THE EFFECT OF GROSS PROFIT MARGIN, INTELLECTUAL CAPITAL, INVESTMENT OPPORTUNITY SET ON FIRM VALUE WITH EARNINGS MANAGEMENT AS AN INTERVENING VARIABLE

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ABSTRACT
Firm value is indicated to be influenced by several factors such as gross profit margin, intellectual capital, investment opportunity set, and earnings management. This study aims to determine the effect of gross profit margin, intellectual capital, and investment opportunity set either directly or indirectly through earnings management on firm value. This study used a sample of food and beverage companies listed on the IDX for the period 2017-2021 totaling eighteen companies. The study used secondary data with time series and cross-section panel data. The sample selection was carried out by purposive sampling. The analysis technique used to test the hypothesis is path analysis. The quantitative approach was used in this study, with multiple linear regression analysis tools and using the SPSS 22 program. The results showed that partially gross profit margin affects earnings management. Intellectual capital affects earnings management. Investment opportunity set has no effect on earnings management. Gross profit margin affects firm value. Intellectual capital has no effect on firm value. Investment opportunity set affects firm value. Earnings management has no effect on firm value. Indirectly gross profit margin on firm value through earnings management the results have no effect. Indirectly intellectual capital on firm value through earnings management has no effect. Indirectly investment opportunity set on firm value through earnings management has no effect. This study provides information on factors that affect firm value and adds empirical evidence related to earnings management as an intervening variable.

Keywords: gross profit margin, intellectual capital, investment opportunity set, earnings management, firm value

INTRODUCTION
Management has the goal of creating company value and optimizing company value (Brealey et al., 2011). Firm value is important for investors to measure the returns that will be obtained (Latifudin et al., 2017). The stock price is an indicator in measuring company value (Abbas et al., 2020). Investors before deciding on an investment will see the value of the company through the stock price (Alivia, 2013). Objective firm value is formed from the supply and demand activities of stock prices on the stock exchange market. When the stock price rises, the company value will increase and ultimately provide prosperity for shareholders (Setiabudhi, 2022).

In addition to market performance used in making investment decisions, investors consider financial ratios such as capital structure, and profitability ratios in assessing the company (Setiabudhi, 2022). Profitability is interpreted as a signal of business decisions and affects firm value. Profit as an object of management because management has all the information than stakeholders. Information asymmetry encourages management to carry out earnings
management activities. Earnings management is the potential for accrual management to generate profits. Financial statements become irrelevant if there is an attempt to engineer, manipulate, or perform earnings management actions. In contrast to Nersiyanti et al., (2018) that manufacturing companies in Indonesia increase firm value through earnings management.

The phenomenon of earnings management for the 2017-2021 period occurred in the food and beverage company sector, namely the case of PT Tiga Pilar Sejahtera Food Tbk. TPS Food is a company that produces basic food and consumer food. In 2019 Ernst & Young Indonesia issued an investigation report on the 2017 financial statements of PT Tiga Pilar Sejahtera Food Tbk. The results of the investigation reported PT Tiga Pilar Sejahtera Food Tbk related to double bookkeeping and differences in the balance of the 2017 audited financial statements with internal data (Ernst & Young Indonesia, 2019).

**Figure 1 Alleged Overstatement of Receivables, Inventories, Fixed Assets PT Tiga Pilar Sejahtera Food Tbk 2017**

Source: Ernst & Young Indonesia investigation report [www.idx.co.id](http://www.idx.co.id)

**Figure 2 Alleged Overstatement of Sales, Cost of Goods Manufactured, Gross Margin, EBITDA PT Tiga Pilar Sejahtera Food Tbk 2017**

Source: Ernst & Young Indonesia investigation report [www.idx.co.id](http://www.idx.co.id)
The above phenomenon shows the effect of company value proxied by stock price with reported company performance, even though the results of the investigation report of PT. Tiga Pilar Sejahtera Food Tbk were proven to overstatement of financial statements. On the other hand, the value of the company has decreased as shown by the stock price of PT Tiga Pilar Sejahtera Food Tbk which fell after the disclosure of the investigation results. The other side shows that management can behave unethically through actions towards report manipulation and tends to harm (principal) when management is faced with a conflict of interest (Wahyuni Amelia Dewi & Ritonga, 2018). This means that earnings management is able to affect the quality of information, so that if the information is inaccurate, it does not provide maximum results for the company's value.

Firm value is always associated with the company's ability to generate profits. Stakeholders expect profitable returns, so companies need to increase gross profit. Figure 2 shows that gross profit margin has a relationship with firm value (Effendi, 2019). Increased profits will illustrate promising future conditions (Anggraini & Yan Nyale, 2022), (Wulanningsih & Agustin, 2020). In contrast to Samosir et al., (2022) profit does not affect firm value, because company profits are used to fulfill their obligations, not for additional investment in order to increase firm value. Likewise, profitability is considered to only show investor profits, not the level of corporate profits, thus causing profitability not to affect firm value (Clarinda et al., 2023).

