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FIRM VALUE: DOES CORPORATE GOVERNANCE AND RESEARCH & DEVELOPMENT INVESTMENT MATTER?

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ABSTRACT

This study aims to examine the factors that affect firm value. This research uses purposive sampling method. The sample of the research is 45 financial companies (128 year-firm observations) listed in Indonesia Stock Exchange for the period of 2017-2019. Multiple regression analysis with unbalanced panel data was applied to analyze the data. A corporate governance index published by Globe and Mail with 4 sub-indices is adopted, namely board composition, shareholding and compensation policies, shareholder rights and disclosure. The results of this study indicate that good corporate governance and research & development investment have no effect on firm value. This explains that the implementation of good corporate governance and firm investment in research & development are not the main information for investors in making investments. However, intellectual capital and enterprise risk management disclosure have effect on firm value. The results can be used as a reference for researchers, especially in the accounting sector related to the development of measuring instruments for good corporate governance.

KEYWORDS: Enterprise Risk Management Disclosure; Good Corporate Governance; Intellectual Capital; Research & Development Investment.

INTRODUCTION

In recent years, researchers have examined extensively which variables determine firm value, whether these determinants can be controlled by corporate management, as well as whether corporate governance give an impact on firm value. The implementation of corporate governance is one of the keys to attract investors to invest. Investors need to identify condition that can lead to opportunistic management behavior (Berthelot et al., 2010). Many studies have investigated the influence of corporate governance on firm value (for example: (Ararat et al., 2017; Black et al., 2015; Cheung et al., 2014; Nisasmara & Musdholifah, 2016; Siagian et al., 2013) and the results show that strong corporate governance is associated with high firm value. The implementation of good corporate governance in a firm can reduce the misuse of related party transactions which can increase profitability and firm value.

In contrast, Huang et al., (2020), Wahyudin & Solikhah (2017) and Fatchan & Trisnawati, 2018) and show that corporate governance has no effect on firm value, investors do not pay attention to information on corporate governance when investing in companies due to the low quality of disclosure. Bae et al., (2012) show that firms with weaker corporate governance suffer more during a crisis period, good or bad news in the economy affects firms with weak corporate governance. However, firms with good corporate governance will be one of the preferences for investors in investment decisions.

In many literature reviews and research, corporate governance is not the only factor that determines firm value. There are controllable and uncontrollable factors that affect firm value, for example is investment in research & development (Basgoze & Sayin, 2013; Min & Smyth, 2015; Gupta et al., 2017; Cherkasova & Kurlyanova, 2019; J. M. Kim et al., 2020).

Research & development investment is also an aspect that can affect firm value. Firms with high research and development investment will be considered by investors as development efforts from companies in regard to its staff, either in a form of education or product development which later can drive higher profits (Sukiati et al., 2015). This can be interesting for investors to invest in the firm, which can increase share value.

In other studies (for example: Min & Smyth, 2015; Basgoze & Sayin, 2013; Gupta et al., 2017; J. M. Kim et al., 2020) show that research & development investment has an positive effect on firm value. Research & development investment is a competitive advantage for companies compared to other companies with relatively low research and development investment. However, companies with larger investment in research & development will usually encounter higher information asymmetry. This will also have an impact on firm value (W. S. Kim et al., 2018).

Other factors that affect firm value are intellectual capital (Bchini, 2015; Devi et al., 2017; Hejazi et al., 2016; Nuryaman, 2015; Sardo & Serrasqueiro, 2017; Sukiati et al., 2015) and find that IC has a positive effect on firm value. In several studies, it is stated that to win a competition, a firm must have a competitive advantage. Chahal & Bakshi (2015) stated that competitive advantage achieved by companies that are successful in mobilizing intellectual capital in the form of knowledge, technology, strategic capabilities and experience. Mantain and develope resources such as IC will produce a superior performance (Xu & Liu, 2020).

