. The shift from the linear *take-make-waste* economy to a circular economy model enables the regeneration of value from waste materials, reduces dependence on fossil fuels, and mitigates environmental impacts. The integration of systematic waste processing stages, supported by modern technology, allows the UPTD to produce RDF as a substitute fuel for the cement industry, generating both economic and environmental benefits.

The financial aspect of RDF production underscores the importance of aligning operational costs with revenue to ensure sustainability. By producing 60 tons of RDF daily from 100 tons of waste, the UPTD can cover its operational costs through the sale of RDF at a minimum price of IDR 233,333 per ton. This pricing model ensures that RDF production does not burden the Regional Budget (*APBD*), in line with public service principles. However, the flexibility required to manage finances and establish partnerships

with third parties can only be achieved through the implementation of the PPK BLUD.

The BLUD status enables the UPTD to function as a quasi-public entity, bridging public service principles with efficient financial management. BLUD provides the autonomy needed for the UPTD to engage in strategic collaborations, such as the partnership with PT Indocement for RDF utilization. This model not only supports the operational sustainability of waste management but also positions the UPTD as a pioneer in implementing circular economy practices in the waste management sector. The success of this initiative serves as a replicable model for other regions aiming to adopt sustainable waste management systems

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Chapter 4. Readiness Analysis for Regional Public Service Agency Implementation Focusing on Substantive and Technical Requirements in North Maluku Province

4.1 Abstract

This study aims to analyze the readiness of the UPTD Balai Kawasan Konservasi Perairan Daerah (BKKPD) of North Maluku Province in implementing a Regional Public Service Agency (BLUD) by examining the fulfillment of substantive and technical requirements. This research employs a descriptive qualitative approach, with data collected through interviews, observations, and documentation. The results indicate that BKKPD has met the substantive requirements, which include operational duties and the provision of semi-commercial services for the public. The technical requirements in the eligibility criteria have also been met, covering the potential for improving service delivery effectiveness and technical specifications directly related to public services. However, in the potential criteria, further study is needed to identify potential services that BKKPD can develop after transitioning to BLUD status. The financial management flexibility provided by BLUD is expected to support BKKPD in performing its duties more responsively and adaptively to conservation needs and public services. These findings are expected to assist the North Maluku Provincial Government in assessing BKKPD's readiness to transform into a BLUD and enhance the benefits of its services to the community

4.2 Introduction

The sustainability of aquatic resources is a critical issue for Indonesia as an archipelagic country with rich marine ecosystems. Establishing marine conservation areas is a strategic step to preserve biodiversity and ensure that aquatic resources are safeguarded for future generations (Safitri & Pradana, 2022). According to the Director General of Marine and Coastal Resources Management, the Indonesian government aims to establish 32.5 million hectares of marine conservation areas by 2030, representing approximately 10% of Indonesia's total aquatic territory. The development of these conservation areas is not solely focused on preserving marine biodiversity but is also expected to support local economic growth through sustainable fisheries and marine ecotourism activities. However, most marine conservation

areas in Indonesia have yet to deliver significant economic benefits to local communities. Improved management and the involvement of various stakeholders are crucial to ensure these conservation areas function effectively, both in preserving biodiversity and in promoting the development of the marine sector while enhancing community welfare.

The primary challenges faced by the Regional Technical Implementation Unit (UPTD) in marine conservation areas are limited management budgets and insufficient human resources, both in quantity and capacity, which hinder the effectiveness of conservation management activities. Additionally, rigid bureaucracy restricts the ability to establish strategic partnerships, whether with the private sector or local communities (Trisnayani et al., 2024). The implementation of Regional Public Service Agencies (BLUD) presents a strategic option for UPTD managing marine conservation areas. The BLUD concept aims to deliver public services more effectively, efficiently, economically, transparently, and responsibly, while adhering to principles of propriety, equity, and benefit in line with sound business practices (Sugiyono, 2021). Financial management within the BLUD framework enables public services to be more professional, effective, simple, transparent, timely, responsive, and adaptive (Deseri et al., 2021). To adopt the BLUD financial management model, UPTDs are required to meet the criteria established in the Ministry of Home Affairs Regulation No. 79 of 2018. This regulation outlines three main requirements: substantive, technical, and administrative.

This study focuses on fulfilling the requirements for BLUD implementation from substantive and technical perspectives. The substantive requirements refer to the operational tasks and functions carried out by the UPTD in providing public services. These services focus on the provision of semi-commercial goods or services, meaning that while these services can generate revenue, the primary orientation remains on serving the community rather than profit-making. This function must align with BLUD's primary objective of delivering tangible benefits to the community. The technical requirements for BLUD implementation relate to the UPTD's operational capacity to provide adequate services and its potential to improve service delivery and financial performance if managed under the BLUD

framework. The adequacy criterion emphasizes the potential to enhance service delivery in an effective, efficient, and productive manner. UPTD must also possess technical specifications relevant to community needs and directly related to the services provided. Meanwhile, the potential criterion requires UPTD to have a clear development plan for their service units, an increasing number of service users, and projections for improving service quality to the community. This criterion also involves revenue planning and long-term development projections for the coming years. Thus, UPTD with the potential to become BLUD must have a clear and measurable development plan and the ability to improve financial performance and community services. The technical requirements for BLUD implementation are outlined in a feasibility study, which serves as the basis for formulating recommendations for BLUD implementation deemed viable and promising by the local government

4.3 Literature Review

The concept of the Regional Public Service Agency (BLUD) in Indonesia was introduced as a strategy to improve the quality of public services through more flexible financial management. Based on Regulation of the Minister of Home Affairs 79 of 2018 on Regional Public Service Agencies, BLUD is a system applied by regional government work units or specific units within those work units to deliver services to the public with financial management flexibility, as an exception to general regional financial management regulations. The primary focus of BLUD is to deliver optimal public benefits and services while adhering to the principles of efficiency and productivity grounded in sound business practices.

