VALUE-ADDED CREATION IN FINANCIAL PERSPECTIVE BY COLLABORATION OF INTELLECTUAL CAPITAL AND CORPORATE POLICY

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Abstracts: This study aimed to analyse and test the creation of optimisation value-added by intellectual capital that collaborates with company policies in the property and real estate sector companies listed on the Indonesia Stock Exchange. The sampling method uses purposive sampling and obtained sample of 15 companies. This study uses path analysis. Intellectual capital is measured by Value Added Intellectual Coefficient (VAIC); Funding decisions are measured by Debt to Equity Ratio (DER); Dividend decisions are measured by Dividend Payout Ratio (DPR); Investment decisions are measured using a combined Investment Opportunity Set (IOS). The value of the firm is measured using Tobin’s Q, and the financial performance is measured using Return on Assets (ROA). The results of this study conclude that intellectual capital can improve financial performance but reduce the value of the firm. Funding decisions and dividend decisions reduce financial performance, but investment decisions improve financial performance. Only dividend decisions can increase value of the firm, while investment decisions reduce value of the firm. Even funding decisions do not affect value of the firm. Financial performance has not been able to mediate the flow of value-added creation. From the results of the study, the flow of creating value-added from intellectual capital supported by company policy through the financial performance in property and real estate companies has not been able to increase value of the firm optimally.

Keywords: Intellectual Capital, Funding decisions, Dividend decisions, Investment decisions, Value of the firm, financial performance


The property and real estate sectors have a multidimensional impact on a country’s economy (Goodhart and Hofmann, 2008; O’Flaherty, 1994). Therefore, the evolution of property and real estate companies has become a spotlight amid strict competition, limited resources up to the diversity of property market demand. Various efforts to increase competitive advantage are carried out by property and real estate companies to answer all these challenges, one of
which is by optimising intangible assets such as intellectual capital. Tseng and James Goo (2005), in their research stated that intellectual capital could create value-added, from a financial perspective, in the form of increasing corporate value. Intangible assets such as intellectual capital have proven to dominate the value of the company in the past two decades (Tomio, 2010; Barnes and McClure, 2009; Gamayuni, 2015). That is in line with the development of science and technology so that business processes also experience a shift from labour-based business to knowledge-based businesses. Therefore, the focus of companies including property and real estate companies to increase the value of the company at present is ownership and management of intangible assets such as intellectual capital.

The role of intellectual capital in increasing corporate value has been widely researched by previous researchers. Chen et al. (2005); Ulum et al. (2008) in his research obtained results if intellectual capital was able to increase the value of the company. Gamayuni (2015) describes the process of creating value-added by intellectual capital is a long and sustainable process through variables of the financial performance of the company Gamayuni (2015); Nafiroh and Nahumury (2017); the financial performance can mediate intellectual capital to increase corporate value. In different studies, Pulic (2008) states that intellectual optimisation capital must have collaborated with the management of other tangible assets such as physical assets and financial assets owned by the company. The management is carried out in the form of company policies (funding decisions, dividend decisions, and investment decisions) (Copeland et al., 1983). Thus, the flow of value-added creation from a financial perspective by intellectual capital can be optimal if it is supported by company policy to improve the financial performance which will further increase the value of the company.

Previous research that analyses the flow of value-added creation has mixed results. Chen et al., (2005); Ulum et al., (2008), Fachrudin and Mildavati, (2017), obtained significant positive results on company value and financial performance, Nuhuyana et al. (2016) study obtaining the results. Inconsistent results from previous research become research gap so that they can be studied more deeply, besides this research also confirms the research of Chen et al., (2005) about the creation of value-added by intellectual capital in a financial perspective, Pulic (2008) researches about the optimization of intellectual capital with company policy and Gamayuni (2015); Nafiroh and Nahumury (2017) regarding the flow of value-added creation by intangible assets such as intellectual capital through the financial performance.