Firm value is also determined by the investment opportunity set (IOS). The growth of investment opportunities is positively correlated with the projected return and performance prospects of the company. IOS shows the success of investing and shows that the business is growing and developing every year (Wulanningsih & Agustin, 2020), (Hidayah, 2015). IOS affects the perception of managers, investors, and creditors of the company's value. Tabe et al., (2022), Anggraini & Yan Nyale (2022), Wahasusmiah & Arshinta (2022), Kartasukmana (2015) investment decisions have a correlation with firm value. If the company wants to invest,
the company will modify the existing profit in such a way as to attract stakeholder’s interest as an effort to raise the company’s value. IOS has a significant effect on earnings management (Jannah & Bukhori, 2020), (Anggraini & Yan Nyale, 2022). While research Astriani, (2019) states that company value is not determined by IOS. The investment to be carried out is not a trigger for an increase in the share price so that the addition of the company’s asset capital is not a measure of the company’s value.

Companies are faced with competitive business competition, this encourages management to create profits through competitive advantage. The ability to improve company performance through its internal attributes and resources is known as competitive advantage. The resources based view (RBV) theory enhances distinctive competition, namely competition that the company does better than its competitors and ultimately can increase sustainable competitive advantage (David, 2011). As an internal resource, intellectual capital is a key factor of the company and has become a resource for creating economic wealth (Gogan & Draghici, 2013).

Intellectual capital is driven by traditional accounting systems that do not reflect the real conditions of how intangible assets maximize value (Gogan, 2014). Investors do not consider intellectual capital when evaluating firm value and pay more attention to other factors (Indira et al., 2023). Earnings management is influenced by several factors, and intellectual capital is not the only one because the better the system is designed and the higher the intellectual capital, the management will still try to report profits as high as possible (Indira et al., 2023). Intellectual capital is currently a key factor but has not been explicitly reported in the financial statements. The measurement of firm value is still within the scope of analyzing liquidity ratios, solvency, profitability, etc. even though intellectual capital plays an important role in influencing firm value. Sawarjuwono & Kadir, (2003) emphasizes that intellectual capital as an intangible asset has difficulty in quantifying its measurement.

Based on the background and phenomena that occur and some research results show different results. Research was conducted on companies in the food and beverage sector on the Indonesia Stock Exchange. The food and beverage sector was chosen because it contributes to the growth of the investment climate and is a mainstay economic sector nationally. This sample is very interesting because it provides an overview related to the value of the company with the case of PT Tiga Pilar Sejahtera Food Tbk. So this study examines the effect of gross profit margin variables, intellectual capital, investment opportunity set on firm value by placing earnings management as an intervening variable. The goal is to measure the direct and indirect effects of firm value through earnings management. Measuring results, setting strategies to determine the position of the company in the future through evaluating the value of the company and the factors that influence it is very important and therefore this research is needed.

**METHOD**

This research includes quantitative research. The type of research used is causality research (explanatory research), which is a research method used to test a theory or hypothesis, and analyze how a variable affects other variables. Food and beverage sector companies listed on the Indonesia Stock Exchange in 2017-2021 are the population in this study. The sampling method was carried out by purposive sampling and eighteen companies were obtained. The research data source uses secondary data, namely examining financial statements (financial statements), the company’s annual performance report (annual report) company stock price
The Effect of Gross Profit Margin, Intellectual Capital, Investment Opportunity Set on Firm Value with Earnings Management as an Intervening Variable

data. Using classical assumption tests and hypothesis testing. This study uses two hypothesis testing models, namely multiple regression models and path analysis models. The research variables consist of three independent variables, one dependent variable and one intervening variable. The dependent variable is firm value (Y). Independent variables are gross profit margin (X₁), intellectual capital (X₂), investment opportunity set (X₃). The intervening variable is earnings management (Z).

Operationalization and Measurement

The operational definitions of the variables in this study are
1. Firm value is measured using the Tobin Q ratio.

\[
TBQ = \frac{MVE + DEBT}{TA}
\]

Source: Khaerunisa & Ermalina, 2022

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBQ</td>
<td>Tobin’s Q Ratio</td>
</tr>
<tr>
<td>MVE</td>
<td>Market Value of Equity</td>
</tr>
<tr>
<td>DEBT</td>
<td>Market Value of Liabilities</td>
</tr>
<tr>
<td>TA</td>
<td>Total Assets</td>
</tr>
</tbody>
</table>

2. Gross Profit Margin is measured by the formula of gross profit compared to sales.

\[
Gross Profit Margin = \frac{Sales - Cost of Goods Sold}{Sales} \times 100\%
\]