This principle of flexibility is closely aligned with the New Public Management (NPM) theory by Hood (1991), which adopts private-sector managerial approaches to promote efficiency, accountability, and responsiveness in the public sector. NPM emphasizes the importance of adaptability in public management to effectively meet the needs of the community. This approach is further supported by the concept of "reinventing government" from Osborne and Gaebler (1992), which views public bureaucracy as needing to adopt an entrepreneurial mindset to encourage innovation and operational flexibility. Reinventing bureaucracy is a concept focused on transforming systems or

frameworks to ensure government processes operate with accountability, responsiveness, innovation, professionalism, and entrepreneurial principles (Sugiyono, 2021). The implementation of BLUD in Indonesia reflects the integration of NPM principles and the reinventing government approach, where financial flexibility enables BLUD to adapt to local needs and establish strategic partnerships that enhance service delivery. By applying NPM and entrepreneurial principles, UPTD operating as BLUD is expected to provide more efficient, responsive, and sustainable public services that meet community needs. This approach not only improves the quality of public services but also strengthens accountability and transparency in regional financial management

4.4 Research Method

This study employs a qualitative approach with a descriptive method. Qualitative research aims to understand phenomena in-depth by exploring the meanings derived from the experiences of research subjects (Sugiyono, 2021). The descriptive method was chosen to provide a comprehensive overview of the readiness of the UPTD Balai Kawasan Konservasi Perairan Daerah (BKKPD) of North Maluku Province in implementing the Regional Public Service Agency (BLUD), particularly concerning substantive and technical requirements. This approach enables the researcher to explore various factors influencing the readiness of UPTD to transition to BLUD status. Data collection was conducted using several techniques, including in-depth interviews, observations, and documentation. In-depth interviews involved 11 respondents, consisting of 4 respondents from Dinas Kelautan dan Perikanan Provinsi Maluku Utara (Marine and Fisheries Office of North Maluku Province), 5 respondents from the UPTD BKKPD, and 2 respondents who are external conservation management experts. Observations were carried out to directly examine the operational readiness of the UPTD, including infrastructure, human resources, and the management systems used in conservation areas. Additionally, relevant documents related to policies, regulations, and conservation area development plans were collected to supplement the data needs.

The collected data were analyzed using descriptive methods, involving reduction and thematic grouping based on issues related to substantive and technical requirements. The analysis results are presented in a structured narrative format to provide a

comprehensive understanding of the readiness of the UPTD Balai Kawasan Konservasi Daerah in North Maluku Province for BLUD implementation. This study applies source triangulation and method triangulation techniques. Source triangulation involves comparing information obtained from different respondents, while method triangulation combines the findings from interviews, observations, and documentation (Sugiyono, 2010).

4.5 Results

The establishment of the UPTD BKKPD in North Maluku Province is based on North Maluku Governor Regulation No. 37 of 2019, which amended Regulation No. 45 of 2017 concerning the Formation, Position, and Organizational Structure of UPTD under the Marine and Fisheries Office of North Maluku Province. The UPTD BKKPD is tasked with managing marine conservation areas within North Maluku Province, encompassing a conservation area of 600,333.25 hectares. Based on interviews and observations, BKKPD has an organizational structure designed to fulfill its duties and functions, which includes the head of BKKPD, a sub-section for administration, a functional job group, a conservation area management division, a conservation area development division, and regional coordinators. However, the current number of human resources (HR) is significantly below the ideal requirement to support various conservation management activities. According to data analysis, the UPTD BKKPD requires 41 personnel but currently has only 5, resulting in a shortage of 36 staff members. While strategic positions such as the head of UPTD, administrative head, and division heads have been filled, staffing in critical roles such as the conservation development division, conservation management division, regional coordinators, and functional positions for marine and coastal ecosystem management remains very limited.

The UPTD BKKPD provides essential services such as the utilization of conservation areas, permits for video production, commercial photography, research activities, and permits for tourist vessels entering conservation areas. As of 2024, the UPTD has not generated retribution revenue from these services, as it has lacked regulations governing the collection of retributions since its establishment. Although the North Maluku Province Regional Regulation No. 1 of 2024 concerning Regional Taxes and Retributions has been enacted as the legal basis for setting

retribution tariffs, its implementation has not been effective within the UPTD BKKPD. This is due to unclear authority delineation between BKKPD, the Marine and Fisheries Department, and the North Maluku Provincial Office of Investment and One-Stop Integrated Services, particularly regarding licensing services. These challenges hinder efforts to optimize retribution revenue, which is crucial for supporting the sustainability of conservation area management. The UPTD BKKPD of North Maluku Province conducts periodic evaluations of service performance to measure the effectiveness of its core functions. The primary focus of these performance evaluations is the utilization and preservation of conservation areas through licensing, supervision, partnerships, and community awareness programs. The following table presents data on BKKPD's basic service performance over the last three years, specifically for 2021, 2022, and 2023.