Theory

Resource-based Theory and Knowledge-based Theory

Resource-based theory (RBT) is a theory of managerial frameworks that are used to determine strategic resources with the potential to provide comparative advantages to companies. Knowledge-based Theory (KBT) considers knowledge to be the most strategic resource of a company because knowledge is believed to be a resource that is difficult to imitate and socially complex. Alchian and Demsetz (1972) in Ngatno (2014) explain that efficient production with heterogeneous resources is not the result of better resources but knowledge of these resources. KBT considers companies as organisations that produce, integrate and distribute knowledge (Miller, 2002).

Capital Structure Theory and Signaling Theory

Pulic (2008) explained that intellectual capital is not able to create added value by itself; there must be users of physical and financial assets. The theory that represents the management of financial assets is Modigliani and Miller’s Capital Structure Theory (1958) which in its development gave birth to two new financial theories namely trade-off theory or balancing theory (Myers, 1977; 1984) and pecking order theory (Myers and Majluf, 1984). Furthermore, company policies regarding investment decisions and dividend decisions are signals for outsiders. Understanding signalling theory relates to how a signal is valuable or useful, while other signals are not useful (Gumanti, 2009).
Corporate Financial Performance

There are two types of corporate financial performance, namely operational performance, and financial performance. Financial performance is a formal effort that has been carried out by the company and its success is measured through the level of profit-making.

Value of the Firm

Husnan (2000) stated that the value of the company is the price that is willing to be paid by prospective buyers if the company is sold. If the company offers shares to the public, the value of the company will be reflected in the stock price.

Intellectual Capital

The International Federation of Accountant (IFAC) in Widiyaningrum (2004) states that intellectual capital includes intellectual property, intellectual assets, and knowledge assets, which can be interpreted as stocks or capital based on knowledge. According to Pulic (2008); Bontis et al., (2000); Mouritsen et al., (1999) and Pramestiningrum and Prastiwi (2013) define intellectual capital as a part of intangible assets in the form of effective knowledge, resources, skills, competencies, managerial technology that drives performance in the form of strategic and beneficial decisions so that they can creating added value for current and future for the company. The main emphasis on value creation from a financial perspective, according to Tseng and James Goo (2005) is the creation of corporate value. Following is the framework of Intellectual capital:

From the model framework according to Tseng and James Goo (2005), the model of the value-added flow by intellectual capital was visualized in Gamayuni (2015) as follows:

![Figure 1 Intellectual Capital Framework](Image)

![Figure 2 Modification of Intellectual Capital Framework](Image)
Company Policy

The Copeland et al. (1983) company policy includes decisions on funding, investment, and dividend decisions. Funding decisions are decisions that are related to the determination of internal and external financing sources. Investment decisions are decisions related to a company’s investment choices. Dividend decisions are decisions about the amount of net income after tax which is distributed in the form of dividends (Brigham and Houston, 2010).

Hypothesis

The research hypothesis can be formulated as follows:

Tan et al., (2007) and Hadiwijaya and Rohma (2013) have proven that IC (VAIC™) has a positive influence on the company’s financial performance. Hypothesis (H1) that can be formulated is the higher the efficiency of intellectual capital owned by a company will be able to improve the financial performance of the company.

Chen et al., (2005), states that investors tend to pay higher shares of companies that have more intellectual resources than companies with low intellectual resources, hypothesis (H2) that can be formulated is the higher efficiency of intellectual capital owned by a company will directly be able to increase the value of the company.

Financial performance is the result of the management of strategic assets owned by the company. Therefore, the flow of value creation by strategic assets through mediation is financial performance. Nuhuyana et al., (2016); Nafiroh and Nahumury (2017) produced a successful financial performance to mediate the flow of value creation for intellectual capital. Hypothesis (H3) that can be formulated is the higher efficiency of intellectual capital owned by a company will be able to increase the value of the company by improving the company’s financial performance.

Akhtar et al., (2012); Ludijanto (2014), resulted in significant funding decisions regarding the company’s financial performance. Hypothesis (H4) that can be formulated is the optimal funding decision in a company will be able to improve financial performance.

