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Abstract: This study aims to analyze the influence of intellectual capital and hedging decisions on dividend policy and firm value. The population of this study is manufacturing companies that are listed on the Indonesia Stock Exchange in 2010-2016 and the research sample is 32 companies with certain criteria. Quantitative data analysis using Structural Equation Modeling (SEM) analysis tools. The results of the analysis show that intellectual capital consisting of human capital, structural capital and capital employed has a significant effect on dividend policy and firm value. Hedging decisions affect dividend policy and do not affect the firm value. While dividend policy affects the value of the company.

Keywords: Intellectual Capital, Hedging Decisions, Dividend Policy and Firm Value

1. Introduction

Economic globalization and technological advances that characterize the current and future world economic conditions, drive the process of accelerating significant changes in the business and industrial environment. Free trade in the era of globalization causes higher levels of competition with uncertain market price fluctuations that create uncertainty in the business and business world. These economic conditions will have an impact on the current Indonesian economy, and this situation will continue if there is no comprehensive policy and targeted strategy from the government.

The pace of industrial growth in recent years has tended to slow down, even below economic growth. The global financial crisis is very influential on these unfavorable economic conditions. The manufacturing industry continues to decline, however the manufacturing industry sector in GDP remains the highest. However, when viewed from the trend of the manufacturing sector it continued to decline from 6.26% in 2011 and 4.21% in 2017. The growth of the manufacturing industry which experienced a decline was not solely due to uncertain rupiah fluctuations in the US dollar exchange rate, but a decline in industrial performance manufacturing is also due to a shrinking market production, increasingly fierce competition following over-production of similar products from various countries, credit interest costs, and increases in labor costs.

The main consideration or benchmark for investors who will invest capital in a company by looking at the performance of the company. Good corporate performance will attract many investors and ultimately increase the company's stock price and have an impact on increasing the value of the company. The better the performance of the company, the higher firm value, so that the value of the company is a picture of the performance of the company itself. The normative management of corporate finance is aimed at increasing company value, which is reflected in the market price of its shares (Fama, 1978; Wright and Ferris, 1997; Walker, 2000; and Qureshi, 2006). Increasing company value means maximizing the wealth or welfare of shareholders (Martin, et. Al., 1994).

The decision making process in the company is not enough to only be based on mandatory financial information, voluntary information is also important to consider. Likewise, not only are tangible assets that need to be disclosed, soft / intangible assets are also very important to be reported by the company. One approach used in the assessment and measurement of knowledge assets is intellectual capital (Petty and Guthrie, 2000). Intellectual capital a key resource for companies to create added value, so that later competitive advantage can be achieved that is able to compete and survive in the business environment.

International investment and financing decisions are important for companies in the event of fluctuations in currency exchange rates, such as the rupiah depreciates against the US dollar. This has an impact on companies that conduct international trade, especially companies that have foreign currency debt. To minimize the risks that will be faced in connection with changes in foreign exchange rates, companies that conduct business transactions with interest rates and exchange rates need to reduce or avoid the risk of loss of foreign exchange due to business transactions by taking hedging actions.

One of the important decisions made by the company is dividend policy, and many studies have been carried out and published but are still an unsolved problem. In general,
investors have the main goal to improve their welfare by expecting dividend dividends and capital gains. This will certainly be unique because dividend policy is very important to meet shareholders' expectations of dividends and on the one hand does not have to hinder the company's growth. Investors always expect a rate of return or a return on their investment. The dividends are still considered as the main factor in triggering stock price movements in the capital market (Abrutyn and Turner, 1990; Yoon and Starks, 1995; Zaman, 2011; Srinivasan, 2012; Gordon, 1959; Shiller, 1981).

2. Theoretical Review

Value of the Firm
Theory of the firm tests how the company determines the combination of resources that are optimally owned to produce firm value (Hellmann, 2005). Determining the optimal combination of company resources will result in maximum company performance. To measure the value of the company, the proxy of the stock price is used, namely the current stock market price. The current stock market price is the hope of getting a return on investment in the future, and this return is actually the result of applying the optimal combination of resources as a product of company policy.

