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The Moderation Of Intellectual Capital And Information Asymmetry In The Effect Of Voluntary Reporting On Stock Return

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ABSTRACT

Voluntary reporting and intellectual capital are important instruments for the provision of information to investors. The information increases investment interest and ultimately affects stock return. This study examines the effect of voluntary reporting on stock return with the moderation of intellectual capital and information asymmetry. The sample of this study is 225 observations from 45 financial and banking companies listed on the Indonesia Stock Exchange during the period of 2015-2019. Financial and banking sector has an important role for companies in other sectors in providing capital and a sense of security for their assets. Multiple regression method and MRA applied in this study have come to findings that voluntary reporting increases stock return, that intellectual capital strengthens the relationship between voluntary reporting and stock return, and that information asymmetry has no effect on the relationship between voluntary reporting and stock return as companies begin to respond to the importance of voluntary reporting to reduce information asymmetry.

KEYWORDS: voluntary reporting; stock return; intellectual capital; information asymmetry.

INTRODUCTION

Indonesia's economic growth in 2019 was 0.15 percent slower than that of 2018, the lowest since 2015, mainly caused by the slowdown in the global economy, reducing the development of the country's business sector. This study uses one of the sectors in Indonesia, financial and banking service. This sector has an important role for other sectors and is the most fundamental of other sectors in terms of providing capital and a sense of security for company assets (Agustiyanti, 2020).

The phenomenon in financial and banking service sector is the fluctuating stock prices from year to year, tending to decrease. In 2015 the stock performance of financial sector continued to decline; the stock index fell by 2.48% and the stock return was minus 20.26.%. In 2016 foreign investors released their shares in financial-sector companies, causing the stock index to plummet up to 1.88%. In 2017, although the stock price index increased, losses were still found; one of which was experienced by an insurance company, from -7.29% in the year and -57.02% in the following year. Therefore, studies related to stock return are necessary (Dewi, 2019).

The phenomenon concerning stock return above indicates the importance of strategy for companies to maintain their business and image as well as to maintain investor's confidence. Firm value, high or low, is determined by financial and non-financial information contained in annual reports (Sun et al., 2018). Voluntary reporting is one of the media between information users and company management (Wang et al., 2013); it is related to the presentation of information in the company's annual report, so information users are provided with transparent and complete disclosure to ensure correct business decisions. The more relevant the information obtained by investors and potential investors, the higher their confidence to invest (Elkelish et al., 2015).

In addition to using voluntary reporting to increase investor confidence, companies can also use intangible asset, in this case intellectual capital, management (Asare et al., 2017). High investor confidence is a company's competitive advantage in attracting investment (Bollen et al., 2005). The research of Rehman et al. (2021), conducted in Istanbul in Islamic banks, came to a conclusion that structural capital efficiency and relational capital efficiency are important drivers for company performance. Furthermore, Adesina (2019) found that intellectual capital, explained by, one of which, the efficiency of human resources within the company, is able to boost return on investment. Not limited to human resources, the efficient use of company's capital also has a positive effect on return on investment.

Previous research explains the result of inconsistency about the research on voluntary to reporting on stock returns, so this research is important to be investigated further with the moderating variable to measure the influence, whether to strengthen or weaken the relationship between the independent and dependent variables. This research uses intellectual capital and information asymmetry as moderating variables, because intellectual capital is one of the strategies in improving company performance by increasing competitive advantage. Meanwhile, information asymmetry according to agency theory states that problems that often occur between agents (managers) and principals (company owners) are related to information asymmetry, an imbalance of company information knowledge (Jensen & Meckling, 1976). It will affect the presentation of the annual report by the company, it causes investors not using the published information as a decision making investment.

Signaling theory suggests that organizations strive to provide positive signals or information to potential investors through disclosures in their annual reports (Whiting & Miller, 2008). Executives from companies with better information about their companies tend to transfer

it to potential investors to increase the value of their companies. The information is a signal sent through voluntary reporting contained in the annual report (Leland & Pyle, 1977). The information provided by the company in the form of announcements is able to provide a signal for investors in making their investment decisions. If the announcement is positive in value, the company may expect a reaction from the market at the time of the announcement, so it is accepted by the market.