Source: Brigham & Houston, 2007

3. Intellectual Capital is measured by the VAIC formula:
First, calculate the value added.

\[
VA = OP + EC + D + A
\]

OP : Operating profit
EC : Employee costs
D  : Depreciation
A  : Amortization

Second, calculating capital used efficiency (CEE)

\[
CEE = VA/CE
\]

VA : Value added of the company
CE : The company's capital employed or total equity

Third, calculating human capital efficiency (HCE)

\[
HCE = VA/HC
\]

VA : Value added of the company
HC : The company's human capital or total employee salary expense

Fourth, calculating structural capital efficiency (SCE)
The Effect of Gross Profit Margin, Intellectual Capital, Investment Opportunity Set on Firm Value with Earnings Management as an Intervening Variable

SC = VA - HC  
SCE = SC/VA

SC : Structural capital of the company  
VA : Value added company  
Fifth, calculate VAIC. Calculating VAIC by totaling the three efficiency categories in one index

Table 3 VAIC Intellectual Capital Formulation

\[ VAIC = CEE + HCE + SCE \]

Source: Fijalkowska, 2014

4. Investment Opportunity Set (IOS) using market to book value of equity

Table 4 Investment Opportunity Set Formulation MBVE

\[ MBVE = \frac{Number \ of \ shares \ outstanding \times \ Closing \ price}{Total \ Equity} \]

Source: Wulanningsih & Agustin, 2020

5. Earnings Management

The earnings management measurement model used is Discretionary Accrual (DAC). DAC calculation (Dechow et al., 1995) is done with the following steps:
First, calculate the total accrual (TAC) value, namely net income in year t minus total operating cash flow in year t.

\[ TAC = Niit - CFOit \]

Second, calculate accrual estimates using the Ordinary Least Square (OLS) equation to obtain regression values:

\[ (TAt /Ait - 1) = \alpha1 \left(1 / Ait - 1\right) + \alpha2 \left(\DeltaREVit / Ait - 1\right) + \alpha3 \left(\DeltaPPEit / Ait - 1\right) + \varepsilon \]

Third, measure the value of Non Discretionary Accrual (NDA) after calculating the second step regression coefficient as follows:

\[ NDAit = \alpha1 \left(1 / Ait - 1\right) + \alpha2 \left[(\DeltaREVit - i\DeltaRECit) / Ait - 1\right) + \alpha3 \left(\DeltaPPEit / Ait - 1\right) \]

Fourth, calculate Discretionary Accrual (DA) with the calculation:

\[ DAit = (TAt /Ait - 1) - NDAit \]

Description:
Dait = Discretionary Accrual of the company in the period of year t  
NDAit = Non Discretionary Accrual of the company in the period of year t  
Tait = Total Acrual of the company in the period of year t  
Niit = Net Income of the company in the period of year t  
CFOit = Cash Flow of the company's operating activities in the period of year t  
Ait = Total Assets of the company in the period of year t  
\DeltaREVit = Company Income in the period of year t minus company income in year t-1  
\DeltaRECit = The company's trade receivables in the period of year t minus trade receivables company in year t-1  
PPEit = Total Fixed Asset of the company in the period of year t
RESULTS AND DISCUSSION

Classical Assumption Test

Normality Test

The normal probability plot graph is used to check the normality of the data and is reinforced by the Kolmogorov-Smirnov test. Initial data when analyzed the results did not spread evenly on the diagonal of the normal probability plot graph so that outlier data was excluded. Based on the Kolmogorov-Smirnov test results, it illustrates that the data is normally distributed with a significance level of 0.064 and 0.200 greater than 0.05.

Table 5 (a) Kolmogorov-Smirnov Test (a)

<table>
<thead>
<tr>
<th>Normal Parameters&lt;sup&gt;a,b&lt;/sup&gt;</th>
<th>Unstandardized Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.0000000</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>0.31251437</td>
</tr>
<tr>
<td>Absolute</td>
<td>0.102</td>
</tr>
<tr>
<td>Positive</td>
<td>0.102</td>
</tr>
<tr>
<td>Negative</td>
<td>-0.085</td>
</tr>
<tr>
<td>Test Statistic</td>
<td>0.102</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>0.064&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> Test distribution is Normal.<br>
<sup>b</sup> Calculated from data.<br>
<sup>c</sup> Lilliefors Significance Correction.