The key to success in investing and managing these assets lies in understanding not only the value but also the value of each asset that can be valued, but some assets are more easily valued than others and the details of the valuation will vary from one case to another. Thus, valuing a part of an asset will require different information and follow a different format than the valuation of other assets. There are uncertainties that cannot be denied related to valuation. Often uncertainty comes from the assets being valued, although the valuation model can add to that uncertainty (Damodaran, 1995).

Increasing company value means maximizing the wealth or welfare of shareholders (Martin, et al., 1994). The purpose of the company can be achieved through the implementation of financial management functions carefully and precisely, considering that every financial decision taken will influence other financial decisions that have an impact on company value (Jensen and Smith, 1994; Fama and French, 1998).

Dividend Policy
Dividend policy determines the final distribution of company profits between retention (i.e. reinvestment) and cash dividend payments from shareholders (Moyer Mc Guigan Kretlow, 2001). Dividend policy means the practice that management follows in making a decision to pay dividends, or in other words, the size and pattern of money distribution over time to shareholders (Ronald C. et al., 2000).

Gitman (2003) provides a definition of dividend policy as a company action plan that must be followed when a dividend decision must be made. Whereas Lee and Finerty (1990) interpret dividend policy as a company decision whether to share earnings generated to shareholders or will hold earnings for reinvestment activities in the company. Dividend policy is a dividend payment decision that considers the maximization of current and future stock prices (Brigham and Houston, 2006).

Rozeff (1982) considers that dividends appear to have or contain information (informational content of dividend) or as a sign of the company's prospects. If the company increases dividend payments, investors may interpret it as a signal of management's expectation of future improvements in company performance. Still according to Rozeff (1982) and Easterbrook (1984), dividends can be used to reduce the equity agency cost. According to Baker and Wurgler (2004a, 2004b), in categorizing theory, there are 3 (three) basic things, namely: a) psychological or institutional reasons, where some investors who do not have information on the entity ask the entity to distribute dividends in cash; b) the limitation of information causes this request to affect the stock market price of the entity that shares or does not distribute dividends; c) the manager of the entity will rationally fulfill investor demand for dividends provided that investors must be able to assess more the market value of the entity's shares in the capital market.

Intellectual Capital
Intellectual capital has a very important and strategic role in the company. Intellectual capital, by Nahapet and Ghoshal (1998), refers to knowledge and abilities possessed by a social collectivity, such as an organization, intellectual community, or professional practice. Intellectual capital represents resources that are valuable and the ability to act based on knowledge. Brookings (1996), Ulum (2008) states that Intellectual Capital is a term given to intangible assets which are a combination of market and intellectual property, which are human-centered and infrastructure that enables companies to function. Whereas Bontis (1998) acknowledges that IC is difficult to understand, but after being discovered and exploited, it can give an organization a new resource base to compete and win.

The VAIC ™ method, developed by Pulic (1998) and designed to provide information about the value creation efficiency of tangible assets and intangible assets owned by the company. This model starts with the company's ability to create value added (VA). Value added is the most objective indicator to assess business success and demonstrate the company's ability to create value. Tan et al. (2007) states that output (OUT) represents revenue and includes all products and services sold in the market, while input (IN) includes all expenses used in obtaining revenue. The important thing in this model is that employee expenses are not included in IN. Therefore, a key aspect in the Pulic model is treating labor as an entity creating value (value creating entity) (Tan et al., 2007). Signaling arguments (Bhattacharya, 1979), companies with high intangible assets, must pay high dividends to provide good signal quality for investors.

There are two theories that are very closely related to intellectual capital, namely stakeholder theory and legitimacy theory. These two theories are the most appropriate theories to underlie the study in the field of Intellectual Capital (Guthrie et al., 2006). According to Deegan (2004), stakeholder theory is closely related to
legitimacy theory. Both of them explain the reasons for disclosure of information by companies in financial statements.