Fama and French in Wijaya and Wibawa (2010) obtained results that dividend policy has positive information so that it can improve financial performance. Hypothesis (H5) that can be formulated is the right dividend decision in a company that will be able to improve the company’s financial performance. Simienich and Sinclair (2004), Sudiyatno (2010), show a positive and significant relationship between investment decisions and corporate financial performance. Hypothesis (H6) that can be formulated is investment decisions in an optimal investment opportunity set in a company will be able to improve the company’s financial performance.

The influence of company policies on the value of the firm, such as the research of Wijaya et al. (2010) shows that funding decisions have a positive effect on firm value. Hypothesis (H7) that can be formulated is the optimal funding decision in a company will be able to increase the value of the company. Fenandar and Raharja (2012) stated that dividend policy has a significant effect on firm value. Hypothesis (H8) that can be formulated is the right dividend decision in a company that will be able to increase the value of the company. Wijaya et al. (2010) and Fenandar and Raharja (2012) state that investment decisions have a significant effect on firm value. Hypothesis (H9) that can be formulated is Investment decisions in an optimal investment opportunity set in a company will be able to increase the value of the company.

Gamayuni (2015) obtained results that the funding policy affects the value through financial performance (ROA). In Sudiyatno’s research (2012: 2010), financial performance managed to mediate each dividend decision and investment decision on the value of the company. The hypothesis that can be formulated is

H10 : The optimal funding decision in a company will be able to increase the company’s value through financial performance.

H11 : The right dividend decision in a company will be able to increase the company’s value through financial performance.
H12: The investment decision in an optimal investment opportunity set in a company will be able to increase the value of the company through the company.

**METHOD**

**Samples and Sampling Techniques**

The population of this study is a company engaged in the property and real estate sub-sectors listed on the IDX for the period 2013-2017 as many as 48 companies. Through purposive sampling obtained a sample of 15 companies. The sample criteria determined by the researcher in sampling.

**Variable Measurement Techniques**

The measurement of intellectual capital uses Value Added Intellectual Coefficient (VAIC), which was adopted from the research of Fakhrudin and Mildawati (2017), which has been tested. The VAIC measurements are obtained from the sum of total human capital efficiency (VAHU), relation capital efficiency (VACA) and structural capital efficiency (STVA) as follows:

$$VAIC = VACA + VAHU + STVA$$

VAIC shows how much the ability of intellectual capital a company has to create corporate value. Proxy of funding decision uses Debt to Equity Ratio (DER) (Gamayuni, 2015) with the following equation:

$$Debt to Equity Ratio (DER) = \frac{\text{Total Hutang}}{\text{ekuitas}}$$

Proxy of Dividend decision uses Dividend Payout Ratio (DPR) with the following equation (Fakhrudin and Mildawati, 2017):

$$Dividend Payout Ratio (DPR) = \frac{\text{dividen per lembar saham}}{\text{laba per lembar saham}}$$

Proxy of investment decision uses a combined IOS consisting of 3 (three) price-based IOS ratios and 2 (two) investment-based IOS ratios, namely Market to Book Value of Asset Ratio (MBVA), Market to Book Value of Equity Ratio (MBVE), Price Earnings Ratio (PER), Capital Expenditures to Book Value of Asset (CEBVA) and Capital Expenditures to Market Value of Asset (CEMVA) Ratios which are then combined using common factor analysis tools with the following equations (Martati, 2010):

$$IOS = (com_1 \times MBVA) + (com_2 \times MBVE) + (com_3 \times PER) + (com_4 \times CEBVA) + (com_5 \times CEMVA)$$

Measurement of financial performance is represented by the Return on Assets ratio (ROA) with the following Equation (Gamayuni, 2015):

$$Return \text{ On } Assets = \frac{\text{Laba Bersih Setelah Pajak}}{\text{Total Asset}}$$