Source: Results of secondary data processing with SPSS

Table 5 (b) Kolmogorov-Smirnov Test(b)

<table>
<thead>
<tr>
<th>Normal Parameters&lt;sup&gt;a,b&lt;/sup&gt;</th>
<th>Unstandardized Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.0000000</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>0.46191336</td>
</tr>
<tr>
<td>Absolute</td>
<td>0.086</td>
</tr>
<tr>
<td>Positive</td>
<td>0.086</td>
</tr>
<tr>
<td>Negative</td>
<td>-0.081</td>
</tr>
<tr>
<td>Test Statistic</td>
<td>0.086</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>0.200&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

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

Source: Results of secondary data processing with SPSS
Multicollinearity Test

There is no multicollinearity problem in this model because all independent variables have VIF values ≤ 10 and tolerance values ≥ 0.10 as shown in the table below.

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>(Constant)</td>
<td></td>
</tr>
<tr>
<td>1 Gross Profit Margin</td>
<td>0.794</td>
</tr>
<tr>
<td>Intellectual Capital</td>
<td>0.995</td>
</tr>
<tr>
<td>Investment Opportunity Set</td>
<td>0.794</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Earnings Management

Source: Results of secondary data processing with SPSS

Autocorrelation Test

The regression analysis results obtained a D-W value of 1.864. The d value of 1.864 > 1.704 means that there is no positive autocorrelation. The value (4 - d) of 2.136 > 1.704 means that there is no negative autocorrelation. There is no indication of autocorrelation in the regression model according to the D-W value of this study.

<table>
<thead>
<tr>
<th>Model Summaryb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>


b. Dependent Variable: Earnings Management

Source: Results of secondary data processing with SPSS
The Effect of Gross Profit Margin, Intellectual Capital, Investment Opportunity Set on Firm Value with Earnings Management as an Intervening Variable

The regression analysis results obtained a D-W value of 2.109. The d value of 2.109 > 1.736 means that there is no positive autocorrelation. The value (4 - d) of 1.891 > 1.736 means that there is no negative autocorrelation. There is no indication of autocorrelation in the regression model according to the D-W value of this study.

### Table 7 (b) Autocorrelation Test (b)

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Std. Error of Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.982&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.965</td>
<td>0.963</td>
<td>0.475705</td>
<td>2.109</td>
</tr>
</tbody>
</table>

b. Dependent Variable: Company Value

Source: Results of secondary data processing with SPSS

### Heteroscedaticity Test

The heteroscedaticity test is used to determine whether there are differences in variance in the regression model between observations. By using the scatterplot graph the dots are randomly scattered above and below zero (0) on the Y axis. this indicates that there is no heteroscedasticity problem in the regression model.

### Analysis of the Effect of Gross Profit Margin, Intellectual Capital, Investment Opportunity Set on Earnings Management

#### Table 8 (a) Regression results and t test (a)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>0.080</td>
<td>0.063</td>
<td>1.284</td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td>Gross Profit Margin</td>
<td>-0.545</td>
<td>0.187</td>
<td>0.352</td>
<td>-0.00</td>
<td>Ha&lt;sub&gt;1&lt;/sub&gt; Accepted</td>
</tr>
<tr>
<td>Intellectual Capital</td>
<td>-0.010</td>
<td>0.004</td>
<td>-0.259</td>
<td>0.01</td>
<td>Ha&lt;sub&gt;2&lt;/sub&gt; Accepted</td>
</tr>
<tr>
<td>Investment Opportunity Set</td>
<td>-0.004</td>
<td>0.007</td>
<td>-0.061</td>
<td>0.61</td>
<td>Ha&lt;sub&gt;3&lt;/sub&gt; Rejected</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Earnings Management

Source: Results of secondary data processing with SPSS

The regression equation obtained is as follows:

\[ Z = 0.080 - 0.545 X_1 - 0.010 X_2 - 0.004 X_3 \]
Partial Testing (T Test)

**Gross Profit Margin**

Gross profit margin obtained a t value of -2.917. The t value is greater than the t table value for N = 71. which is 1.996 and the significance value of 0.005 is smaller than 0.05. It is interpreted that the gross profit margin variable has a significant negative effect on earnings management. Thus the hypothesis Hₐ₁ in this study which states: there is an influence between gross profit margin on earnings management is accepted.

**Intellectual Capital**

Intellectual capital obtained a t value of -2.403. The t value is greater than the t table value for N = 71. which is 1.996 and the significance value of 0.019 is smaller than 0.05. It is interpreted that the intellectual capital variable has a significant negative effect on earnings management. Thus the hypothesis Hₐ₂ in this study which states: there is an influence between intellectual capital on earnings management is accepted.

**Investment Opportunity Set**

Investment opportunity set obtained a t value of -0.503. The t value is smaller than the t table value for N = 71. which is 1.996 and the significance value of 0.617 is greater than 0.05. It is interpreted that the investment opportunity set variable has no effect on earnings management. Thus the hypothesis Hₐ₃ in this study which states: there is an influence between intellectual capital on earnings management is rejected.