**Hedging**

Hull (2008: 25) states that perfect hedging is to eliminate all risks, but perfect hedging is very rare. The use of derivative contracts is expected to be closer to the condition of hedging as perfect as possible so that later expected returns can be in accordance with the expected return. Hedging is taking a good position because it gets an asset cash flow until the contract includes a forward contract whose value can go up or down and an offset will occur in the form of a decrease or increase in the value of the position already taken, Eitman et al. (2010). The next theory from Jin and Jorion (2006), which states that hedging is a way to reduce the existing risk by eliminating exposure to the price movements of an asset. Madura (2000: 275), hedging is an action taken to protect a company from exposure to exchange rates. Exposure to exchange rate fluctuations is the extent to which a company can be affected by exchange rate fluctuations.

According to Shapiro (1999: 144) hedging, currency exposure means stabilization, such as whatever is lost or not, is a currency hedge. Paul Merrick (1998: 36) states that hedging or hedge is defined as follows: "A hedge is one or more traders perfomed in order to protect an existing market exposure against market movement". So basically hedging is a way for producers or investors to protect the position of an asset (underlying assets) from the risk of market changes. According to Roger (2000), Hedging is buying and selling futures contracts to cover the risk of price changes in the spot (physical) market.

3. **Methodology of Research**

This research is an explanatory research that is analyzing causality relationships between research variables and testing hypotheses. This study uses pooling data which is a combination of time series data and cross section to get the value of the influence of intellectual capital and hedging decisions on dividend policy and company value. The construct design built in this study refers to empirical phenomena by analyzing intellectual capital exploration (capital employed, human capital and structural capital) and hedging decisions on dividend policy and company value.

Based on several concepts and theories as well as empirical research, a conceptual framework can be drawn up that aims to explain each variable that is located as an exogenous variable and endogenous variable. The research conceptual framework is:

![Image](https://via.placeholder.com/150)

**Figure 1: Research Conceptual Model**

There are five hypotheses tested in this study:

H1. Intellectual capital has a significant effect on dividend policy
H2. Intellectual capital has a significant effect on firm value
H3. Hedging decisions have a significant effect on dividend policy
H4. Hedging decisions have a significant effect on firm value
H5. Dividend policy has a significant effect on firm value

4. **Results and Discussion**

To analyze the effect of intellectual capital and hedging decisions on dividend policy and company value, a model testing in SEM was conducted, namely goodness of fit measurement test and significance test of causality relationship between latent variables.

1) **Goodness of Fit Measurement Test**

The suitability test of the model is intended to determine whether the model meets the criteria of fit or not.

<table>
<thead>
<tr>
<th>Goodness of fit</th>
<th>Cut-off value</th>
<th>Model Fit</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>&gt; 0,05</td>
<td>0,171</td>
<td>Fit</td>
</tr>
<tr>
<td>Sig Probability</td>
<td>≥ 0,05</td>
<td>0,212</td>
<td>Fit</td>
</tr>
<tr>
<td>CMIN-DF</td>
<td>≤ 2,00</td>
<td>1,423</td>
<td>Fit</td>
</tr>
<tr>
<td>RMSEA</td>
<td>≤ 0,08</td>
<td>0,044</td>
<td>Fit</td>
</tr>
<tr>
<td>TLI</td>
<td>≥ 0,90</td>
<td>0,972</td>
<td>Fit</td>
</tr>
<tr>
<td>CLI</td>
<td>≥ 0,90</td>
<td>0,991</td>
<td>Fit</td>
</tr>
<tr>
<td>NFI</td>
<td>≥ 0,90</td>
<td>0,971</td>
<td>Fit</td>
</tr>
<tr>
<td>IFI</td>
<td>≥ 0,90</td>
<td>0,991</td>
<td>Fit</td>
</tr>
</tbody>
</table>

