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Cyber risk management disclosure: a stakeholder theory perspective

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Abstract

The purpose of this study was to examine the effect of ownership structure with sub-variables of management ownership, foreign ownership, dispersed ownership, and block ownership on cyber risk management disclosure. The research method uses quantitative methods with secondary data. The sample was 110 from 22 companies obtained through judgment sampling technique from annual reports and sustainability reporting. The population in this study are financial services sector companies listed on the Indonesia Stock Exchange from 2018-2022. The data analysis used is multiple linear regression. This study shows that there is a significant positive effect of foreign ownership and block ownership on cyber risk management disclosure but not significant for management ownership and dispersed ownership. This research may be a consideration for regulators to make investment policies and the government to make regulations that encourage companies to disclose cyber risk management reporting and can be a managerial concern for making policies and strategies in disclosing cyber risk management items.

Keywords

management ownership; foreign ownership; dispersed ownership; block ownership; cyber risk management disclosure

INTRODUCTION

In the past twenty-five years, cyber threats have evolved from mere nuisances to potentially destructive events (Dupont et al., 2023). Cyberattacks can compromise power grids, telecommunications networks, modern transportation infrastructure networks, and digital financial flows (Greenberg, 2019). Financial businesses that have evolved towards digital will continue to be faced with various cyber threats such as ransomware attacks, business email compromise (BEC), distributed denial-of-service attacks, data breaches, and the spread of remote access malware exploiting international transfer systems, and suspicious theft (Dupont et al., 2023). Leading financial businesses such as Industrial and Commercial Bank of China (ICBC), First American Financial Corporation, Capital One, PT Bank Asia Central Tbk, BRI Life Insurance, and PT BFI Finance Indonesia Tbk have experienced cases of cyberattacks, causing great concern for market participants on the issue of cyberattacks (Dewi, 2023; Natalia & Aprilia, 2023).

Kaspersky's statistics also released by Interpol on the ASEAN cyberattack threats in 2021, Indonesia ranks first with 1.3 million of the most frequent cyberattack cases; Vietnam ranks second with 886,874 cases; Thailand ranks third with 192,652 cases; the Philippines ranks fourth with 137,366 cases; and Malaysia ranks fifth with 136,636 cases (BSSN, 2022). According to A. T. Kearney, a global consulting firm, ASEAN countries are expected to experience losses of 10 quadrillion due to the many cyber-attack cases (Natalia, 2018; Sari et al., 2023). Research by the International Monetary Fund (IMF) in 2020, the global financial services sector suffered an average annual loss of USD100 billion or more than Rp1,433 trillion, caused by cyberattacks (OJK, 2022). These losses hurt business operations and growth in the financial services sector (Uddin et al., 2020). Due to the high rate of data breaches, Anderson et al., (2019), stakeholders and shareholders must be

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protected, with voluntary information disclosure programs, such as cyber risk management disclosures. Therefore, risk disclosure is very important in a business context, especially in the stock market. Therefore, risk disclosure is crucial in a business context, especially in the stock market. More transparent reporting will increase shareholder confidence (Ibrahim et al., 2019).

Alsheikh & Alsheikh (2020) and Al-Dubai & Abdelhalim (2021) state that shareholders and regulators demand companies to disclose reliable information and risk information as investment decision-makers. Voluntary disclosure in developing countries, including Indonesia, is still low. In Indonesia, the implementation of risk management in information technology by commercial banks has been regulated in POJK Number 13/POJK.03/2020 and POJK Number 12/POJK.03/2018 concerning implementing Digital Banking Services by Commercial Banks (Zaini et al., 2018; Tsang et al., 2019).

Therefore, this research is fundamental as it relates to voluntary disclosure. To our knowledge, the only previous research examining cyber risk management disclosure was conducted by Sari et al. (2023), who compiled an index of cyber risk management disclosure in Indonesian State-Owned Enterprises (SOEs). Other research related to risk management disclosure was conducted by Lajili & Zéghal (2005), using stakeholder theory with the characteristics of the board of directors, risk management committee, and ownership structure as moderating variables. Research by Amran et al. (2008) on risk management disclosure in non-financial companies. Research F & Koon (2016) on risk management disclosure and sustainability in public companies in Malaysia. Research by Jia et al. (2019) using content analysis conducted on 100 public companies in Australia examines the impact of the risk management committee, the independence of the risk management committee, and the number of risk management committee meetings. Research by Bello et al. (2019) on 9 (nine) insurance companies in Nigeria for 5 (five) years explains the size of the risk management committee and its impact on risk management disclosure. Previous research shows that risk disclosure issues are increasingly important Sari et al. (2023), including cyber risk management disclosure practices.