Simultaneous Testing (F test)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>2.004</td>
<td>3</td>
<td>0.668</td>
<td>6.548</td>
<td>0.001</td>
</tr>
<tr>
<td>Residuals</td>
<td>6.837</td>
<td>67</td>
<td>0.102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8.841</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Earnings Management

Source: Results of secondary data processing with SPSS

The calculated F value of 6.548 is greater than the F table of 2.74 and the significance of 0.001 is smaller than 0.05. This shows that gross profit margin, intellectual capital, investment opportunity set simultaneously have a significant effect on earnings management variables.

**Coefficient of Determination**

The coefficient of determination obtained from the adjusted R square value can be used to show how well the predictor can explain the dependent variable.
The Effect of Gross Profit Margin, Intellectual Capital, Investment Opportunity Set on Firm Value with Earnings Management as an Intervening Variable

Table 10 (a) Test results of the coefficient of determination (a)

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.476&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.227</td>
<td>0.192</td>
<td>0.319434</td>
<td>1.864</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant). Investment Opportunity Set. Intellectual Capital. Gross Profit Margin

The table above shows the coefficient of determination of the adjusted R square value of 0.192. This means that only 19.2% of earnings management can be explained by fundamental factors such as gross profit margin, intellectual capital, investment opportunity set while the remaining 80.8% is explained by other variables not included in the regression model.


Table 8 (b) Regression results and t test (b)

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>0.584</td>
<td>0.094</td>
<td></td>
<td>6.193</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Gross Profit Margin</td>
<td>1.574</td>
<td>0.295</td>
<td>0.147</td>
<td>5.328</td>
<td>0.000</td>
<td>Ha&lt;sub&gt;4&lt;/sub&gt; Accepted</td>
</tr>
<tr>
<td>Intellectual Capital</td>
<td>0.008</td>
<td>0.007</td>
<td>0.028</td>
<td>1.165</td>
<td>0.248</td>
<td>Ha&lt;sub&gt;5&lt;/sub&gt; Rejected</td>
</tr>
<tr>
<td>Investment Opportunity Set</td>
<td>0.386</td>
<td>0.011</td>
<td>0.918</td>
<td>35.352</td>
<td>0.000</td>
<td>Ha&lt;sub&gt;6&lt;/sub&gt; Accepted</td>
</tr>
<tr>
<td>Earnings management</td>
<td>0.344</td>
<td>0.182</td>
<td>0.050</td>
<td>1.892</td>
<td>0.063</td>
<td>Ha&lt;sub&gt;7&lt;/sub&gt; Rejected</td>
</tr>
</tbody>
</table>

<sup>a</sup> Dependent Variable: Company Value

The regression equation obtained is as follows:

\[ Y = 0.584 + 1.574 X_1 + 0.008 X_2 + 0.386 X_3 +0.344 Z \]

Partial Testing (t test)

**Gross Profit Margin**

Gross profit margin obtained a t value of 5.328. The calculated t value is greater than the t table value for N = 71. which is 1.996 and the significance of 0.000 is smaller than 0.05. It is
interpreted that the gross profit margin variable has a significant positive effect on firm value. Thus the hypothesis $H_{a4}$ in this study which states: there is an influence between gross profit margin on firm value is accepted.

**Intellectual Capital**

Intellectual capital obtained a t value of 1.165. The calculated t value is smaller than the t table value for $N = 71$, which is 1.996 and the significance of 0.248 is greater than 0.05. It is interpreted that the intellectual capital variable has no effect on firm value. Thus the hypothesis $H_{a5}$ in this study which states: there is an influence between intellectual capital on firm value is rejected.

**Investment Opportunity Set**

Investment opportunity set obtained a t value of 35.352. The calculated t value is greater than the t table value for $N = 71$, which is 1.996 and the significance of 0.000 is smaller than 0.05. It is interpreted that the investment opportunity set variable has a significant positive effect on firm value. Thus the hypothesis $H_{a6}$ in this study which states: there is an influence between intellectual capital on firm value is accepted.

**Earnings Management**

Earnings management obtained a t value of 1.892. The calculated t value is smaller than the t table value for $N = 71$, which is 1.996 and the significance of 0.063 is greater than 0.05. It is interpreted that the earnings management variable has no effect on firm value. Thus the hypothesis $H_{a7}$ in this study which states: there is an influence between earnings management on firm value is rejected.

**Simultaneous testing (F test)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>409.119</td>
<td>4</td>
<td>102.280</td>
<td>451.976</td>
<td>0.000</td>
</tr>
<tr>
<td>Residuals</td>
<td>14.935</td>
<td>66</td>
<td>0.226</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>424.055</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Company Value

Source: Results of secondary data processing with SPSS

The results of data processing show that the calculated F value of 451.976 is greater than the F table 2.51 and the significance value of 0.000 is smaller than 0.05. This shows that cross profit margin. intellectual capital. investment opportunity set and profit management simultaneously have a significant effect on the firm value variable.