Table 4.1 Service Performance

Type of Basic Services	Performance by Year		
	2021	2022	2023
Licensing services and utilization of conservation areas	160%	120%	140%
Monitoring services and supervision of conservation area utilization	100%	100%	100%
Partnership and community empowerment services	0%	0%	0%
Awareness services and provision of information on the protection, preservation, and sustainable utilization of conservation areas	0%	0%	0%

Source: Processed Service Performance Data (2024)

Based on Table 1, licensing services and the utilization of conservation areas experienced fluctuations, with the highest achievement of 160% in 2021, decreasing to 120% in 2022, and rising again to 140% in 2023. Monitoring and supervision services for conservation area utilization demonstrated consistent performance, maintaining a steady achievement rate of 100% annually. Meanwhile, no performance achievements were recorded for partnership and community empowerment services, nor for awareness services and the provision of information on the protection, preservation, and sustainable utilization of

conservation areas, with a consistent achievement rate of 0% over the three-year period.

The service performance of BKKPD during the 2021–2023 period was entirely dependent on funding from the Regional Revenue and Expenditure Budget (APBD). All operational activities supporting the execution of its duties and functions were fully financed by the APBD, as no retributions had been collected for the services provided since its establishment. Budget constraints have also posed challenges in supporting strategic activities, such as enhancing human resource capacity or providing adequate infrastructure to optimize the management of conservation areas. Without additional budget allocations, BKKPD's ability to innovate or expand its service scope remains highly limited. Consequently, the economic potential of the conservation areas under its management has not been fully utilized, either to improve community welfare or to support environmental sustainability. The author conducted an analysis of the revenue and expenditure data and compared the results over the past three years. This analysis provides an overview of BKKPD's performance, focusing on revenue generation and expenditure allocation.

Table 4.2. Revenue and Expenditure Analysis

Description		Realization		
		2021	2022	2023
Revenue				
1	Retribution Revenue	0	0	0
2	APBD Revenue	100.698.915	186.333.346	192.740.330
Total Revenue		100.698.915	186.333.346	192.740.330
Expenditure				
1	Operational Expenditure	94.689.880	186.333.346	192.740.330
2	Capital Expenditure	6.009.035	0	0
Total Expenditure		100.698.915	186.333.346	192.740.330
Surplus/Deficit		0	0	0

Source: Budget Realization Report of UPTD BKKPD (2024)

Based on Table 2, the revenue and expenditure data of the UPTD BKKPD of North Maluku Province are presented for the last three

years, namely 2021, 2022, and 2023. All unit revenue was sourced from the Regional Revenue and Expenditure Budget (APBD), totaling IDR 100,698,915 in 2021. This amount significantly increased by 75.74% to IDR 186,333,346 in 2022 and further rose by 3.44% to IDR 192,740,330 in 2023. Retribution revenue remained at zero throughout this period, as the UPTD did not generate income from the services provided. In terms of expenditure allocation, it was divided into operational expenditure and capital expenditure. In 2021, operational expenditure reached IDR 94,689,880, while capital expenditure amounted to IDR 6,009,035. In 2022 and 2023, all expenditure was allocated to operational expenditure, amounting to IDR 186,333,346 and IDR 192,740,330, respectively. The total expenditure each year was balanced with total revenue, resulting in no surplus or deficit in financial realization. This condition occurred because all operational needs and asset procurement were fully funded by the Regional Revenue and Expenditure Budget (APBD).

The UPTD BKKPD of North Maluku Province is planning to develop business services as a strategic step to support the sustainable management of conservation areas. Several proposed services include the development of conservation-based tourism, the rental of diving equipment, and the management of cottages owned by the provincial government. Through these services, BKKPD aims not only to optimize the potential of conservation areas but also to focus on increasing revenue and fostering economic development within these areas. This approach is expected to support the financial sustainability of BKKPD while simultaneously strengthening efforts to conserve aquatic resources in a sustainable manner and providing added economic value

4.6 Discussion

Based on the analysis, the assessment of BKKPD's current condition, which includes aspects of institutional structure, human resources (HR), services, finances, and development plans, provides an overview of BKKPD's readiness to perform its service functions more independently, effectively, and sustainably. This evaluation is conducted by referring to two main requirements for BLUD implementation: substantive requirements, which relate to public functions and services, and technical requirements, which assess the potential and efficiency of service management.

Substantive Requirements

Institutionally, the establishment of this UPTD has been regulated under North Maluku Governor Regulation No. 37 of 2019, which designates BKKPD as a technical implementation unit responsible for providing public services based on conservation areas. This function includes the management of conservation areas, such as utilization services for activities like commercial licensing, research permits, and tourist vessel entry permits. These services reflect the operational duties and functions of the institution, indicating that the substantive requirements are met. However, in terms of providing goods or public services, the potential for optimization remains limited. As of 2024, no retribution revenue has been generated from these services due to the lack of implemented regulations for retribution collection. Furthermore, the management of conservation areas has primarily focused on the preservation of aquatic resources without making a significant contribution to improving the local economy in surrounding communities. The absence of specific programs aimed at supporting the local economy suggests that conservation area management still has room for development, particularly in integrating economic benefits with conservation objectives.