Scholarly publications defining cyber risk management disclosures are still low and hard to find (Strupczewski, 2021). Therefore, this study examines the disclosure of cyber risk management, with the novelty of using the stakeholder theory of shareholding structure, developing the research of (Sari et al., 2023) which only compiles an index of cyber risk management disclosure in state-owned companies in Indonesia. This study uses financial sector companies on the Indonesia Stock Exchange from 2018-2022. The observation period was taken from 2018-2022 with the consideration that during this period cybercrime in Indonesia experienced a fairly sharp upward trend and many companies suffered considerable losses (Patrolisiber, 2020). In this period, there was also a technological disruption that brought positive and negative impacts, as a result of the COVID-19 pandemic in 2020 and 2021 the use of digital technology has increased. The financial sector companies was chosen because according to Boston Consulting Group, one of the management consulting bureaus, financial services sector companies compared to other sectors, are 300 times more likely to experience cyber attacks (Jin et al., 2023).

This research may also be considered for regulators to make investment policies and the government to make regulations that encourage companies to disclose cyber risk management reporting. It can also be a managerial concern for making policies and strategies for disclosing cyber risk management items.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Companies must be able to provide benefits to their stakeholders and not only act in their

interests (Sirgy, 2002). Stakeholders related to the share ownership structure can influence the decisions taken by the company (Cordeiro & Tewari, 2015). Stakeholders greatly affect the existence of a company (Chang et al., 2024). Therefore, this study examines the influence of stakeholders based on Sirgy (2002). According to Benn et al., (2016), and Sari et al., (2023), this classification allows researchers to measure how the relationship between the company and stakeholders related to shareholders so that it will have an impact on risk management disclosure.

The existence of this stakeholder theory provides a basis that companies must be able to provide benefits to their stakeholders (Sirgy, 2002; Amosh & Mansor, 2020). These benefits can be provided by implementing a voluntary disclosure program, including disclosure of cyber risk management, the existence of voluntary disclosure is expected to provide benefits to stakeholders (Sari et al., 2023). Therefore, this study will use the stakeholder theory of share ownership structure to examine the factors that influence cyber risk management disclosure.

The effect of management ownership on cyber risk management disclosure

Management ownership is used as a way to regulate the interests of shareholders and directors, this is an effort to reduce agency disputes between shareholders and managers (Paek et al., 2013). Therefore, companies with higher management ownership tend to be evaluated objectively by managers, according to Patton & Baker (1987), and Jubaedah & Setiawan (2023) including the disclosure of cyber risk management items. According to stakeholder theory, a company should be able to provide benefits to its stakeholders and not just act in its interest Sirgy (2002) and Amosh & Mansor (2020). Therefore, management ownership tends to support voluntary disclosure to align the interests of the company with its stakeholders, to enhance the legitimacy and reputation of the company (Jia & Zhang, 2013). Management ownership tends to encourage company managers to act consistently with the interests of shareholders and all other stakeholders (Lu et al., 2015). This aligns with the research by Khan et al., (2012), Iatridis (2013), and Jia & Zhang (2013) found a significant positive effect of management ownership on voluntary disclosure practices. Based on the explanation above, the proposed hypothesis is as follows:

H1: Management ownership positively and significantly influences cyber risk management disclosure.