**Coefficient of Determination**

The coefficient of determination obtained from the adjusted R square value can be used to show how well the predictor can explain the dependent variable.
The Effect of Gross Profit Margin, Intellectual Capital, Investment Opportunity Set on Firm Value with Earnings Management as an Intervening Variable

Table 10 (b) Test results of the coefficient of determination (b)

<table>
<thead>
<tr>
<th>Model</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.982&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.965</td>
<td>0.963</td>
<td>0.475705</td>
</tr>
</tbody>
</table>


b. Dependent Variable: Company Value

Source: Results of secondary data processing with SPSS

The table above shows that the coefficient of determination shown from the adjusted R square value is 0.963. This means that 96.3% of firm value can be explained by fundamental factors such as gross profit margin, intellectual capital, investment opportunity set and earnings management while the remaining 3.7% is explained by other variables not included in the regression model.


Figure 5 Influence trajectory model

Source: Data processed

Table 11 Summary of hypothesis test results

<table>
<thead>
<tr>
<th>Ha</th>
<th>Hypothesis</th>
<th>Koef X-Y</th>
<th>Koef X-Z</th>
<th>Sig</th>
<th>Decision H&lt;sub&gt;a&lt;/sub&gt;</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Description</th>
<th>Coefficient</th>
<th>p-value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ha1</td>
<td>Gross profit margin (X_1) affects earnings management (Z)</td>
<td>-0.352</td>
<td>0.005</td>
<td>Accepted</td>
</tr>
<tr>
<td>Ha2</td>
<td>Intellectual capital (X_2) affects earnings management (Z)</td>
<td>-0.259</td>
<td>0.009</td>
<td>Accepted</td>
</tr>
<tr>
<td>Ha3</td>
<td>Investment opportunity set (X_3) affects earnings management (Z)</td>
<td>-0.061</td>
<td>0.617</td>
<td>Rejected</td>
</tr>
<tr>
<td>Ha4</td>
<td>Gross profit margin (X_1) affects the value of the company (Y)</td>
<td>-0.147</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>Ha5</td>
<td>Intellectual capital (X_2) affects the value of the company (Y)</td>
<td>0.028</td>
<td>0.248</td>
<td>Rejected</td>
</tr>
<tr>
<td>Ha6</td>
<td>Investment opportunity set (X_3) affects the value of the company (Y)</td>
<td>0.918</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>Ha7</td>
<td>Earnings management (Z) affects firm value (Y) coefficient 0.050 sig 0.063</td>
<td></td>
<td>0.00</td>
<td>Rejected</td>
</tr>
<tr>
<td>Ha8</td>
<td>Gross profit margin (X_1) affects firm value (Y) through earnings management (Z)</td>
<td>-0.352*</td>
<td>0.005</td>
<td>Rejected</td>
</tr>
<tr>
<td>Ha9</td>
<td>Intellectual capital (X_2) affects firm value (Y) through earnings management (Z)</td>
<td>-0.259*</td>
<td>0.009</td>
<td>Rejected</td>
</tr>
<tr>
<td>Ha10</td>
<td>Investment opportunity set (X_3) affects firm value (Y) through earnings management (Z)</td>
<td>-0.061*</td>
<td>0.617</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

Source: Data processed

The Effect of Gross Profit Margin on Earnings Management

Gross profit margin has a negative effect on earnings management. Its mean that the hypothesis that gross profit margin affects earnings management is accepted. Gross profit margin is important because gross profit margin reflects how much revenue can be converted into gross profit. Gross profit profit margin is low there will be an effort from management to increase earnings management and vice versa. This condition is relevant to stakeholder theory regarding agent relationships that must always act in favor of the principal, especially in relation to decision-making activities. This result is in accordance with research Azizah & Sudarsi, (2023), Yunior & Fajriana, (2022) that companies try to do earnings management if the level of profitability is low. Because the company's performance has met expectations. management is not motivated to take earnings management actions (Wahyudi et al., 2023), (Solihah & Rosdiana, 2022). But the results of this study are different where the company's profitability indicators do not make the company to carry out earnings management (Chandra & Saragih, 2022). The level of profitability of a company will not affect earnings management policy (Mohamad Husni & Idayu, 2022).
The Effect of Intellectual Capital on Earnings Management

The hypothesis that intellectual capital affects earnings management is accepted. Intellectual capital is proxied through three main components. namely capital employed efficiency related to capital owners. Human capital efficiency related to human resources. Structural capital efficiency related to structural wealth. If these three components increase. it can reduce earnings management. This is because high intellectual capital is influenced by the greater total employee expenses and comprehensive profits generated. The greater the intellectual capital, the unnecessary earnings management because the company's goals have been achieved.