Technical Requirement

BKKPD demonstrates significant potential to enhance the effectiveness, efficiency, and productivity of conservation area management. Although management efforts have been optimized within the existing budget, the heavy reliance on APBD funding remains a major obstacle to ensuring operational sustainability. The absence of revenue from retribution underscores the need for the development of business-based services to create alternative income streams. In addition, BKKPD's technical specifications are not yet fully adequate. A significant workforce shortage presents a major challenge, with the number of personnel far below the required level, while conservation facilities and infrastructure are insufficient to support optimal operations. The licensing process, which is still managed jointly with Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu (the Regional Investment and One-Stop Integrated Services Office (DPMPTSP)), highlights the need for better integration to support technical independence. The business-based service development plans designed by BKKPD, such as conservation area tourism, diving equipment rentals, and cottage management, offer great opportunities to address these technical limitations. However, these

plans are still in their early stages and lack detailed studies on projected revenue or financial and non-financial impacts. Developing more comprehensive analysis documents is an essential step to provide a clear picture of financial sustainability after transitioning to BLUD status. Therefore, although BKKPD has demonstrated compliance with substantive requirements, technical challenges in funding, human resources, and service management require further attention. Preparing more detailed feasibility studies, including financial and non-financial analyses, is a critical step to ensure readiness for the transformation into a BLUD.

Table 4,3. Summary of Fulfillment of Substantive Requirements

Fulfillment Criteria	Current Condition of UPTD BKKPD	Analysis Results
The duties and functions of UPTDs/Agencies are operational in nature, aimed at delivering public services that generate semi-commercial goods or services.	Has an institutional structure as a public service provider	UPTD BKKPD has fulfilled the substantive requirements, as its institutional structure and functions align with the provisions for a conservation-based public service provider.
	The establishment of this UPTD is based on Peraturan Gubernur Maluku Utara Nomor 37 Tahun 2019 tentang Perubahan Atas Peraturan Nomor 45 Tahun 2017 mengenai Pembentukan, Kedudukan, dan Susunan Organisasi Unit Pelaksana Teknis Daerah (UPTD) pada Dinas Kelautan dan Perikanan Provinsi Maluku Utara	
Provision of Goods and/or Public Services	Services currently provided by BKKPD include the utilization of conservation areas, licensing for video production and commercial	The fulfillment of substantive requirements is progressing with the existing services; however, the potential to

	photography, research permits, and permits for tourist vessels entering conservation areas.	optimize retribution-based services remains limited due to regulatory constraints and technical management challenges.
	No retribution has been collected for these services as of 2024.	
Management of Specific Areas or Regions for the Purpose of Improving Community Economy or Public Service Delivery	Manages marine conservation areas in several regions of North Maluku Province.	The management of conservation areas has been effectively carried out; however, greater emphasis is needed on contributing to the economic development of communities surrounding these areas. The Ministry of Marine Affairs and Fisheries has encouraged that conservation area management not only focuses on biodiversity preservation but also supports the sustainable development of local community economies.
	No specific programs have been implemented to enhance the economic welfare of communities within the conservation areas.	
Management of Special Funds for Economic Development and/or Public Services	Does not manage special funds aimed at enhancing the economy and/or providing public services.	No special funds are managed, and thus, this requirement is not applicable.

Source: Processed Data (2024)

Table 4.4. Summary of Fulfillment of Technical Requirements

Fulfillment Criteria		Current Condition of UPTD BKKPD	Analysis Results
Feasibility Criteria			
1	Potential to improve service delivery effectively, efficiently, and productively.	Limited budget for managing conservation areas	The potential for productive conservation area management is evident, but the reliance on the APBD remains a significant challenge. Developing business-based services is necessary to reduce dependency on government funding through the implementation of the BLUD framework.
		The budget is fully reliant on the Provincial APBD.	
		Conservation area management has been carried out effectively, efficiently, and productively by maximizing the existing budget.	
2	Having Technical Specifications Directly Related to Public Services.	The number of technical staff with specific competencies is still very limited.	The UPTD's technical specifications do not yet fully support service operations, primarily due to the shortage of human resources and inadequate facilities. Improved coordination with relevant agencies is necessary to ensure more integrated licensing management under the UPTD.
		Most licensing services are still managed jointly with the Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu (DPMPTSP)	
		Conservation facilities and infrastructure are inadequate to fully support optimal operations.	

Potential Criteria			
1	Development plans observed from aspects such as service unit diversification, number of consumers, and customer satisfaction levels.	There are plans to develop business services, such as conservation-based tourism, cottage management, and diving equipment rentals.	The service development plans have significant potential to increase revenue but require a more comprehensive assessment.
		No detailed study has yet been conducted regarding revenue generation through business services.	A detailed revenue projection plan must be prepared to provide a clear picture of the unit's financial sustainability after transitioning to BLUD status.
2	Revenue growth projections for the coming years with the implementation of BLUD.	Development efforts are still in the initial planning stages, lacking detailed financial and non-financial impact assessments as well as revenue projections from new services.	Financial and non-financial analyses must be incorporated into the potential assessment document as a critical technical requirement to secure recommendations from the Regional Government regarding the feasibility of implementing BLUD.