The determinants of firm value are now gradually changing from traditional/physical capital (eg equipment, land, funds, labor) to intellectual capital (eg human capital, organizational capital, relational capital). Therefore, it is important to measure IC, as well as

analysing the effect of IC on firm value (Y. Li & Zhao, 2018), IC is generally understood as an important driver in company practice (Lin et al., 2014). Market value of companies with an excellent IC, such as Apple, Microsoft, Google, Amazon, has risen above book value (Y. Li & Zhao, 2018).

On the other hand, company profile and risk management are regarded as financial and non-financial information that is needed by investors (Devi et al., 2017). Enterprise risk management (ERM) is an approach used to manage risks faced by companies from a systems perspective (Q. Li et al., 2014). The application of ERM in companies will determine the level of investor confidence, as it can reduce the risk of company failure as well as offer a great potential by investors , can be taken into consideration in making investment decisions (Iswajuni et al., 2018).

In other studies (for example: Q. Li et al., 2014; Hoyt & Liebenberg, 2015; Krause & Tse, 2016; Devi et al., 2017; Lechner & Gatzert, 2018; Iswajuni et al., 2018) found that ERM disclosure in the annual report can convince investors and other stakeholders even more about the company's prospects, investor confidence in the company's prospects is the key driver for increasing firm value.

Although previous research has examined the effect of corporate governance, investment in research & development, intellectual capital, and enterprise risk management on firm value, many of the results still examine specific aspects of corporate governance such as board structure and ownership structure. Relatively few studies on the impact of corporate governance using the Report on Business (ROB) index published by Globe and Mail, which was adopted and developed from research (Berthelot et al., 2010; Niu, 2006).

This study uses a corporate governance index consisting of 4 sub-indices, namely board composition, shareholding and compensation policies, shareholder rights and disclosure. The measurement of corporate governance using the Report on Business index is being tested for the first time in the context of financial companies listed on the Indonesia Stock Exchange. Thus, the results of this study provide an overview on the quality of the corporate governance implementation from the aspect of board composition, ownership and compensation policies, shareholder rights as well as factual disclosure of financial companies in Indonesia compared to previous similar studies.

Financial companies are companies that regulate the implementation of governance strictly and have intensive intellectual capital (Firer & Mitchell Williams, 2003). Financial companies are also a knowledge-based sector that takes advantage of competitive innovations and uses more knowledge capital than physical capital. This is relevant with the technological developments and the industrial revolution which is financial institutions obliged to innovate and utilise intellectual capital, both digitalization, compared to physical capital.

The results showed that the majority of financial companies in Indonesia have implemented governance in the strong category, and invested relatively high in research & development. This is reasonable because financial companies are highly regulated companies. However, this strong corporate governance practice and relatively high investment in research & development did not get a positive response from investors through increasing firm value.

Signaling theory explains the behavior of company management in providing guidance to investors regarding management's views on the company's prospects. Information published as an announcement will provide a signal for investors in making investment

decisions. If the announcement contains a positive value, it is expected that the market will react once the announcement is made to the public (Brigham & Houston, 2014). Information that contains good signals can have an impact on the market reaction. A positive market reaction to information that contains good signals will encourage higher firm value. Companies can increase its value by reducing asymmetry information and providing signals to external parties in the form of reliable information.

In the perspective of signaling theory, firm value reflects a positive or negative reaction from investors related to company performance. Dang et al., (2020) explain firm value as the existing benefits and potential benefits that a firm can generate are expressed in the firm of value that can determine throught the suitable methods and pricing model. The process of value creation is due to the bustling or slowdown of the market and this is greatly influenced by economic conditions, government regulations, and the competitive climate (both domestic and foreign). Market conditions will certainly affect the company's internal performance as well as investors' responses. The interaction of market conditions, company's internal performance, and investor behavior ultimately determines the value of a firm in the capital market (Mardiyanto, 2009).