Because the information presented by the company can be asymmetrical, this study also uses agency theory, which explains that the agency problem of information asymmetry between the principal and the agent occurs because the agent, or the manager of the company, has more information than the principal (the company owner) about the internal conditions and prospects of the company. As managers, agents have the obligation to provide information about the condition of the company to the principal. Opportunistic behavior can lead them to use this information asymmetry. In other words, they can do things not in favor of the principal.

Signalling theory provides a good framework for understanding the positive impact of voluntary reporting on stock return. According to Spence (1972), signalling theory asserts that a company as the provider of information (signal) related to company performance must be able to provide relevant information for the recipients. Previous studies by Schoenfeld (2017) and LaGore et al. (2015) in the US, Elfeky (2017) in Egypt, and Elkelish et al. (2015) in the UAE came to a conclusion that voluntary reporting has a positive effect on stock return. They show that voluntary reporting is able to convey material information and reduce information asymmetry which can increase liquidity in the stock market and affect the relationship between earnings and future returns. Based on the signalling theory, which states that voluntary reporting is a strategic resource that can increase investor confidence in companies to invest their capital in companies and help increase income and returns, and the findings of previous researches on the positive influence of voluntary reporting on stock return, the first hypothesis of this research is as follows.

H_1: *Voluntary reporting has a positive effect on stock return*

Signalling theory states that voluntary reporting can be a strategy to attract investors' attention by providing or giving information (signals) through annual reports (Whiting & Miller, 2008). Regarding voluntary reporting, one of the drivers for competitive advantage is the reporting of intangible assets, a type of assets with no physical substance but can increase advantages (Bontis et al., 2000). The effect of intellectual capital on stock return was found by Rehman et al. (2021) in Istanbul, Kumar (2013) in the US, Asare et al. (2017) in Ghana, and Sardo et al. (2018) in Portugal. Their findings emphasize the positive correlation between intellectual capital and stock return. This indicates the efficiency of human resources and return on investment as well as the efficiency of capital usage and return on investment. Based on signalling theory, which states that intellectual capital is a strategic resource that can increase investor reactions to information related to intellectual capital disclosure, and the results of previous studies that intellectual capital has a positive effect on stock return, the second hypothesis of this study is as follows.

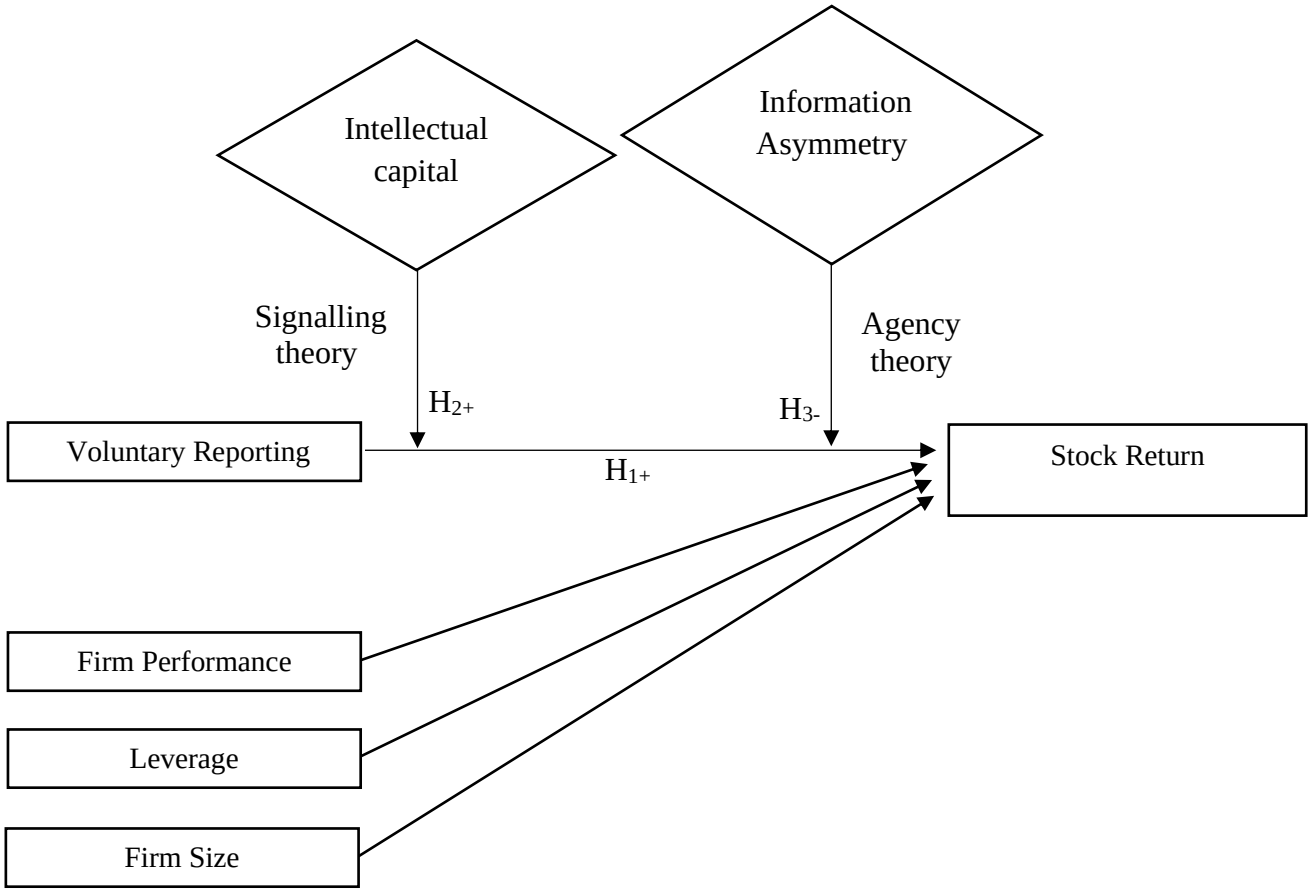
H_2: *Intellectual capital strengthens the effect of voluntary reporting and stock return*