Source: Processed Data (2024)

The UPTD BKKPD has significant potential to implement BLUD, although there are substantive and technical challenges that need to be addressed. Based on Minister of Home Affairs Regulation No. 79 of 2018, BKKPD has fulfilled substantive requirements through its duties and functions as a manager of conservation areas and a provider of public services. However, technical aspects require further attention, particularly concerning limited human resources, dependence on APBD funding, and the suboptimal implementation of regulations related to service retribution. From the perspective of New Public Management (NPM), efficiency and accountability are essential foundations in the management of public services. Moreover, the principles of

Reinventing Government encourage public organizations to innovate and adopt entrepreneurial approaches. BKKPD's service diversification plans align with these concepts, but their implementation requires adequate regulatory support and service integration to ensure effective management.

4.7 Conclusion

This study highlights that the UPTD BKKPD of North Maluku Province has successfully fulfilled the substantive requirements, including performing operational duties and offering semi-commercial services to the public. The technical requirements have also been met, such as the capability to improve service effectiveness and the presence of technical specifications to support public service delivery. However, further exploration is needed to assess and develop new services that can better facilitate BKKPD's transition to BLUD status. These efforts aim to enable BKKPD to utilize the financial flexibility provided by the BLUD framework, enhancing its responsiveness and adaptability to conservation and public service needs.

In conclusion, this study finds that BKKPD is well-positioned to transition into a BLUD, with a key recommendation to prioritize the future development of its services. A BLUD is not a new organizational entity but rather a financial management system applied to an existing unit. This system enables improved service quality, greater public benefit, and enhanced financial efficiency through better resource management. The BLUD framework operates without a profit-driven orientation, focusing instead on delivering public services and benefits. While BLUDs may generate revenue from their services, their primary goal remains public service delivery. Effective BLUD management requires adherence to the principles of efficiency and productivity while maintaining alignment with sound business practices.

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Chapter 5. The Influence of Financial Literacy, Financial Attitude, and Financial Management on Pension Fund Planning in Sleman Regency

5.1 Abstract

The process of allocating funds to prepare for future life in order to ensure well-being in old age is known as financial planning for retirement. To do that, one must understand the factors that should be taken into account while creating a retirement account. The purpose of this research is to ascertain how financial management, financial attitude, and financial literacy affect Sleman Regency's community retirement fund planning. Convenience sampling was the method of sampling, and up to 100 respondents who lived in Sleman Regency were used. This study employs a quantitative methodology, using primary data gathered via a trustworthy and validated questionnaire. This study uses multiple linear regression analysis as its data analysis strategy. The study's findings demonstrate the beneficial and noteworthy impact that financial management and literacy have on Sleman Regency's community retirement fund planning. Retirement fund planning, however, is unaffected by one's financial outlook. It is suggested that efforts to enhance retirement planning focus on improving financial literacy and management skills through targeted education programs and awareness campaigns

5.2 Introduction

The Financial Services Authority (OJK) noted that around 93 percent of formal workers in Indonesia do not yet have a clear understanding of their plans after entering old age or retirement. Retirement is considered the beginning of a new phase of life. Preparation generally involves facing the challenges of physical, psychological, and financial changes. In its research, the UN stated that by 2050, Indonesia is predicted to have 69.5 million elderly people, which will make up 22% of the total population. Most Indonesians anticipate a decrease in their spending levels of up to 68% after retirement. However, research results from a life insurance company show that the average spending of retirees is around 94% of the level of spending before retirement.

Financial planning for retirement is an action that involves allocating funds to prepare for life in the future. The goal is to facilitate the management of one's finances now and in retirement so that welfare in old age can be guaranteed (Moorthy & Kai, 2012). Meanwhile, according to OJK (2017), pension funds have two main benefits in the future. First, as a source of income or provisions for retirement, and second, as business capital to be used during retirement. Retirement planning should be a top priority for the Indonesian people, helping them protect themselves from uncertainty in the future.

Although pension funds play a key role in long-term financial planning, many individuals still lack an understanding of how pension funds work, effective investment strategies, and how to optimize retirement benefits. Some issues related to pension fund literacy include lack of understanding, lack of awareness, product complexity, and lack of access to information. Based on data sourced from the Financial Services Authority (OJK, 2023), the development of pension fund membership in the last 5 years has shown a downward trend. The graph shows that the average decline in membership was around 2% each year during that period.

According to data from the Central Statistics Agency (BPS), in 2022, the dependency ratio of the elderly population (*lansia*) in Indonesia reached 16.09 points. This means that 100 productive-age residents in Indonesia must support the lives of 16 elderly people this year. Comparison with the previous year shows a decrease of 0.67 points, whereas in 2021 the elderly dependency ratio in the country reached 16.76 points. Based on its region, Yogyakarta recorded the highest elderly dependency ratio in Indonesia. In the province, 100 productive-age residents must support 26.38 elderly people throughout this year. The increase in the number of elderly people over time has a direct impact on needs, including care, which can create an economic burden for the productive age group in supporting the lives of the elderly.

People who are already working and productive are considered to have sufficient purchasing power and fund allocation because they usually have a stable income, the ability to save, access to credit, financial responsibility, and higher experience and education. These factors can generally support their ability to invest and

spend. According to the August 2022 National Labor Force Survey (Sakernas), the number of workers in the Special Region of Yogyakarta in August 2022 was 2.34 million people. Based on the five districts in the Special Region of Yogyakarta, Sleman Regency ranks highest as the district with the largest number of workers, amounting to 665,512 workers.