Viewpoints based on market are the views on determining the firm value on the market share price. Stock price can reflect a firm's expectations, that reputation has an important impact on performance (Edi & Susanti, 2021). The volatility of stock prices has a significant impact on investment decisions, the smaller the standard deviation is stock prices, the lower the risk of investment (Dang et al., 2020). The Firm value that describes the present value of a firm can compute through the Tobin's Q method. Tobin's Q value is calculated from the sum of the market value and the market value of the debt and divided by its assets. Tobin's Q is used as a measure of firm value since good market conditions will increase the stock market price. The indicator using Tobin's Q is considered to provide the most information is good because Tobin's Q describes for the current value. Firm value can prevent undervalued or overvalued. Posecion & Alajlani (2018) explain that with the Tobin ratio, $Q < 1$ implied means that the market value is lower than company's stated book value. Meanwhile $Q > 1$, this means that the market value is higher that company's stated book value.

Good corporate governance can create a relations and uniformity of purposes between all parties with an interest as they can work together in carrying out business activities optimally. Financial performance will also increase along with the company's management in achieving its goals (Nandaria & Kusuma, 2014). Good corporate governance leads to better performance which will increase firm value. Good corporate governance helps ensure that managers will act on behalf of shareholders as well as make decisions that maximize firm value (Cheung et al., 2014). Ararat et al., (2017) show result that good corporate governance could increase firm market values. The implementation of good corporate governance in a company can reduce the misuse of related party transactions that are detrimental to the company.

Nisasmara & Musdholifah (2016) found that the more optimal the proportion of the size of the board of directors and the board of independent commissioners in a company, the higher firm value, Good corporate governance proxied by the intensity of the board of commissioners has no effect on firm value. Black et al., (2015) found that good corporate governance can reduce tunneling channel. Good corporate governance based on a stakeholder perspective is carried out through various company policies that reflect the company's commitment to stakeholders, which includes protection of the rights of

minority shareholders. Corporate governance is a system used to control company risk as well as ensure that the implementation is effective. By good corporate governance, there is little chance of financial risk, hence enforces to always try to improve company performance which will ultimately drive its company value (Wijayanto, 2018).

However, in a different perspective, many investors do not pay attention to information to good corporate governance while investing in a company, because the quality of disclosure of good corporate governance and concern for it is still very low. This is consistent with the results of study by Fatchan & Trisnawati (2018) who found that good corporate governance does not increase firm value. The implementation of corporate governance is limited to following the minimum regulations set by the regulator, while unfancy the company itself. Actually, corporate governance should be understood as an opportunity from both obligations and cost factor (Ammann et al., 2011). Meanwhile, research that relates governance practices with firm value in developed countries shows that better corporate governance practices have economically significant results and higher market value (Ammann et al., 2011).

H_1: *Good corporate governance has a positive effect on firm value*

Research & development investment is the study of ideas, methods, products or services with the aim of creating new products or processes, improving existing products, and finding new knowledge that can be useful in the future. R&D is one of the most important drivers of company growth. R&D is one of the most important factors influencing company's growth strategy and its financial performance. Investment in R&D will create larger market share, higher share price and a better reputation, which in turn will increase firm value (Farah Freihat & Kanakriyah, 2017).

Gupta et al., (2017) found that research & development has a significant and positive effect on firm value. Investments in research & development will reduce corruption in a company, the government will also provide incentives for companies to innovate. Alam et al., (2020) stated that R&D can affect a company's performance due to the development of new products, new production methods as well as information technology. Investments in research and development create value for firms due to their competitive advantages, when they are used as a differentiation strategy that creates new products of processes that are hard for competitors to imitate and this creates brand equity (Basgoze & Sayin, 2013).

Companies should pay more attention to research & development expenditures to gain a competitive advantage. R&D expenses have a positive effect on a firm's operating income in the long term. For a one-unit increase in R&D expenditure, the net operating income increases by 2.37 units. Statistically, research & development investment has a positive effect on increasing firm value would occur in the long term (Kiraci & Celikay, 2016)

H_2: *Research & development has a positive effect on firm value*

IC is a potential resource that can create added value and maximize company performance. Prosperity for investors will be achieved when investors invest in companies that are able to achieve high performance, since companies that are able to achieve high performance will have the ability to pay high dividends to investors and also provide benefits to stakeholders (Devi et al., 2017). According to investors, IC is an intangible asset owned by a company that can increase the company's competitive advantage (Nuryaman, 2015).