The results showed that efficiently managed internal company resources will increase competitive advantage and will affect earnings quality and reduce earnings management behavior (Andriani & Arsjah, 2022). Intellectual capital triggers earnings management practices (Kalbuana et al., 2020). The greater the amount of intellectual capital owned by the company, the less earnings management practices used by the company (Hapsari et al., 2022). The benefits of developing capital employees will reduce earnings management practices because the more developed the company. The management will reduce earnings management practices because they are in accordance with the results obtained (Wellyana & Sulistiawan, 2020). The results of this study are not in line with Indra et al., (2020) that greater intellectual resources are unable to reduce earnings management.

The Effect of Investment Opportunity Set on Earnings Management

The hypothesis that investment opportunity set affects earnings management is rejected. Earnings management is not influenced by the investment opportunity set. Meaning that if management has investment opportunities, it will not affect earnings management actions. Investment opportunities can be interpreted as a signal that the company is in prospect of making a profit and will develop in the future so that there is no need for the company to carry out earnings management in order to attract investors. The results of this study are in line with (Dewi, 2014) which states that investment opportunity set has no effect on earnings management. The results of other studies state that the investment opportunity set has a positive and significant effect on earnings management (Irawan & Apriwenni, 2021), (Ni & Maryanti, 2021).

The Effect of Gross Profit Margin on Firm Value

The hypothesis that gross profit margin affects firm value is accepted. The higher the gross profit margin the better the company's value to stakeholders. The company value will be higher if the company is able to produce a high gross profit margin. This research is in line with signaling theory and to reduce information asymmetry where performance is a good signal in order to increase company value and ultimately increase shareholder prosperity. The results of this study that gross profit margin affects the value of the company are in line with the results of this study (Khaerunisaa & Ermalina, 2022), (Sitepu et al., 2021). The results of this study are also different such as research (Fauziah & Nur, 2021), (Clarinda et al., 2023).
The Effect of Intellectual Capital on Firm Value

The hypothesis that intellectual capital affects firm value is rejected. Based on the research results, intellectual capital is less considered by stakeholders. Companies are more focused on maximizing tangible assets than intangible assets such as intellectual capital in order to increase company value. The results of this study are in line with research Malaya & Jiwa, (2018). Research Yulistia M et al., (2023) in energy sector companies and basic materials companies emphasize the focus on the use of physical assets rather than intellectual capital. Indira et al., (2023) stated that business efforts have failed to increase market enthusiasm for firm value through intellectual capital. This research is not in line with previous research which states that intellectual capital affects firm value (Permatasari, 2023). Investors believe that high intellectual capital can provide resource benefits and improve shareholder welfare (Dila & Titik Aryati, 2023).

The Effect of Investment Opportunity Set on Firm Value

The hypothesis that investment opportunity set affects firm value is accepted. Based on the research results, the investment opportunity set has a significant positive effect on firm value. This is because every investment made by the company will give a positive signal about the company's prospects in the future. This research is in accordance with the signaling theory that investment activities show that the company is growing in the future so that this will make investors interested in investing their capital and will ultimately increase the company's value.

The research results are in line with Ni & Maryanti, (2021), (Sahidah et al., 2021) which states that if investors are willing to invest, it means that the company's value is increasing. The company maximizes capital by increasing productive assets as a form of company growth in order to increase company value (Damayanti & Nurasik, 2023), (Wahasusmiah & Arshinta, 2022). The results of this study are not in line with (Angelica & Tjhai, 2023). (Mariva et al., 2022) that investment opportunity set has no effect on firm value.

The Effect of Earnings Management on Firm Value

The hypothesis that earnings management affects firm value is rejected. Based on this research, the result is that earnings management has no effect on firm value. Investors understand that earnings management practices are only an act of increasing and decreasing company profits in the long term. So earnings management does not affect firm value. This research is in line with (Kamil & Hapsari, 2004). But this study differs in its results that earnings management can increase firm value (Hernadianto & Oktarina, 2021), (Prabowo, 2022).

The Effect of Gross Profit Margin on Firm Value Through Earnings Management

The gross profit margin hypothesis on firm value through earnings management is rejected. This is because earnings management efforts do not concern investors in appreciating company value but only focus on the size of the gross profit margin. Investors focus more on the efficiency of resource management, control of cost of goods produced, increase in sales (growth). Because in essence earnings management is an accounting policy option that can be taken in reporting company performance and is still in the corridor in accordance with PSAK. Investors understand that the principle and agent have information asymmetry so that investors
fully submit to management who better understand the internal company in implementing accounting policies. The results of this study are in line with Hernadianto & Oktarina, (2021). But the results of this study are not in line with Prabowo, (2022).