Measurement of the value of the firm is represented by the proxy Tobin’s Q Lindenber and Ross (1981) in Wicaksari et al. (2015) with the following equation:

$$\text{Tobin's } Q = \frac{\text{MVS} + D}{\text{TA}}$$

Where MVS is a Market Value of Share (market value of all shares) obtained from the multiplication of the firm’s stock price and outstanding share’s, TA is the total assets obtained from the sum of total current assets, total fixed assets and other total assets, D is Debt. Technical analysts in research use path analysis and to test mediation using the Sobel
test. The regression equation for path analysis in this model is:

\[ Y = \alpha + c_{11} X_1 + c_{21} X_2 + c_{31} X_3 + c_{41} X_4 + e_1 \] ....................................................... (1.7)

\[ Z = \alpha + c_{12} X_1 + c_{22} X_2 + c_{32} X_3 + c_{42} X_4 + \epsilon_{12} Y + e_2 \] ....................................................... (1.8)

**RESULTS**

From the path analysis obtained the following results:

**Table 1  Path Analysis Results**

<table>
<thead>
<tr>
<th>Model</th>
<th>Standardized Coefficients</th>
<th>Standar Error</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y \rightarrow X1</td>
<td>0.526</td>
<td>0.001</td>
<td>***</td>
</tr>
<tr>
<td>Y \rightarrow X2</td>
<td>-0.184</td>
<td>0.005</td>
<td>0.004</td>
</tr>
<tr>
<td>Y \rightarrow X3</td>
<td>-0.339</td>
<td>0.006</td>
<td>***</td>
</tr>
<tr>
<td>Y \rightarrow X4</td>
<td>0.521</td>
<td>0.003</td>
<td>***</td>
</tr>
<tr>
<td>Z \rightarrow Y</td>
<td>0.312</td>
<td>1.558</td>
<td>***</td>
</tr>
<tr>
<td>Z \rightarrow X1</td>
<td>-0.121</td>
<td>0.090</td>
<td>***</td>
</tr>
<tr>
<td>Z \rightarrow X2</td>
<td>-0.047</td>
<td>0.076</td>
<td>0.220</td>
</tr>
<tr>
<td>Z \rightarrow X3</td>
<td>0.735</td>
<td>0.052</td>
<td>***</td>
</tr>
<tr>
<td>Z \rightarrow X4</td>
<td>-0.107</td>
<td>0.013</td>
<td>0.034</td>
</tr>
</tbody>
</table>

*Source: secondary data processed, 2018*

The magnitude of the influence of each construct in this research model can be seen in the following figure:

*Picture 3  Path Analysis Result*
From the path analysis above obtained results if each construct has a p-value of less alpha value (0.05) except the construct of the influence of funding decisions on the value of the company so that all constructs have a significant effect except the construct influence of funding decisions on firm value. Intellectual capital affects 52.6% and investment decisions by 52.1% in improving the company’s financial performance. The funding decision was 18.4%, and a dividend decision of 33.9% contributed to the decline in the company’s financial performance. Furthermore, intellectual capital amounted to 12.1%, and investment decisions of 10.7% contributed to a decrease in company value, and a dividend decision of 73.5% contributed to an increase in the value of the company. While funding decisions do not significantly influence the value of the company. The mediation test through the Sobel test can be seen in Table 2 below:

<table>
<thead>
<tr>
<th>Model</th>
<th>Z count</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 → Y → Z</td>
<td>0.2002564</td>
</tr>
<tr>
<td>X2 → Y → Z</td>
<td>-0.200179</td>
</tr>
<tr>
<td>X3 → Y → Z</td>
<td>-0.200224</td>
</tr>
<tr>
<td>X4 → Y → Z</td>
<td>0.2002533</td>
</tr>
</tbody>
</table>

**Source:** secondary data processed, 2018

The results of the mediation test can be seen from the Z count value of each construct. The results obtained if the overall Z arithmetic from the indirect effect is smaller than the Z table (1.96), which indicates that if the intervening variable is the financial performance of the company is not able to mediate the influence of each exogenous variable on the manifest variable.

The diversity of research data can be seen from the results of the determination coefficient of path analysis with the following calculations:

\[ R^2_m = 1 - (1 - 0.696) \times (1 - 0.901) \]
\[ R^2_m = 0.9699 \]

The determination coefficient of path analysis is obtained at 0.9699 which has a meaning if the variable ability is variable; intellectual capital, funding decisions, dividend decisions, investment decisions and financial performance of the company are able to explain the company’s value of 96.99% and the remaining 3.01% is explained by other variables that are not yet in the model and errors.