Hejazi et al., (2016) stated that companies need to pay special attention to human resources and invest in developing their knowledge, skills and capabilities. The company also motivates employees to achieve higher levels of performance and innovation therefore increase the company's profitability and performance. Thus it can be said that companies that are able to manage IC efficiently can improve company performance and are able to create a competitive advantage for the company which in turn will increase company value. Sukiati et al., (2015) stated that effective working time and reduction of marketing costs can be done because management has a good on IC, so that it can maximize profits that will affect company value. Bchini (2015) and Sardo & Serrasqueiro (2017) found that IC has a significant effect on firm value, human capital can be used as the main driver of growth and innovation for the company in the future while relational capital allows companies to build relationships with customers and suppliers, partners, as well as increasing the company's relational network as the foundation of company.

H3: *Intellectual capital has a positive effect on firm value.*

Implementation of ERM in a company determines the level of investor confidence. Implementation of ERM can reduce the risk of failure of a company is seen as a positive thing and considered to have good prospects by investors so that it can be taken into consideration in making investment decisions (Iswajuni et al., 2018). Q. Li et al., (2014) and Krause & Tse (2016) found that ERM has a positive effect on firm value. Risk management increases firm value and returns, while reducing returns and cash flow volatility. Lechner & Gatzert (2018) found that ERM will increase shareholder value which later will create firm value.

ERM is a part of governance which is generally perceived positively by the market. Information of risk management disclosure can create investor confidence to invest, the amount of disclosure is also considered as a good quality of news disclosure therefore investors give a positive reaction (Novitasari & Handayani, 2020). Effective ERM processes result in fewer earnings surprises by assisting management to exploit opportunities, enhance information processing and communication, increasing firm reputation and contributing to improved firm planning and performance (Malik et al., 2020). Companies with more sophisticated ERM system are more profitbale and better evaluated by financial market, on the contrary, companies with rudimentary or no ERM systems are found to be less profitable and less appreciated by investors (Florio & Leoni, 2017). ERM information provides stakeholders with a form of good commitment from management regarding how to manage the risk, therefore ERM disclosure is regarding a good and positive signal, investors can assess the firm's prospects through ERM information (Devi et al., 2017).

Based on the previous explanation, it is known that ERM disclosure will increase firm value. Companies that disclose information related to broader risks within a firm can increase investor confidence. This will be a consideration for investors while making investment decisions. ERM disclosure by companies can convince investors that the company is able to manage risks and that it can create positive perceptions from investors. The positive perception from these investors will increase the demand for shares which will be followed by an increase in firm value.

H4: *Enterprise Risk Management Disclosure and Company Value*

METHOD

The data used is panel data. Panel data is a combination of time series and cross section data. In this study, the panel data is unbalanced panel data, which is a situation where the cross section unit has an unequal number of time series observations. The data used in this study is a secondary data in the form of annual reports of financial companies listed on the Indonesia Stock Exchange (IDX) which can be accessed through http://www.idx.co.id/.

Table 1. Sample Selection Proccess

Sample Criteria			
Criteria	**Year 2017**	**Year 2018**	**Year 2019**
Total population of financial sector companies listed on the BEI during the study period	84	86	89
The annual reports are incomplete	(2)	(2)	(2)
Has no research and development data	(16)	(16)	(16)
Total	66	68	71
Outlier Data	(25)	(26)	(26)
Total observations after the outlier	41	42	45
Total observations (firm-years)			128

The population in this study is a financial sector companies listed on the Indonesia Stock Exchange in 2017-2019. The research sample consisted of 45 firms with a total of 128 observations during the observation period. The sampling technique used is a purposive sampling method with the following criteria.