However, a mini survey conducted on people in Sleman Regency who are already working shows that there are still people in Sleman who have not prepared their pension funds. The results of the survey show that there are still 13.4% of people who have not allocated their pension funds. As many as 40% of people have not thought about allocating their pension funds. In addition, as many as 16.7% of people have not invested in their pension fund planning. This shows that there are still people who have not prepared for their financial condition during retirement.

Financial literacy can impact an individual's retirement planning. Financial literacy refers to an individual's capacity to evaluate and make informed judgments regarding financial matters. Financial literacy is intricately connected to retirement financial planning. Financial literacy encompasses an individual's understanding and capability to handle funds, influencing nearly all facets of monetary planning and expenditure, including saving, investing, financial administration, and decision-making (Laily, 2016). According to the findings of the studies (Kohar, 2022; Wang, 2023), literacy improves pension fund planning. In contrast, earlier research (Aluodi et al., 2017) found no connection between financial literacy and pension fund planning.

Moreover, financial disposition can influence an individual's retirement planning. A person's financial attitude can be shaped by their habitual habits and financial experiences, which are assessed as positive or negative based on personal or external viewpoints. Financial attitude influences an individual's management of many financial activities. A positive financial mindset enhances an individual's ability to make informed judgments on financial management. An individual with a positive financial attitude will demonstrate an optimistic perspective toward money, particularly in relation to their future outlook. Individuals with a strong financial disposition are likely to exhibit a favorable attitude toward financial planning, including saving, prudent financial

management, and future financial strategizing (Nuryana & Rahmawati, 2020). According to the study (Tabita & Marlina, 2023), having a favorable financial attitude influences pension fund planning. In contrast, the study (Safari et al., 2021) found no relationship between financial attitude and pension fund planning.

Another factor is financial management which can affect retirement planning. A person must be able to organize or manage their finances by considering how much income will then be used for various expenses such as daily expenses or for saving. Financial managers must be able to adjust income and expenses that are made daily. A person who has knowledge and experience in managing finances will start planning retirement funds for the future (Singh et al., 2019). If there is experience in managing finances such as saving and investment practices, there will be the ability to plan retirement funds (Tomar et al., 2021). The more active a person is in managing finances, the higher the level of satisfaction they will feel in the future, one of which is preparing retirement funds (Topa et al., 2009). According to the study (Wang, 2023), pension fund planning benefits from sound financial management. However, according to the study (Kohar, 2022), pension fund planning is unaffected by financial management.

From the problems and results of previous research that are still inconsistent, it is still necessary to re-examine the influence of financial literacy, financial attitude, and financial management on pension fund planning, especially for the community in Sleman Regency.

5.3 Literature Review

Financial literacy encompasses knowledge, skills, and beliefs that shape attitudes and behaviors, enhancing decision-making and financial management to attain well-being (Putri et al., 2021). Financial literacy includes comprehension of financial ideas and hazards, as well as the skills, motivation, and confidence necessary to utilize this information for making informed decisions in many financial contexts (Satoto et al., 2021). The objective is to enhance the financial welfare of individuals and society and to promote engagement in economic activities (Stolper & Walter, 2017).

Financial literacy includes the capacity for profitable investment and the understanding of essential financial concepts such as

insurance, loans, and savings (Sandra & Kautsar, 2021). An individual with advanced financial literacy may effectively manage income and expenditures, make judicious financial choices, and proactively save for the future. Efficient management of these aspects can ensure that individuals' retirement accounts are established optimally and aid them in making more informed financial choices. Consequently, financial knowledge positively influences future retirement planning success while also facilitating current fund management.

Sufian (2016) asserts that financial knowledge positively influences retirement planning. A person's confidence in their capacity to make financial decisions correlates positively with their degree of financial literacy. A high level of financial literacy is believed to signify that an individual possesses a comprehensive understanding of basic finance and is able to make judicious financial choices (Putri & Lestari, 2020).

Research by Kohar (2022), Wang (2023), and Tabita & Marlina (2023) indicates that financial literacy significantly influences retirement planning. This indicates that an individual's retirement planning is enhanced with their degree of financial literacy. In light of this description, the subsequent theory is proposed:

H1: Financial literacy has a positive effect on pension fund planning.

A financial attitude can be defined as an individual's opinion or evaluation of a financial issue. This is a person's capacity to organize and oversee their financial destiny (Bado, Hasa, Tahir, & Hasbiah, 2023). A positive financial attitude is crucial for raising the level of individual financial behavior since it is a major factor in enhancing that behavior. The way a person handles their money is greatly influenced by their financial mindset. This implies that a person will be aware of the best ways to manage their finances, such as when it comes to saving, future planning, or other financial planning. The degree to which people plan and manage their retirement assets can be influenced by how they perceive and handle their finances. When it comes to retirement planning, people who have a positive outlook on money are more likely to be proactive and accountable. On the other hand, retirement planning attempts may be hampered by a mindset that is less focused on

money. As a result, having a positive financial mindset can play a significant role in how well retirement planning and preparation proceed.

A person with a strong financial attitude plans for retirement saves, and refrains from consuming. It is indicated that people with a strong financial attitude also typically have a favorable attitude toward financial planning, which includes saving, prudent money management, and future financial planning (Nuryana & Rahmawati, 2020).