**DISCUSSION**

Intellectual capital improves the company’s financial performance. The results of this study are in line with previous research; Chen et al., (2005); Tan et al., (2007); Hadiwijaya and Rohman, (2013). The efficiency of Managing intellectual capital owned by property and real estate companies increases the company’s ability to generate profits. In the previous research, it was explained that the components of each intellectual capital are human capital, structural capital and relationship capital owned by an efficient company in its role to support the company’s financial performance. The largest portion of the intellectual capital component in this study is dominated by the value of human capital, as Pulic (2008) states that humans are the main carriers of intellectual capital. The increasing quality of employees of property and real estate companies is increasing year by year, as seen from the dominance of diploma and strata one education-based workforce numbers, which were previously filled with high school and vocational school-based workforce. In addition, the current age of property and real estate companies is generally filled with labourers aged 31-40 years who are more productive than before in the range of 41-50 years. Improving the quality of resources is what makes intellectual capital able to support companies in increasing the ability to generate profits for the company.

The influence of intellectual capital makes the value of the company go down. This result is not in line with previous studies, Chen et al. (2005), stated that investors tend to pay higher shares of companies that have high intellectual capital than companies with low intellectual resources. But there were previous studies that also obtained the same results.
as this study. Puntollo (2009); Widarjo (2011); Lestari et al., (2017), concludes that the influence of intellectual capital on firm value is significantly negative. Apart from the limited sources of information on intellectual capital disclosures that only come from financial statements and the absence of a qualitative method of disclosure of intellectual capital disclosures, so that information on strategic assets in the form of intellectual capital has not been effective in creating positive market perceptions. They are owned by property and real estate companies every year. This decree is the result of delays in several projects and business activities due to changes in regulations and the heating up of political conditions such as during regional elections.

The results of creating value-added process from intellectual capital that flows through the company’s financial performance to the value of the firm in property and real estate companies are not going well. Financial performance was not proven to be mediating in the process. This result is the same as the previous research Nafiroh and Nahumury (2017); Gamayuni (2015). Some of the reasons for this value-added creation flow are not proven apart from the influence of intellectual capital, which reduces the value of the firm as well as the lack of optimal management of physical and financial assets in the form of company policies. Pulic (2008), in his research, stated that the flow of corporate value creation from intellectual capital would be optimal if also supported by optimising the physical and financial assets of the company. In this study, the management of physical and financial assets is managed in the form of funding decisions, dividend decisions, and investment decisions. Some of these managerial decisions on property and real companies are not optimal, which has an impact on the optimisation of the creation of value-added from intellectual capital. The company’s policy as an interpretation of the physical and financial assets management in this study obtained results if only investment decisions were able to improve the company’s financial performance. Investment decisions made by the property and real estate sector companies have optimally used additional capital flows to manage investment opportunities that they improve the company’s financial performance. These results obtained similarities in results with previous studies; Nisa (2017), Rafika, and Santoso (2017). The main factor of investment decisions taken by managers can increase the company’s ability to generate profits due to the full support of policies made by the government, including the incesant program of President Joko Widodo’s in the infrastructure sector. However, the investment decision that has strategic value has not been maximally captured by the market as a positive signal that can increase the value of the company, so that the value of the company in property and real estate companies will decrease. The main cause is the property cycle in 2014-4016 which has caused a loss of market confidence in the property business. These concerns are excessive perceptions that the market has responded to the possibility of lethargy even the crisis conditions due to its trauma over the recurring property cycle. The same results were obtained in previous studies, Sudiyatno (2012). The results of direct interaction of investment decisions on the company’s financial performance and firm value support the results of the interaction of investment decisions on the value of the firm through the financial performance of companies that are proven unable to mediate, so that the creation of value-added in the financial perspective by intellectual capital should be fully supported by the management of physical assets and finance in the form of investment decisions has not optimally created.