Variable Measurement

The dependent variable in this study is firm value. Firm value is an investor's perception of a company that is often associated with the market performance of the company or the company's stock price (Nuryaman, 2015), measured by Tobin's Q. Tobin's Q is generated from the sum of the stock market value and debt market value and divided by its assets. The Tobins'Q as proposed by Pruitt and Chung (1994) was computed using the following formula:

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

Where :

Tobin's Q = Firm Value

MVS = M*arket Value of all Outstanding Shares*

D = The market value of debt obtained from the proceeds of current liabilities - current assets + long-term liabilities

TA = Total assets

Independent Variable

The independent variables in this study consist of good corporate governance, research & development investment, enterprise risk management disclosure and intellectual capital. The first independent variable in this study is good corporate governance. Corporate governance refers to the internal and external mechanisms that reduce agency conflicts arising from the separation of ownership and control (Rodrigues et al., 2020), corporate governance was measured using the Corporate Governance Index (CGI) adopted from The Globe and Mail (Berthelot et al., 2010). The total CGI score is 100 points obtained by adding up the scores of the four sub-indices, namely, board has a value of 40 points, the ownership and compensation policy is 23 points, the shareholder rights policy has 22 points and the disclosure policy.

The second independent variable is research & development investment. Research & development investment measured as the ratio of research & development expenditure to total net sales of the firm (Cherkasova & Kurlyanova, 2019). Research & development investment has been treated as an important constituent of economic growth (Alam et al., 2020)

The third independent variable is enterprise risk management disclosure. ERM disclosure is a disclosure related to corporate risk that will increase transparency and lead to better business management (Malik et al., 2020). The measurement of ERM uses the criteria for 108 disclosure items based on 8 COSO components. The calculation of items uses a dichotomy approach, a value of 1 if the firm disclosed the required information and a value of 0 if not disclosed (Desender & Lafuente, 2011).

Where:

ERMDI = *ERM Disclosure Index*

ij Ditem = Total score item ERM disclosed

ij ADitem = Total score item ERM should be disclosed

Intellectual capital (IC) is considered to be a wealth generator and driver of financial performance thus creating competitive advantage and sustainability in business (Xu & Wang, 2018). IC is an important element in increasing a company's competitive advantage and represents a large part of the value of a product (Gogan et al., 2016). IC is measured by the Value Added Intellectual Coefficient (VAIC) with the VAIC calculation formula as follows (Pulic, 2004):

VA = OUT – IN

VAHC = $\frac{VA}{HC}$

VACE = $\frac{VA}{CE}$

SCVA = $\frac{SC}{VA}$

Where:

VAIC = *Value Added Intellectual Coefficient*

Output (OUT) = Total Sales and Other Revenue

Input (IN) = Sales expenses and other costs (not including labor expenses)
Value Added (VA) = Output reduced input
Human Capital (HC) = Labor expenses
Capital Employed (CE) = Available funds (equity, net income)
SC = VA reduced HC

The hypothesis in this study was tested using multiple linear regression models. Data processing is carried out using SPPS (Statistical Package for Social Science) version 22.

$Y = a + b_1GCG + b_2R\&D\ Investment + b_3ERM\ Disclosure + b_4IC + e$

Where:
Y = Firm Value
a = Constanta
b_1-b_4 = Koefisien Regresi
GCG = Good Corporate Governance
R&D = Research & development investment
ERM = Enterprise Risk Management
e = *Error Term*

RESULTS AND DISCUSSION

Based on 45 companies with a total observation of 128 companies during the observation period, the descriptive result of the variables that were being studied are shown on the table 4 below:

Table 2. Descriptive Statistics

	N	Minimun	Maximum	Mean	Std. Deviation
FV	1,076	72,39	0,014846	2,170	0,799
ERM Disclosure	2,756	83	0,387640	6,370	0,944
GCG	0,349	63	0,000280	-0,549	0,640
IC	0,311	4,053	0,048980	1,032	0,066
R&D Investment	128	128	128	128	128

Meanwhile, the results of the implementation of corporate governance mapping based on the Report on Business (ROB) index indicators of financial companies in Indonesia can be seen in the following table:

Component	**Percentage**		
Sub Index-1 : Board Composition	**2017**	**2018**	**2019**
- What percentage of the company's directors are fully independent?	1,92%	1,91%	1,83%
- What percentage of audit committee is fully independent?	8,06%	8,04%	8,05%
- What percentage of the compensation (remuneration) committee?	4,32%	4,32%	4,25%
- Is the role of Chairman and CEO	6,72%	6,70%	6,71%