Agency theory states that information asymmetry is a problem between principal (company owner) and agent (company manager). Manager's behavior influences decisions about strategies, and the strategies taken affect the management in making reports (Jensen & Meckling, 1976). A research conducted by Goel et al. (2020) on the effect of information asymmetry on stock return found that information asymmetry has a negative relationship

with stock return, indicating the importance of transparency in company's operations and the availability of better information to reduce capital cost. Companies can carry out voluntary reporting to reduce information asymmetry between managers and stakeholders. The result is in line with the findings of Kelly & Ljungqvist (2012), Chan et al. (2008), and Choi et al. (2013) that the higher the information asymmetry, the lower the investor's demand. Based on the theory that information asymmetry can weaken the relationship between voluntary reporting and stock return and previous findings that information asymmetry reduces the amount of information provided by companies and affects investors' investment decisions, the third hypothesis of this study is as follows.

H3: *Information asymmetry weakens the effect of voluntary reporting and stock return.*

Based on the hypotheses above, the research's conceptual framework is formulated as follows.



METHOD

This explanatory research uses quantitative approach with positivism paradigm to identify the effect of voluntary reporting on stock return with intellectual capital and information asymmetry as the moderating variables using secondary data in the form of annual reports obtained from the website of the Indonesia Stock Exchange (www.idx.co.id) and the sample companies' websites. The population is all financial and banking sector companies listed on the Indonesia Stock Exchange in the period of 2015-2019. They were selected as the subjects because they are the most fundamental companies in providing capital and providing a sense

of security for company assets. The sample of this study was selected using a purposive sampling method with several criteria.

Variable Measurement

This study uses dependent, independent, and moderating variables. The dependent variable is stock return, the independent variable is voluntary reporting, and the moderating variables are intellectual capital and information asymmetry. Their measurements are described in the following section.

Table 1. Variables Measurement

No	Variable	Measurement
1	Stock return	$R_{it} = \frac{Pit - Pit-1}{Pit-1}$
2	Voluntary reporting	Voluntary Reporting Index = $\frac{\text{Number of indicators reported}}{\text{Total number of indicators}}$
3	Intellectual capital	VAIC = HCE + SCE + CEE
4	Information Asymmetry	spread = ((ask price – bid price) / ((ask price + bid price)/2)) x 100
5	Firm Performance	Return on Equity (ROE) = $\frac{\text{Earning After Tax}}{\text{Total Equity}}$
6	Leverage	Leverage = $\frac{\text{Total Debt}}{\text{Total Assets}}$
7	Firm size	Size = Log Total Assets

Source: Data Author

Data Analysis Method

Three multiple regression equations were used as data analysis models for hypothesis testing. The MRA method was used in this study to test the moderating variable (Ghozali, 2009, pp. 227), described in equation 2. The equation is as follows:

1) $SRit = \alpha + \beta 1VRit + \beta 2FPit + \beta 3LEVit + \beta 4FZit + \varepsilon it$

2) $SRit = \alpha + \beta 5VRit + \beta 6ICit + \beta 7IAit + \beta 8FPit + \beta 9LEVit + \beta 10FZit + \varepsilon it$

3) $SRit = \alpha + \beta 11VRit + \beta 12ICit + \beta 13IAit + \beta 14VRit *ICit + \beta 15VRit *IAit + \beta 16 FPit + \beta 17 LEVit + \beta 18 FZit + \varepsilon it$

RESULTS AND DISCUSSION

The sample of this research is 45 companies selected through purposive sampling with several criteria. Using the research year from 2015 to 2019, a number of 225 observations was obtained.

Descriptive Statistics

Table 2. Descriptive Statistic

Variable	N	Minimum	Maximum	Mean	Std Dev
Stock Return	225	6.86	13.06	9.52	1.31
Voluntary Reporting	225	0.72	0,96	0,86	0.39
Intellectual Capital	225	1.27	8.51	2.77	0.98
Information Asymmetry	225	0.00	2.00	0.02	0.01
Firm Performance	225	0.00	0.52	0.11	0.08
Leverage	225	0.03	1.61	0.72	0.21
Firm Size	225	10.82	15.15	13.16	1.00

Source: Data Author

The results of the descriptive analysis show that stock return (SR) has the minimum value of 6.86, the maximum value of 13.06, and the mean value of 9.52. The standard deviation value of 1.31 < the average value of 9.52 indicates that the data for stock return tend to be normally distributed. Voluntary reporting has the minimum value of 0.72, the maximum value of 0.96, and the mean value of 0.86 with a standard deviation of 0.39. The standard deviation value of 1.31 < the average value of 9.52 indicates that the data for stock return tend to be normally distributed. Intellectual capital has the minimum value of 1.27, the maximum value of 8.51, the mean value of 2.77, and a standard deviation of 0.98. As the mean value of Intellectual capital (IC) is greater than the standard deviation, the data of IC is evenly distributed. Information asymmetry has the minimum value of 0.00, the maximum value of 2.00, the mean value of 0.02, and a standard deviation of 0.01. The mean value of information asymmetry is higher than the standard deviation, indicating a normal distribution of the data. The deviation value of the control variable is below the mean value. The standard values of FP, LEV, and FS are 0.08, 0.21, and 1.00, so the data deviation of each control variable is good as there is no data with extreme values.

Data Analysis and Discussion

We have tested the classical assumptions to ensure that the model has met the best linear unbiased estimator (BLUE) conditions. First, we conducted normality testing of Kolmogrov–Smirnov which results in a significance level of 0,637 (α>0,05). The result indicates that the data was normally distributed. We also have conducted the multicollinearity testing which shows a Variance Inflation Factor (VIF) below 10 on each variable, suggesting that there was no multicollinearity issue. The heteroscedasticity testing shows a scatter plot which follows a random pattern, suggesting a homoscedastic data. Hence, all the classical assumptions of the model were met.

The regression test in this study is divided into 3: regression test without moderating variables and regression test with the moderating variables as independent variables and as moderating variables through the use of Moderated Regression Analysis (MRA).

Result of Regression Analysis without Moderation

Table 3. Result Regression Analysis without Moderation

	Coefficient	t	Sig
Constant	4.402	2.936	0.004
VR	0.017	2.214	0.028**
KP	0.865	0.728	0.040**
LEV	-1.501	-2.523	0.012*
FS	0.451	3.385	0.001*
F	7.365		
Sig. F	0.000		
Adjusted R^2	0.544		

*Sig. pada level 0.01 (p<0,01)

**Sig. pada level 0.05 (p<0,05)

Source: Data Author

Model 1:

$SR = 4.402 + 0.017\ VR + 0.865\ FP - 1.501\ LEV + 0.451\ FS + \varepsilon$

The F-Value for model 1 is 7.365 with a significance value of 0.000 < 0.05. The result indicates that the model can be used to predict stock return. The model shows the regression coefficient of voluntary reporting (VR) against stock return is 0.017 with the significance value of 0.028. The significance value of smaller than 0.05 indicates that H1 is accepted. This shows that voluntary reporting has a positive effect on stock return.