The Effect of Intellectual Capital on Firm Value Through Earnings Management

The hypothesis of the effect of intellectual capital on firm value through earnings management is rejected. Intellectual capital is only able to influence earnings management in a negative direction and earnings management cannot affect firm value. Investors in assessing the company do not see the intellectual capital variable. Due to its intangible and uncertain size. The intellectual capital variable is reluctant to be used as a predictor of firm value. High intellectual capital will reduce earnings management because intellectual capital is considered a center of knowledge in providing benefits (value added) for the company so that companies are not oriented towards earnings management. The value added provided by intellectual capital must be converted and reflected in financial performance ratios so that in the end it can affect firm value. When associated with the theory of resources based view (RBV) on the other hand, companies need to explore the ability of intellectual capital as an intangible asset in order to increase competitive advantage in order to get distinctive competition.

Positive performance is more quickly captured as a good signal of the company's future prospects and increases company value than companies using intangible intellectual capital as a means of earnings management. So it can be concluded that the phenomenon of this study is that even though it has high intellectual capital and is able to influence earnings management, it does not mean that it can affect company value. The results of this study are not in line with stakeholder theory. Stakeholder theory initially aims to direct management to the stakeholder environment through effective management of the company's existing potential components to reduce stakeholder losses in value creation. The results of this study are in line with H. R. Dewi & Dewi, (2020), (Subagio, 2022). The results of this study are different from (Ni & Maryanti, 2021).

The Effect of Investment Opportunity Set on Firm Value Through Earnings Management

The hypothesis that the effect of investment opportunity set on firm value through earnings management is rejected. Investment opportunity set does not affect earnings management, because investment opportunities as a signal that the company is in prospect that generates profit and will develop in the future. So there is no need for companies to do earnings management in order to attract investors. Investment opportunity set has a significant direct effect on firm value. The results of the investment opportunity set research partially 91.8% with a positive direction affect firm value. This means that the value of the company in the research observation year is much influenced by the investment opportunity set factor. Investment opportunity set will increase proportional to the value of the company.

The signaling theory in the investment opportunity set is interpreted as the company's opportunity to invest assuming the company is in good condition and growing so that it will increase the value of the company. Investment opportunity set also reduces the information asymmetry gap because management provides information on the company's prospects in the long term to be able to invest in order to increase shareholder prosperity. Earnings management
can lead to investor misunderstanding in assessing the company because it can make mistakes and make losses if the investment opportunity set is not accurate. Agency conflicts will trigger conflicts in measuring performance on investment activities and earnings management may actually hinder what should increase firm value (Kallapur, 2013). The results of this study are also related to signaling theory, if the investment opportunity set in its realization uses internal capital sources such as retained earnings so that profits will decrease and ultimately reduce firm value (Anggraini & Yan Nyale, 2022). The research results are in line with (Asria, 2019) which states that the investment opportunity set has a direct effect on firm value without going through earnings management in automotive sector companies in Indonesia.

CONCLUSION

Gross profit margin has a negative effect on earnings management. If the gross profit margin decreases, management needs to consider steps to increase operational efficiency, control the cost of goods produced or take corrective action to increase the gross profit margin again. Intellectual capital has a negative effect on earnings management. The greater the intellectual capital, the unnecessary earnings management because the company's goals have been achieved. Investment opportunity set has no effect on earnings management because the presence or absence of investment opportunities does not trigger companies to carry out earnings management. Gross profit margin affects firm value. The company value will be higher if the company is able to produce a high gross profit margin. Intellectual capital has no effect on firm value. Because Intellectual capital as an intangible measure that is difficult to measure with certainty so that it does not become the concern of investors.

Investment opportunity set has a significant positive effect on firm value. Investments made by the company will provide a positive signal about the company's prospects in the future. Earnings management has no effect on firm value. This means that the company's activities in playing earnings in the hope of attracting stakeholders through earnings performance do not affect the existing company value. The indirect effect of gross profit margin on firm value through earnings management is rejected. Investors see the value of the company not through earnings management but directly using the gross profit margin measure. The indirect effect of intellectual capital on firm value through earnings management is rejected. Investors see the value of the company not through earnings management or intellectual capital measures because its nature as an intangible measure has not been a concern for investors. The indirect effect of investment opportunity set on firm value through earnings management is rejected. Investors see the direct effect of investment opportunity set on value not through earnings management because investors believe that company value is created through investment opportunities.

The limitation of the study is that the sampling period is only five years from 2017-2021 and only takes the food and beverage company sector so that the results of this study may only be generalized within this scope and cannot be generalized more broadly. Suggestions for further research can add or extend the sampling period. And examining other sectors or based on stock indices such as companies included in the IHSG, LQ 45, JII, Kompas Index or based on other sectors other than those already examined in this study. Future researchers can add intervening variables, for example, adding leverage variables, dividend policy, in influencing firm value.
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REFERENCES


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