2) **Research Hypothesis Test**

Hypothesis testing is reflected in the value of critical ratio and p-value. Acceptance or rejection of the hypothesis is based on the critical ratio (CR > 1.96) and p-value at the 5% significance level.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Independent variables</th>
<th>Dependent variables</th>
<th>Standardized regression</th>
<th>Critical Ratio</th>
<th>p-value</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>IC</td>
<td>DP</td>
<td>0,447</td>
<td>4,624</td>
<td>&lt;0,01</td>
<td>Significant</td>
</tr>
<tr>
<td>H2</td>
<td>IC</td>
<td>FV</td>
<td>0,712</td>
<td>5,625</td>
<td>&lt;0,01</td>
<td>Significant</td>
</tr>
<tr>
<td>H3</td>
<td>HEDG</td>
<td>DP</td>
<td>-0,126</td>
<td>-2,019</td>
<td>&lt;0,05</td>
<td>Significant</td>
</tr>
<tr>
<td>H4</td>
<td>HEDG</td>
<td>FV</td>
<td>-0,023</td>
<td>-0,449</td>
<td>&gt;0,05</td>
<td>Not Significant</td>
</tr>
<tr>
<td>H5</td>
<td>DP</td>
<td>FV</td>
<td>0,151</td>
<td>2,112</td>
<td>&lt;0,05</td>
<td>Significant</td>
</tr>
</tbody>
</table>
Based on the results of testing the hypothesis in Table 2, it can be concluded that, there are four proven hypotheses (H1, H2, H3, H5) and one hypothesis that is not proven (H4).

**Effect of Intellectual Capital on Dividend Policy**

The results showed that there was a positive and significant intellectual capital effect on dividend policy, which proved the value of standardized regression weight estimate was 0.447 and the value of critical ratio = 4.624 > 2.00 (t critical) and p-value of 0.001 < α = 0.05.

The research findings have proven that intellectual capital has a strong influence on dividend payments. This means that an increase in the value of intellectual capital will result in an increase in corporate dividends. Increasing intellectual capital as a resource owned by a company influences dividend policy because it can provide added value to the company. Companies with higher intellectual capital can pay higher dividends than companies with low intellectual capital.

The results of the study are consistent with the previous literature which considers high payment ratios as a result of lower agency problems so that a better information environment can restrict people from misusing company resources (La Porta et.al., 2000). So companies with high intellectual capital also have lower asymmetric information, making it difficult for people in the company to take over and further reduce expropriation and lead to higher payment ratios.

Research findings, Nelson, C and Farook Omar (2015), that companies with higher disclosure of intellectual capital not only have high payout ratios, but also have the possibility to increase and pay greater dividends. Hayton (2005) argues that unique resources embedded in ICs enable companies to enter new markets, gain profits, and create high-quality products. Similarly, intellectual capital disclosure can lead to a substantial reduction in expropriation risk by reducing information asymmetry (Arvidsson, 2011).

**Effect of Intellectual Capital on Firm Value**

The results of testing the second hypothesis proved that there is a positive and significant influence between intellectual capital on firm value, this is evidenced by the value of standardized regression weight estimate of 0.712 and the value of Critical Ratio (CR) = 5.625 > 2.00 (t critical) and p-value < α = 0.01.

The test results show that intellectual capital has a positive and significant effect on firm value. Based on the results of the analysis show a coefficient of 10.425 with a t-count of 5.625 and a probability of 0.001 significant 1%. That is, if the company is able to use intellectual capital more efficiently it can cause an increase in the performance and firm value. this model postulates that there is a direct and positive relationship between intellectual capital and firm value. The coefficient of positive influence obtained, states that an increase in the value of the variable intellectual capital will increase the firm value.

The findings of this study are consistent with previous studies, such as Ulum (2007) that there is an influence of intellectual capital on financial performance. Pouraghajan, A et al., (2013), there is a positive and significant relationship between intellectual capital value added and M/B ratio, also the test results show that there is a positive and significant influence between intellectual capital and the financial performance index. Chen, et.al (2005), the company's intellectual capital has a positive impact on market value and financial performance, and can be an indicator of future financial performance. Tseng et.al., (2005) There is a positive relationship between intellectual capital and firm value.

The findings support stakeholder theory which considers the position of stakeholders more powerful. In the view of stakeholder theory, companies have stakeholders, not just shareholders (Belkaoui, 2003). The growing consensus in the context of stakeholder theory is that accounting profit is only a measure of return for shareholders, while value added is a more accurate measure created by stakeholders and then distributed to the same stakeholders (Meek and Gray, 1988).