Result of Regression Analysis

Table 4. Result of Regression Analysis

	Koefisien	t hitung	Sig
Konstanta	2.814	1.861	0.064
VR	0.158	2.124	0.035**
FP	0.798	0.646	0.519
LEV	-1.483	-2.214	0.028**
FS	0.553	3.907	0.000*
IC	0.042	0.383	0.702
AI	0.685	4.152	0.000*
F	8.152		
Sig. F	0.000		
Adjusted R^2	0.442		

*Sig. pada level 0.01 (p<0,01)

**Sig. pada level 0.05 (p<0,05)

Source: Data Author

Model 2

SR = 2.814 + 0.158 VR + 0.798 FP -1.483 LEV + 0.553 FS + 0.042 IC + 0.685 AI + ε

Model 2 has an adjusted result R^2 value is 0.442 or 44.2%. The F-Value for model 2 is 8,152 with a significance value of 0.000 < 0.05. These results shows that model 2 is feasible to be used in predicting the stock return variable. Model 2 shows that adjusted square R^2 is decreasing when the moderating variables that acted as independent variables were intellectual capital and information asymmetry.

Results of Regression Analysis with Moderation

Table 5. Results of Regression Analysis with Moderation

	Coefficient	t	Sig
Constant	2.237	1.462	0.145
VR	0.929	3.566	0.000*
FP	0.895	0.711	0.478
LEV	-1.393	-2.039	0.043**
FS	0.584	4.035	0.000*
IC	0.072	0.594	0.553
IA	0.713	4.121	0.000*
VR*IC	0.079	2.226	0.027**
VR*IA	-0.026	-0.146	0.884
F	6.976		
Sig. F	0.000		
Adjusted R^2	0.523		

*Sig. at 0.01 (p<0,01)

**Sig. at 0.05 (p<0,05)

Source: Data Author

Model 3

SR = 2.237 + 0.929 VR + 0.072 IC + 0.713 IA + 0.079 VR*IC - 0.026 VR*IA + 0.895 FP - 1.393 LEV + 0.584 FS + ε

The F-Value for model 3 is 6.976 with a significance value of 0.000 < 0.05. The result indicates that model 3 is feasible to be used in predicting stock return. The results of the regression, which examines the moderation of intellectual capital in the effect of voluntary reporting on stock return, are shown in table 4. The table shows that intellectual capital moderates the relationship by strengthening the effect of voluntary reporting on stock return. Thus, hypothesis 2 is accepted. Hypothesis 3 examines the moderating role of information asymmetry in the effect of voluntary reporting on stock return. The results show that information asymmetry has an insignificant negative effect on the relationship between voluntary reporting and stock return. Therefore, hypothesis 3 is rejected.

Discussion of Hypothesis Testing Results

The results show that voluntary reporting has a significant positive effect on stock return, in accordance with the explanation of the signalling theory that companies attempt to give positive signals or information to potential investors. The results of this study support the findings of Schoenfeld (2017), Elfeky (2017), LaGore et al. (2015), and Elkelish et al. (2015) that voluntary reporting has a positive effect on stock return. Voluntary reporting is able to convey material information and reduce information asymmetry that can increase stock market liquidity and affect the relationship between earnings and future returns. Voluntary reporting is motivated by investor's demand for relevant information and information with added values about earnings reported by companies (Chen et al., 2002). Management who has better or more information will be encouraged to share this information with potential investors, and companies can do this by sending signals through voluntary reporting.

The regression testing for interaction variables, i.e. voluntary reporting with intellectual capital on stock return, produces a positive and significant coefficient. Intellectual capital moderates by strengthening the effect of voluntary reporting on stock return. This finding supports the findings of Rehman et al. (2021), Asare et al. (2017), Sardo et al. (2018) that there is a positive correlation between intellectual capital and stock return, which shows the efficiency of human resources and return on investment as well as the efficiency of the use of capital and return on investment. Information about intellectual capital shows market reaction to IC. Investors take advantage of information about IC published in annual reports as a consideration for their decisions.

Companies in financial sector have begun to maximize information that can support their competitive advantage and to utilize resources to support the provision of information needed by investors so that investors focus on information from internal and external parties. This explanation is relevant with the signaling theory that information presented by companies can give signals to its recipient (Spence, 1972). Positive information presented by companies is expected to create a positive reaction.