Retirement planning and financial attitude are significantly influenced by each other, according to research by Wang (2023) and Tabita & Marlina (2023). This implies that a person's retirement planning will be better if their financial outlook is positive. Based on this reasoning, the following hypothesis is proposed:

H2: Financial attitude has a positive effect on pension fund planning.

Financial management denotes an individual's ability to supervise all financial operations, including organization, planning, auditing, control, saving, and strategic decision-making. Financial management is a facet of personal financial management activities, in which individuals systematically and methodically oversee money resources to meet their living needs (Putri & Lestari, 2019).

In order to achieve financial well-being, financial management combines a person's intelligence with the ability to recognize, evaluate, manage, and communicate personal finances. It is said that the more actively an individual manages their finances, the more satisfied they will be in the future (Topa et al., 2009). Retirement fund preparedness is one facet of this joy.

The way individuals manage their finances on a daily basis affects the availability and amount of funds that can be allocated for future retirement. With effective financial management, individuals can ensure that they can save and invest to achieve their retirement goals. Conversely, poor financial management, such as uncontrolled debt or unmeasured spending, can hinder a person's ability to build and maintain adequate retirement funds.

A person who has the knowledge and experience in managing finances will start planning retirement funds for the future (Singh et al., 2019). If there is experience in managing finances such as saving and investment practices, there will be the ability to plan retirement funds (Tomar et al., 2021).

Retirement planning and financial management have a big impact on each other, according to research by Wang (2023). Thus, a person's retirement planning improves with improved financial management. The hypothesis derived from this explanation is:

H3: Financial management has a positive effect on pension fund planning.

5.4 Research Method

The workforce that has worked and resides in Sleman Regency makes up the population of this study. Nonprobability sampling, or convenience sampling, is the sampling method employed. One hundred respondents made up the final sample size, and a questionnaire was employed to gather data. The data is measured using a Likert scale with five points. The data is measured using a Likert scale with five points.

Operational Definitions of Variables and Indicators

Pension Fund Planning (Y) is allocating retirement funds, investing in property or assets for retirement planning, and relying on government subsidies for retirement funds (Ramadhanty, 2022). The indicators used consist of allocating funds for retirement, investing in property or assets for retirement planning, and relying on government subsidies for retirement funds (Ramadhanty, 2022).

Financial Literacy (X1) encompasses inflation, risk, and interest rates (Fadila & Usman, 2022). Financial Attitude (X2) encompasses perspectives on money, purchasing power, personal financial management, and loans (Tabita & Marlina, 2023). Financial Management (X3) encompasses the settlement of commitments, utilization of savings, employment of debt, and management of revenue till the month's conclusion (Kohar, 2022).

The data was gathered via a questionnaire employing a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). Multiple regression analysis was conducted to ascertain the relationship between the independent variables—financial literacy, financial attitude, and financial management—and the dependent variable, pension fund planning, using the designated formula:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

where:
Y = retirement planning a = Constant
β = regression coefficient of X1, X2, X3
X1 = financial literacy,
X2 = financial attitude
X3 = financial management
e = error

5.5 Results

Table 5.1. Validity and Reliability Test Results

Construct	Cronbach's Alpha	Pearson Correlation
Pension Fund Planning (Y)	0.610	≥0.536
Financial Literacy (X1)	0.618	≥0.425
Financial Attitude (X2)	0.699	≥0.394
Financial Management (X3)	0.778	≥0.551

Source: Processed Data (2024)

Validity and reliability testing were done prior to repeated regression testing. Table 1 displays the findings. It is determined that the questionnaire is valid based on the Pearson association test, which shows a substantial association between indicator scores and all constructs (Ghozali, 2005). In terms of reliability testing, the Cronbach Alpha number shows this. The construct or variable is considered dependable if the Cronbach Alpha value is greater than 0.6.

Table 5.2. Regression Results

Construct	B	SE B	t
Constant	-0.199	1.514	-0.131

Financial Literacy (X1)	0.134	0.051	2.608**
Financial Attitude (X2)	-0.062	0.060	-1.024
Financial Management (X3)	0.393	0.056	7.030***

Note. R^2 = 0.488, F = 30.485***. ***p < 0.01 **p < 0.05 *p < .1

The outcomes of several regression tests are displayed in Table 2. The Adjusted R Square for this study is 0.488, or 48.8%, as can be seen from the data results in Table 2. Financial literacy, financial attitude, and financial management have a 48.8% influence on pension fund planning, according to this data, while other characteristics not included in this study account for 51.2%. At the 1% level, the F value = 30.485 is significant, demonstrating the viability of the suggested regression model.

The t-test results for the financial literacy variable (X1) yielded a regression coefficient of 0.134 and a significance value of 0.011. The initial hypothesis is accepted as the significance value is inferior to the α value.

The financial attitude variable (X2) produced a regression coefficient of -0.062 and a significance value of 0.308, as indicated by the t-test findings. The second hypothesis is refuted as the significance value surpasses the α value.
The t-test results for the financial management variable (X3) yielded a regression coefficient of 0.393 and a significance value of 0.000. The third hypothesis is validated as the significance value is inferior to the α value.

5.6 Discussion

This study aims to determine the influence of financial literacy, financial attitude, and financial management on pension fund planning within the Sleman Regency community. The researcher's hypothesis testing indicates that financial literacy enhances pension fund planning within the Sleman Regency community. This illustrates that an individual's pension fund planning improves with greater financial literacy.