Component	Percentage		
Sub Index-1 : Board Composition	**2017**	**2018**	**2019**
split? If not is there a lead director?			
- Are these cozy or clubby relationship among directors?	6,43%	6,43%	6,41%
- Is the company's CEO busy with outside commitments?	2,69%	2,68%	2,68%
- Does the company have a formal system to evaluate the performance of the board and individual directors?	2,69%	2,68%	2,68%
- Does the director sometimes meet without management present?	2,62%	2,62%	2,62%
- How often does the board of director and audit committee meet?	2,91%	2,92%	2,81%
Sub-Index 2: Shareholding and Compensation Policy			
- Are directors required to own stock? (Stock option don't count)	0,06%	0,06%	0,07%
- Do the directors own stock?	0,51%	0,60%	0,65%
- Is the CEO required to own stock? (Stock options don't count)	0,00%	0,00%	0,00%
- Does the CEO own shares?	0,48%	0,54%	0,59%
-			
- Are directors in their own separate option plan?	4,03%	4,02%	4,02%
- Does the company give loans to directors or officers?	8,06%	8,04%	8,05%
Sub-Index 3: Shareholder Rights Policy			
- Do all the directors stand for re-election every year?	2,69%	2,68%	2,68%
- Are employee stock excessively dilutive for shareholders?	10,68%	10,66%	10,73%
- Did the company re-priced its options or extend their exercises date or allow them to be exchanged for lower-priced options?	5,37%	5,36%	5,36%
- Are their non-voting or subordinates voting shares?	10,75%	10,72%	10,73%

Component	Percentage		
Sub Index-1 : Board Composition	**2017**	**2018**	**2019**
Sub-Index 4: Disclosure Policy			
- Does the company have a full statement of corporate governance practices?	3,10%	3,16%	3,24%
- Does the company disclose how much it paid its auditor for consulting and other work?	2,30%	2,26%	2,22%
- Does the company disclose full biographies of its board members?	1,28%	1,28%	1,28%
- Does the company fully name and explain which of its directors are "related" and why?	1,25%	1,25%	1,28%
- Does the company disclose attendance records of its directors at board and committee meetings?	2,62%	2,62%	2,62%
TOTAL	100%	100%	100%

Table 3. Corporate Governance Implementation Index

Referring to (Niu, 2006), the implementation of corporate governance can be classified into three categories, namely the weak category with a score of <33, a neutral category with a score of 33 - 67, a strong category with a score of> 67.The results of the descriptive statistical test show that the implementation of corporate governance in Indonesia is quite high, where 88.28% of the observational data belong to the strong category. These results provide a detailed description of some aspects of corporate financial governance implementation in Indonesia, namely; board composition, ownership and compensation policies, shareholder rights as well as disclosures.

Implementation of Good Corporate Governance		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Strong	113	88.3	88.3	88.3
	Neutral	15	11.7	11.7	100.0
	Total	128	100.0	100.0	
ERM Disclosure					
Valid	High	128	100.0	100.0	**100.0**
Firm Value					
Valid	Undervalued	67	52.3	52.3	52.3
	Overvalued	61	47.7	47.7	100.0
	Total	128	100.0	100.0	

Table 4. Quality of GCG Implementation, ERM and Firm Value

The assessment of the quality of ERM disclosure was carried out referring to (Devi et al., 2017). ERM disclosure is classified into three categories, namely low, medium and high. ERM disclosure with a score of <0.29 is classified into the low category, a score of 0.29-0.61 is classified into the medium category and a score> 0.61 is classified into the high category. The disclosure of ERM for financial companies in Indonesia is high. It is natural that a financial company is a highly regulated company, the company must comply with the applicable regulations.

Meanwhile, the company value is considered to be relatively high undervalued, namely 52.34%, which indicates that the value of the company is lower than the value of the company in the market. Undervalued company value is due to an increase in the company's assets but not followed by an increase in the market value of the company's shares.