The result of the test on hypothesis 3 is negative. The value of the research data is not significant, so hypothesis 3 is not supported. Information asymmetry does weaken the relationship between voluntary reporting and stock return, but the effect is insignificant. This finding is in line with the findings of Goel et al. (2020) and Ntow et al. (2015) that information asymmetry has a negative effect on stock return. Since the information acquired by investors is not sufficient to describe the state of the company, the company must pay agency fees, which reduces stock return. Despite the insignificance, the negative value still indicates that information asymmetry has a negative impact on the relationship between voluntary reporting and stock return.

The findings of this study support agency theory that information asymmetry is a problem between principals and agents. This asymmetry makes reporting decisions made by managers able to affect stock prices because the information is received differently among investors – some have more, and some others have less. This raises transaction costs and reduces the expected liquidity in the market for the company's stock (Ntow et al., 2015).

CONCLUSION

The results of this study provide empirical evidences that stock return increase when voluntary reporting is made. Therefore, the higher the voluntary reporting, the higher the stock return. In addition, it is also proven that stock return can be strengthened by intellectual

capital. In other words, intellectual capital can strengthen the effect of voluntary reporting on stock return. However, this study does not provide empirical evidence that stock return may decline due to information asymmetry. Furthermore, this study finds that information asymmetry weakens the relationship between voluntary reporting and stock return, but not significantly. This happens because companies start to respond to the importance of voluntary reporting to reduce information asymmetry between companies and information users.

This study was hampered by difficulties in identifying components for measuring intellectual capital and index components for measuring voluntary reporting. Because companies have different ways of reporting their finances, researchers should be careful in finding and listing intangible asset components and index components for voluntary reporting measurement.

Based on the limitations above, consequent researches should first determine items in the financial statements that are used to fulfill the measurement of voluntary reporting and intellectual capital and review the annual reports and financial statements made by the company to facilitate the process of identifying and measuring voluntary reporting and intellectual capital. They are also suggested to investigate more deeply about why investment should be made in voluntary reporting and intellectual capital carried out by companies.

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Apendix

Index *Voluntary Reporting*

No	Voluntary Reporting Items
	(Category 1) General Company Information
1	Statement of the general purpose of the company
2	The organizational structure is more than one level below the board of directors
3	General strategy statement of the company
4	Discussion of the competitive environment
5	Sales/revenue status
	(Category 2) Business Prospect
1	Information regarding the projected number of sales or revenues for the following year
2	Information regarding the projected amount of profit for the following year
3	Information on the projected cash flow for the following year
4	Information on planned capital expenditure
5	Information about the business plan
	(Category 3) Research and Development
1	Information regarding the company's research and development policy
2	Information on research and development activities
3	Information on estimated costs for research and development
4	Information regarding the development of new products or services
5	Information on the number of employees in research and development
	(Category 4) Employee Information
1	Information regarding the educational background of employees
2	Employee information by departmental line

3	Employee information by gender
4	Information regarding employee recruitment policy
5	Information on company policies on employee training
6	Information regarding employee pension plan
7	Information regarding rewards for employees
8	Information regarding accidents that occur to employees
	(Category 5) Product and service improvement
1	Information regarding product or service quality assurance
2	Information regarding responses to customer complaints
3	Information regarding product or service certification
	(Category 6) Corporate governance information
1	Information on the background of independent commissioners
2	Information regarding the number of members of the audit committee
3	Information regarding the activities of the audit committee
4	Information on progress in corporate governance
	(Category 7) Corporate social responsibility reporting information
1	Information regarding sponsorship for educational or scientific fields
2	Information about sponsorship for sports
3	Information about sponsorship for arts and culture
4	Information regarding sponsorship for government programs
	(Category 8) Financial Category
1	Report on sales growth
2	Report on EBITDA
3	Report on gearing ratio
4	Report on interest coverage

5	Report on earnings per share
6	Report on pay out ratio
	(Category 9) Risk management
1	Information about the risk management committee
2	Information on the asset and liability management committee
	(Category 10) More information
1	Graph of company performance indicators
2	The company's financial performance is more than 3 years
3	Company culture
4.	Names of the five best suppliers or consumers

Source : Developed from the research Melyana (2015), Braam dan Borghans (2014), Saraswati et al., (2020) for this study.