The respondents' reactions to the indicators of inflation, risk, and interest rates are classified as high. This indicates that individuals

comprehend the effect of inflation on their future purchasing power. Moreover, individuals comprehend and adeptly manage investment risks. By comprehending risk, individuals can select an investing portfolio that aligns with their risk tolerance and future financial objectives. A comprehensive understanding of interest rates enables individuals to optimize their investing strategies to attain their retirement objectives. It is essential for the community to enhance their financial literacy. Proficient financial literacy equips individuals with fundamental financial skills, enabling them to more effectively manage their financial challenges. The findings of this study align with the research conducted by Safari et al. (2021), Kohar (2022), Wang (2023), and Tabita & Marlina (2023), which found that financial literacy significantly positively influences retirement fund planning.

The preparation of pension funds in the Sleman Regency community was unaffected by a financial mindset. This implies that having a better financial attitude does not always translate into having a well-thought-out retirement plan. This is consistent with earlier research by Chua and Chin (2022), which demonstrated that individuals who are more content with long-term savings and future planning typically have lower retirement confidence and are less inclined to determine their retirement savings needs. The "Self-Efficacy" idea serves as the foundation for this investigation. According to this idea, a person's motivation, behavior, and accomplishment of particular goals are influenced by their confidence in their capacity to accomplish those goals (Bandura, 1997). People's self-efficacy in effectively planning for retirement may be low. This can be as a result of their perception that they lack the information and abilities necessary to properly handle retirement planning. This study's findings are in contrast to those of research by Tabita & Marlina (2023) and Ramadhanty (2022), which found that financial attitude significantly improves retirement planning.

The planning of pension funds in the Sleman Regency community is positively impacted by financial management. This demonstrates that an individual's pension fund planning will improve with their level of financial management. When viewed from the variable description, the respondents' responses to the indicators of payment of obligations, use of savings, use of debt, and management of income until the end of the month are in the

high category. While the indicators of use of savings and use of debt are in the very high category. The indicator of payment of obligations shows that individuals have the ability to consistently pay financial obligations such as loan installments, credit cards, or other bills, it can reflect a person's financial discipline. If someone has large financial obligations and is not managed properly, it can burden their retirement funds in the future. The indicator of the use of savings shows that people allocate part of their monthly income to be saved for retirement is a wise financial decision. Individuals who are able to consistently set aside part of their income for retirement tend to have more funds available for their retirement. Furthermore, the indicator of the use of debt, respondents' responses show that managing debt well can increase a person's ability to save and invest for retirement. Excessive or poorly managed debt use can make it difficult to plan retirement funds. Interest and monthly payments on debt can reduce the amount of money available to be saved or invested for retirement. The last indicator, income management until the end of the month shows that people are able to manage their income until the end of the month wisely so that it can affect how much money is available to save or invest for retirement. Individuals who are able to manage their budget well and avoid unnecessary expenses tend to have more money available to save for retirement. This is in accordance with research conducted by Lukito et al. (2023) and Wang (2023) which concluded that financial literacy has a significant positive influence on retirement planning. Good financial management means that a person is better at managing all financial activities in managing, planning, checking, controlling, storing, and making long-term decisions. Thus, individuals who have good management will be better at planning their retirement funds.

5.7 Conclusion

Financial literacy has a positive effect on pension fund planning in the community of Sleman Regency. This shows that aspects such as inflation, risk, and interest rates need to be understood by the community in order to have good planning for pension funds.

The planning of pension funds in the Sleman Regency community is unaffected by financial attitude. Although the community may be optimistic, they are actually too busy making a living to be aware of pension planning.

Financial management has a positive effect on pension fund planning in the community of Sleman Regency. This condition shows that understanding the aspects needed in financial management such as payment of obligations, use of savings, use of debt, and management of income until the end of the month so that they are more aware and able to plan pension funds.

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2. Conclusion

The chapters presented in this book collectively highlight the critical intersection between financial strategy, governance, accountability, and sustainability. Across diverse sectors—ranging from corporate finance and village administration to waste management and marine conservation—one central theme emerges: the necessity for institutions to adopt adaptive,

transparent, and responsible approaches to achieve sustainable outcomes.

The empirical evidence underscores that financial distress, ownership structures, technological adoption, institutional capacity, and collaborative partnerships all play pivotal roles in shaping the effectiveness of organizational strategies. Moreover, the application of innovative concepts such as circular economy and public service agency flexibility demonstrates how local governments and public institutions can simultaneously enhance service delivery and ensure long-term sustainability.

As global economic and environmental conditions continue to evolve, it is imperative for policymakers, academics, and practitioners to consider these findings and integrate them into future governance and management frameworks. It is our hope that this book serves as a valuable resource and reference point for those committed to advancing sustainable governance and financial resilience in various institutional contexts.

Perkumpulan Praktisi Bisnis International dan Manajemen (Association of International Business and Professional Management)

SUSTAINABLE GOVERNANCE AND FINANCIAL STRATEGIES:

EMPIRICAL STUDIES ON BUSINESS, PUBLIC SECTOR, AND ENVIROMENTAL MANAGEMENT

2026

BOOK CHAPTER

Perkumpulan Praktisi Bisnis International dan Manajemen