The effect of foreign ownership on cyber risk management disclosure

Foreign ownership structure plays a very important role in monitoring business operations (Jubaedah & Setiawan 2023). Baroko et al., (2006) state that foreign ownership is the main factor affecting voluntary disclosure. From a stakeholder theory perspective, foreign shareholders are likely to require voluntary reporting Chakroun et al., (2017) including cyber risk management disclosures. Foreign shareholders demand more extensive disclosure practices due to geographical differences with corporate management in foreign capital markets Haniffa & Cooke (2005), broader disclosures are usually to monitor the company's actions, and management, and reduce information gaps. Therefore, companies with a higher portion of foreign ownership are expected to disclose more corporate information, including cyber risk management information, to meet foreign reporting requirements (Haniffa & Cooke, 2002; Baroko et al., 2006). This aligns with the research by Oh et al. (2011), Qa'dan & Suwaidan (2019), Wicaksono & Setiawan (2022), and Jubaedah & Setiawan (2023) found a positive effect of foreign ownership on voluntary disclosure practices. Based on the explanation above, the proposed hypothesis is as follows:

H2: Management ownership positively and significantly influences cyber risk management disclosure.

The effect of dispersed ownership on cyber risk management disclosure

Dispersed ownership known as widespread ownership refers to a category of public shareholders with a diverse shareholding base. Dispersed ownership is thought to increase agency costs and affect the level of information asymmetry between shareholders and agents (Jalila & Devi, 2012). Therefore, companies with a high portion of dispersed ownership tend to be more vulnerable to conflict, for this reason, companies tend to be expected to disclose comprehensive information to reduce the level of information asymmetry. Based on the stakeholder theory approach which states that companies with higher dispersed ownership tend to make wider voluntary disclosures to balance the interests of various stakeholders including cyber risk management disclosures (Jubaedah & Setiawan, 2023).

The results of previous studies by Berthelot & Robert (2011) and Scaltrito (2016) show that dispersed share ownership has a significant positive effect on voluntary disclosure. This is associated with pressure from shareholders owned by the public so that companies pay more attention to voluntary disclosures (Jubaedah & Setiawan, 2023), including cyber risk management disclosures. Based on this explanation, the following hypothesis is formulated:

H3: Dispersed ownership positively and significantly influences cyber risk management disclosure.

The effect of block ownership on cyber risk management disclosure

Block shareholders are considered the organization's main controlling holders (Peng & Jiang, 2010). Because they are considered controlling shareholders who have the authority to regulate all operations related to the company, block ownership will significantly affect how the business runs (Hsieh et al., 2019). Block ownership has tremendous power and tends to exert pressure on the company that has a strong impact on important company decisions and actions, its influence can be aggressive in making decisions and actions that have a major impact on the company, such as the decision to replace the CEO, board members or replace management that is considered ineffective (Jubaedah & Setiawan, 2023). According to stakeholder theory, companies must be able to fulfill the wishes of each of their stakeholders (Sirgy, 2002; Amosh & Mansor, 2020). Therefore, companies with a high portion of block ownership, and management tend to disclose more widely voluntary information, Jia & Zhang, (2013) including cyber risk management disclosures aim to meet the needs of its stakeholders. This aligns with the research by Gisbert & Navallas (2013), Sufian et al. (2013), Díez et al. (2014), and Crisóstomo & Freire (2015) found that there is a positive effect of block ownership on voluntary disclosure. Based on the explanation above, the hypothesis proposed is as follows:

H4: Block ownership positively and significantly influences cyber risk management disclosure.

METHODS

This research is causality research with a quantitative approach and uses secondary data. The research population is 525 annual reports from 105 financial services companies listed on the Indonesia Stock Exchange in 2018-2022. The financial sector was chosen because according to the Boston Consulting Group, one of the management consultants, financial services sector companies are 300 times more likely to experience cyber attacks than other sectors (Jin et al., 2023). Data is taken from annual reports and of companies that have gone public, chosen because they have been audited by a public accounting firm and are more reliable. The sample assessment method uses a judgment sampling technique, then the sample is selected based on several criteria, such as submitting annual reports, providing

information on cyber risk management, having a positive equity value during the observation year, and having all the information needed for this study. Based on these criteria, 110 annual reports met the criteria selected as samples.

The dependent variable in this study is cyber risk management disclosure. This disclosure refers to the cyber risk management index from previous research by Sari et al., (2023) and Joshi et al., (2013). The measurement of cyber risk management disclosure uses the disclosure scoring method or disclosure index, if the company discloses information as stated in the cyber risk management disclosure index item, it will be given a value of 1 and 0 if it does not disclose. The maximum value of the cyber risk management disclosure index is 100% if the company discloses all information contained in the cyber risk management disclosure items.