Research Hypothesis

Table 7 and table 8 shows the results of testing the effect of intellectual capital, disclosure of ERM, good corporate governance and investments in research and development on firm value. The results show that intellectual capital and ERM disclosure have a positive and significant effect on firm value. However, corporate governance and investment in research and development do not have a significant effect on firm value.

Model	**Unstandardized Coeffecients**		**Unstandardized Coeffecients**
	B	**Std. Error**	**Beta**
Constant	.453	.567	
IC	.061	.027	.197
ERM Disclosure	.068	.427	.141
GCG	.012	.007	.146
R&D Investment	.145	.569	.022

Table 5. Regression Test Results

	t	**Sig.**
IC	.799	.025
ERM Disclosure	2.265	.017
GCG	1.606	.096
R&D Investment	.256	.799

Table 6. Statistical Test

Discussion

The results of hypothesis testing show that good corporate governance has no significant effect on firm value, thus Ha1 is rejected. The results of this study indicate that the implementation of good corporate governance is not able to predict firm value. Investors did not respond optimally to the implementation of good corporate governance aspects by increasing firm value. In highly regulated companies such as financial institutions, it is an obligation to implement good corporate governance optimally, however, good corporate governance practices do not increase firm value. In its development, good corporate governance is a culture that must be implemented and controlled in the company, so that the concept of corporate governance is no longer viewed as an indicator of investing.

The results of this study support the research of Fatchan & Trisnawati (2018) and (Wahyudin & Solikhah, 2017) which found that good corporate governance has no effect on firm value. investors do not pay attention to information about good corporate governance when investing in companies because the quality of disclosure is still very low.

However, research conducted by Ammann et al., (2011); Ararat et al., (2017); Black et al., (2015); Cheung et al., (2014); Nisasmara & Musdholifah, (2016); Siagian et al., (2013) found that good corporate governance has a positive effect on firm value where the implementation of good corporate governance can minimize the occurrence of conflicts between management and shareholders. The company will run the business optimally which can increase company productivity and lead to better company performance and increase company value. However, a recent study states that the concept of good corporate governance has become a habit and culture in companies hence the implementation is an obligation to provide adequate confidence regarding the company's operations.

The initial concept of implementing corporate governance is to increase firm, through the mechanisms and processes by which the organization is directed and controlled to achieve its goals. However, the concept of governance in banking institutions is a form of obligation that must be obeyed and monitored continuously by the regulator, so that the implementation of governance in financial institutions can be perceived as a common thing which is as an intermediary institution. This is in line with the statistical descriptive results, which show that the implementation of banking corporate governance in Indonesia is quite high, namely 88.28% and categorized as a strong category.

Investments in research & development do not have a significant effect on company value. The results of this study indicate that investment in research & development can not predict firm value. Investment in research and development is a company's long-term investment activity. The company invests in research and development as a long-term strategy in increasing firm value. Long-term oriented investors or block holder investors view R&D investment as the firm's future value, and use R&D investment preferences as information in decisions-making. This is different from investors who are short-term or return-oriented, research & development is not an indicator in making investment decisions.

Kiraci & Celikay (2016) found that investment in research and development has no effect on short-term company performance, but has a positive effect on long-term company performance. The research conducted by Farah Freihat & Kanakriyah (2017) on pharmaceutical companies in Jordan which shows that the company's strategy is to target investment in R&D to achieve future goals or long term goals, not a short term. Government support for business R&D is used by many countries to fuel long-term economic growth (S. Chen et al., 2020). In another perspective Kim et al., (2018) found that companies with more investment in research & development encounter higher information asymmetry which negatively affects firm value.

In contrast to the results of this study, research conducted by Min & Smyth (2015) Gupta et al., (2017); Farah Freihat & Kanakriyah (2017); Basgoze & Sayin (2013); Cherkasova & Kurlyanova (2019) and show that research & development investment has a positive effect on firm value.

The results found that IC has a significant positive effect on firm value. Companies that can manage their IC efficiently will encourage an increase in firm value. Companies can innovate by using human resources with skills and knowledge, technology and good relationships with corporate partners. This can be used as a company's competitive

advantage that will increase firm value. Sardo & Serrasqueiro (2017) stated that investment in IC allows companies to innovate and reveal signals to the market regarding company growth opportunities that lead to increased firm value. Xu & Wang (2018) found that IC has a positive impact on financial perfomace and companies' sustainable growth.