**Effects of Hedging on Dividend Policy**

The test results in the third hypothesis in this study are hedging decisions have a positive and significant effect on dividend policy. The results of statistical analysis show that the coefficient is -0.444 and the value of critical ratio = -2.019 and p-value of 0.043 with a 95% confidence level (0.05).

The results of the study show that hedging decisions influence and negatively affect dividend policy in manufacturing companies. This means that if the company does a hedging, then the dividend payment will decrease, even the company will not pay dividends because most of the funds are used for hedging costs.

This finding can be used as a basis for creating a model that will function as an explanatory tool that must be improved to analyze the company's hedging behavior. Dionne, G and Ouederni, K, (2011), found that high hedging caused a decrease in dividend payments.

**Effects of Hedging on Firm Value**

The fourth hypothesis in this study is that hedging decisions have a positive effect on firm value. The test results show that hedging decisions have a negative and not significant effect on firm value as measured by Tobin's Q. The results of the analysis show that the coefficient value is -0.006 with the critical ratio value of -0.444 and p-value of 0.653, which is greater than the significance of 0.05 .

The results showed that hedging did not affect the value of the company because even though hedging was done to minimize risk, hedging using derivative instruments also had a risk of loss. For example forward contracts are usually not standardized so they tend to be less liquid and have high costs. And also the default risk (partner does not fulfill obligations) tends to be high when the rupiah exchange rate weakens. The high risk of default is caused by the risks in the contract accumulated to maturity. So the selection of instruments used for hedging must be balanced with good knowledge of hedging so that it can be adjusted to the conditions of the company. The method of financing does
not determine the firm value because of the instrument costs and administrative costs associated with hedging.

Agency theory extends company analysis to include separation of ownership and control, as well as managerial motivation. In the field of corporate risk management, agency problems have been shown to influence managerial attitudes towards risk taking and hedging (Smith and Stulz, 1985). Culp and Miller (1995) state that most companies maximize the value of not hedging.

**Effect of Dividend Policy on Firm Value**

The results of testing conducted on the fifth hypothesis, namely dividend policy has a positive effect on firm value. Empirical studies that occur dividend policy have a positive and significant effect on firm value, which means that dividend increases will result in an increase in the value of the company. The results of the statistical analysis showed a coefficient of 0.012 with a critical ratio of 2.112 with a p-value of 0.035 which was smaller than the significance level specified at 0.05 (5%). Thus the fifth hypothesis in this study is empirically proven.

The results showed that the dividend policy proxied by dividend payout ratio which is a form of company policy was able to determine the proportion of profits received by the company and then paid to investors in accordance with the number of shares held. High dividend distribution can increase company value. Companies must determine the amount of dividends distributed, because the decrease or increase in the amount of dividends paid is often a signal for investors regarding the company's growth prospects in the future. Investors can indirectly estimate the value of the company to invest through dividend policies determined by the company concerned.

This study supports the findings of DeAngelo, H and DeAngelo, L (2006), that dividend policy has a positive and significant effect on firm value. Amidu (2007), dividend policy is relevant to the value of the company as measured by Tobin’s q. This study also supports the statement from Baker and Wurgler (2004a) that catering theory occurs in the capital market in Indonesia. So that the signal effect is not only from the entity side but can also come from investors. The results of this study also support bird in the hand theory as a theory of the relevance of dividends from Gordon and Lintner (1963), Long (1978) and Sterk and Vandenbergh (1990).

5. Conclusion

Intellectual capital has a positive and significant effect on dividend policy and firm value, hedging decisions influence and negatively affect dividend policy, not having an effect on firm value. And dividend policy affects the value of the company. The results of this study offer that to increase the value of the company it is necessary to increase the added value of intellectual capital effectively because of the significant interaction between the components of intellectual capital. The study of this study informs that in increasing a value the company does not only see the value of physical assets but also the non-physical assets which are the main drivers in innovating and honing the creativity of human resources.

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