The independent variable in this study uses ownership structure with sub-variables of management ownership, foreign ownership, dispersed ownership, and block ownership. Management ownership refers to Ghazali & Weetman (2006) and Eng & Mak (2003), which is measured by the proportion of common shares owned by management against the total number of shares issued by the company. While foreign ownership, is measured as the proportion of shares owned by foreigners to the total number of shares issued by a company (Nurleni et al., 2018; Baroko et al., 2006; Haniffa & Cooke, 2005). Dispersed ownership refers to the approach of Baba & Baba (2021) and Jubaedah & Setiawan (2023) which is the percentage of common shares owned by individuals, measured using a limit of 20%, which means that companies that have dispersed ownership of more than 20% of the number of shares outstanding are coded "1", companies that have a dispersed ownership structure of less than 20% are coded "0". The measurement of block ownership refers to the approach of La Porta et al., (1999), Baba & Baba (2021), and Jubaedah & Setiawan (2023) which is operationalized based on 4 group categories, which are coded "0" for companies with block ownership of less than 5%, code "1" for companies with block ownership of 5% - 19.99%, code "2" for companies with block ownership of 20% - 49.99%, and code "3" for companies with block ownership of less than 50%.

This study also uses the leverage control variable as a proxy for the debt-to-equity ratio, which according to the research of Jubaedah & Setiawan (2023), Baba & Baba (2021), Huafang & Jianguo (2007), and Baroko et al. (2006) is measured using the ratio of total debt to total assets. Size is measured by log total assets which refer to the research of Jubaedah & Setiawan (2023), Baba & Baba (2021), Huafang & Jianguo (2007), and Brammer & Pavelin (2006). Liquidity is proxied by the current ratio, which is measured by dividing current assets by current liabilities according to Jubaedah & Setiawan (2023), Baba & Baba (2021), and Baroko et al. (2006). Meanwhile, profitability is proxied by using return on assets which refers to the research of Ling & Sultana (2015) and Stuebs et al., (2015), which is measured by profit after tax divided by the company's total assets.

$$CRMD = \alpha + \beta 1MOWN + \beta 2\ FOWN + \beta 3DOWN + \beta 4BOWN + \beta 5LEV + \beta 6SIZE + \beta 7LIQ + \beta 8FPM + \varepsilon$$

CRMD	=	Cyber Risk Management Disclosures
MOWN	=	Management Ownership
FOWN	=	Foreign Ownership
DOWN	=	Dispersed Ownership
BOWN	=	Block Ownership
LEV	=	Leverage
SIZE	=	Firm Size
LIQ	=	Liquidity
FPM	=	Firm Performance
β	=	Intercept
ε	=	Error Term

Table 1.
Descriptive statistics

Variable	Maximum	Minimum	Mean	Median	Std. Dev
CRMD	12.00	6.00	8.50	8.00	1.62
MOWN	0.62	0.00	0.03	0.00	0.11
FOWN	0.94	0.19	0.63	0.60	0.17
LEV	789.21	0.31	7.92	0.80	75.17
SIZE	28.10	16.50	20.76	20.16	3.13
LIQ	3.15	0.23	1.03	0.96	0.42
FPM	0.15	0.00	0.02	0.01	0.02
N	110				

Notes*: CRMD = cyber risk management disclosure, MOWN = management ownership, FOWN = foreign ownership, Lev = leverage, SIZE = firm size, LIQ= liquidity, FPM= firm performance.*
Source*: Data processed by authors using SPSS 26 (2024).*

RESULT AND DISCUSSION

Table 1 shows the descriptive statistical results of this study. The cyber risk management disclosure variable averages 8.50%, with a median of 8.50%. This indicates that cyber risk management disclosure in financial sector companies in Indonesia is still very low, with values ranging from 6.00% to 12.00%. The average management ownership value of 3.21% indicates that executive directors and commissioners in Indonesian financial sector companies are low. The average foreign ownership of 33.20%, which ranges from 0.00% to 95.00%, indicates that foreign shareholders own a sizable percentage of Indonesian financial sector businesses. Meanwhile, the average value of the leverage control variable is 7.92%, size is 20.76%, liquidity is 1.03%, and financial performance is 2.09%.