The results of this study support research conducted by Bchini (2015); Devi et al., (2017); Hejazi et al., (2016); Nuryaman (2015); Sardo & Serrasqueiro (2017); Sukiati et al., (2015) and found that the greater the investment in IC by the company, the greater firm value. The results of the study strengthen the concept that banks as intermediary institutions make investments, good IC management is a signal of a good management for investors and ultimately increases firm value. However, the results of this study are different from the results of research by Y. Li & Zhao (2018) and Widarjo (2011) which found that IC does not have a significant effect on firm value.

The results show that there is a positive relationship between ERM disclosure and firm value. The greater ERM disclossure, it would result in greater firm value as well. ERM disclosure has a significant positive effect on firm value. Companies with more sophisticated ERM system are more profitbale and better evaluated by financial market, on the contrary, companies with rudimentary or no ERM systems are found to be less profitable and less appreciated by investors (Florio & Leoni, 2017). Investors give a positive response to companies that implement ERM well and conform to regulations. The implementation of ERM as a framework can assist companies in balancing business risks and opportunities, and can also maintain the company's competitiveness so that it can be used as a positive signal for investors to invest.

Three lines of defense of banking provides roles and responsibilities for ownership, monitoring, control and how the bank's risk management system is improved. ERM as part of the Three lines of defense management establishes various supporting functions to help build or monitor processes and manage company risks effectively. The implementation of ERM can increase the firm value by 5.37% compared to companies that do not implement ERM. ERM implementation significantly helps companies to save costs and increase revenue (Chen et al, 2019).

The results of this study support research conducted by Devi et al., (2017); Hoyt & Liebenberg (2015); Iswajuni et al., (2018); Krause & Tse (2016); Lechner & Gatzert (2018); (Q. Li et al., 2014) and found that the more ERM items disclosed by the company, the higher firm value. In contrast to the results of this study, Aditya & Naomi (2017) found that ERM has no effect on firm value.

CONCLUSION

The results of this study found that good corporate governance and R&D investment had no significant effect on firm value. The market does not respond positively to the implementation of good corporate governance in a company by increasing firm value. The implementation of good corporate governance in financial sector companies is a form of compliance with obligations, thereby providing sufficient confidence to investors regarding the controlling mechanism and the company's management processes running properly. However, high good corporate governance practices are not a signal or preference for potential investors to do an investment.

Meanwhile, investing in research & development is a company investment activity in the long term. Companies investing in research & development are a long term strategic in increasing company value. For investors who are short-term oriented, namely investors

who aim to obtain returns, investment information on research & development is not the main information in making investment decisions. This is different from long-term oriented investors, because investment in research & development has an effect on firm value in the long term.

Meanwhile, investors see IC and ERM disclosure as important things in investing. Companies that can manage their IC efficiently, can innovate by using human resources with skills and knowledge, good technology and good relationships with company partners and reveal signals to the market about company growth opportunities that lead to increasing firm value.

ERM disclosure is information that is needed when investing, ERM as a framework can help companies to manage business risks and opportunities, and can also maintain the company's competitiveness thus can be used as a positive signal for investors to invest. This is consistent with research conducted by financial companies in Taiwan which shows that companies that implement ERM can increase company value by 5.37% compared to companies that do not implement ERM. ERM implementation significantly helps companies in cost savings and increasing revenue (Y. L. Chen et al., 2020).

This study contributes to signaling theory by providing evidence that investment decision making by investors is associated with the availability of information as a basis for decision making. Intellectual capital and enterprise risk management disclosure are important for investors as an information media to assess the company's prospects in the future. Finally, this research has implications for regulators as well as supports regulatory policies regarding the adequacy of information that must be available for users of the financial statements. The limitation of this study is related to the association testing. For Future research, qualitative research approach to examine the relationship between firm value and the factors that influence it is suggested.

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