It is different from the results of funding decisions and dividend decisions, each of which makes the company’s ability to generate decreased profits. The same results were also obtained in previous studies; Javed et al. (2015); Kimathi et al. (2015); Mule and Mukras (2015). In the aftermath of the 1999 crisis, funding decisions were dominated by internal sources, but in the last five years, the period of observation of funding sources for property and real estate companies began to shift to external sources, especially debt, which tended to be expensive. The decline in the company’s financial performance due to the influence of funding decisions is due to the source of debt funding that has been within the threshold of being able to leverage the company’s
financial performance. Likewise, the effect caused by funding decisions on property and real estate companies against the value of the company that produced insignificant influence. This result is in line with previous research, Widodo (2015), in Aisah and Mandala (2016). Debt financing that dominates funding sources for property and real estate companies is captured as a bad signal by outsiders because it will increase the risk of bankruptcy. In addition to attractive offers regarding construction and investment credit by financial institutions, it is also encouraged by the ease and leniency of credit access made by the government to support infrastructure development programs. Therefore, in terms of financial asset management, the funding decisions are taken by the property, and real estate companies do not reflect their ability to support the creation of value-added from financial perspective by intellectual capital through the company’s financial performance.

The company’s financial performance also fell due to the influence of dividend decisions. Similar results were obtained in previous studies; Rafika and Santoso (2017); Osamwonyi and Lola-Ebueku (2016). The reason is that the decision to divide a portion of net income as dividends makes the company does not have enough free cash flow, or in other words, the company does not have enough internal capacity in subsequent company funding. The decision to hold net income is a precautionary measure of the company on the possibility unconducive economic and political conditions, which will have a comprehensive impact on property business activities. Therefore, more than half of the study population decided to withhold net income and not to distribute it regularly so that the company has enough liquidity to operate the company. For the sample companies, the decision to distribute dividends caused a decrease in the company’s ability to generate profits. Different results also result from the influence of dividend decisions on company value. The dividend decision is dominant to be a positive signal to the market that increases the value of the company. Similar results were obtained in previous studies; Wijaya et al., (2010); Fenandar and Raharja (2012). This result can also explain if company’s efforts to restore market confidence in property and real estate companies because of the property cycle in 2014-2016. In terms of the value-added creation flow, the results show that dividend decision ability has not been optimal to support the creation of added value in the financial perspective by intellectual capital.

Limitations

There are five limitations in this study, namely; the source of information on intellectual capital is limited only from financial statements and there is no standard disclosure for intellectual capital reporting in the company’s annual report, the disclosure of intellectual capital is limited to quantitative data because there is no qualitative method of intellectual capital disclosure, intellectual capital measurement is limited only to the scope of intellectual capital efficiency and has not considered the company’s ability to maintain consistency in the management of intellectual capital, the measurement of funding decisions is limited to the perspective of total debt without considering debt according to the time period because it is important to see the characteristics of property and real estate businesses that have a longer period of time in the process of generating profits, decisions dividends in this study are limited to the amount of net income distributed in the form of dividends and have not considered the ability of dividend decisions in overcoming high levels of employee turnover on property and real estate companies which will ultimately support the optimization of creating added value from intellectual capital.

CONCLUSIONS AND RECOMMENDATIONS

The process of creating added value in the financial perspective by intellectual capital supported by the management of physical and financial assets in the form of company policies (funding decisions, dividend decisions, and investment decisions) on property and real estate companies through the company’s financial performance has not resulted in an optimal flow of added value. Management of strategic assets in order to create added value from a financial perspective needs to pay attention to the
management of financial assets, namely the balance of capital structure, macroeconomic conditions and political stability, as well as support for the optimization of human resources which are the main factors in creating added value by intellectual capital. Based on the limitations of the study, the researcher suggested that in future studies can add information references on the company’s intellectual capital from other additional sources in addition to the published financial statements, processing qualitative reference sources in the form of disclosure index, adding a rate of growth of intellectual capital measurement to see consistency the company in managing intellectual capital owned, adding proxy long-term debt to equity ratio and short-term debt to equity ratio to measure funding decisions, and adding incentive managerial proxies to support human resource capital which is a vehicle for intellectual capital to create added value for the company.

REFERENCES