Table 2 shows the frequencies and percentages for the categorized independent variables. Dispersed ownership is divided into two categories, number "0" indicates ownership less than 20% and number "1" indicates ownership more than 20%. The results of data processing in Table 2 show that 42 companies have dispersed ownership below 20%, or 38.2%, and 68 companies have dispersed ownership above 20%, or 61.8%. Meanwhile, the block ownership variable is divided into four groups (0-3), ranging from less than 5% to more than 50%. Table 2 shows that 0 or 0.0% of companies have no block ownership less than 5%, 1 or 0.9% of companies have block ownership between 5%-19.99%, 22 or 20.0% of companies have block ownership between 20%-49.99%, and 87 or 79.1% of companies have block ownership more than 50% of the total.

The classic assumption test is carried out before conducting hypothesis testing. There are four analyses to test classical assumptions. The test results show that all classical assumptions have been met. In normality testing, the results show a significant value of 0.200> 0.05, which means that the data is normally distributed. The results of the heteroscedasticity test show that the significant value of each variable is greater than 0.05, which means that there is no heteroscedasticity in the regression equation so the regression model is suitable for basic prediction.

Table 2.
Descriptive statistics

Variable	Frequency	(%)	Cum (%)
DOWN			
Less than 20%	42	38,2	38,2
More than 20%	68	61,8	100,0
Number of Observation	110	100,0	
BOWN			
Less than 5%	0	0,0	0,0
Between 5% - 19,99%	1	0,9	0,9
Between 20% - 49,99%	22	20,0	20,9
More than 50%	87	79,1	100,0
Number of Observation	110	100,0	

Notes: DOWN= *dispersed ownership*, BOWN= *block ownership***.**
Source*: Processed SPSS output secondary data, 2024.*

The results of the Variance Inflation Factor (VIF) test are < 10 and the Tolerance value is> 10. The multicollinearity test results on the MOWN variable show a VIF value of 1.111 and a tolerance of 0.900. The FOWN variable shows a VIF value of 1.314 and a tolerance of 0.761. The DOWN variable shows a VIF value of 1.025 and a tolerance of 0.614. The BOWN variable shows a VIF value of 1.932 and a tolerance of 0.796. The LEV variable shows a VIF value of 1.211 and a tolerance of 0.828. The SIZE variable shows a VIF value of 1.618 and a tolerance of 0.618. The LIQ variable shows a VIF value of 1,138 and a tolerance of 1,879. The FPM variable shows a VIF value of 1,078 and a tolerance of 1,314. for all independent variables which means there is no multicollinearity between the independent variables. The results of the autocorrelation test using the Durbin-Watson method show the value of DU (1,654) < DW (1,850) < 4 - DU (2,346), so it can be stated that there is no autocorrelation in the research data. The results of pairwise correlation for cyber risk management disclosure and variables can be seen in table 3. The analysis results show the highest correlation coefficient value of 65.10% between the DOWN and CRMD independent and dependent variables. The independent and control variables have a low correlation below 52%.

The results of hypothesis testing shown in Table 4 Panel A show that there is no influence between management ownership and cyber risk management disclosure. The results of this study are in line with the research of Lu et al., (2015), Salehi et al., (2017), Masud et al., (2018), and Baba & Baba (2021) which show that there is no influence between management ownership on voluntary disclosure.

Meanwhile, the results of panel B show that when the control variables are included in the research model, management ownership has a significant positive effect, which means that the higher the share ownership owned by management, the wider the number of cyber risk management disclosure items. The results of this study are in line with the research of Khan et al., (2012), Rashid (2015), and Adel et al., (2019) found a significant positive between management ownership of voluntary disclosure.

The results of panel A show that foreign ownership has a significant positive effect on cyber risk management disclosure. The results of this study remain consistent as shown in panel B, with a research model that includes control variables, foreign ownership has a significant positive effect on cyber risk management disclosure. These results confirm the research of Li & Chan (2016), Muttakin & Subramaniam (2015), G. & Kabra, (2017) and Baba & Baba (2021) who found a significant positive effect of foreign ownership on voluntary disclosure.

Table 3.
Correlations

Variables	CRMD	MOWN	FOWN	DOWN	BOWN	LEV	SIZE	LIQ	FPM
CRMD	1								
MOWN	-0.22	1							
FOWN	0.18	-0.17	1						
DOWN	0.65	-0.12	0.05	1					
BOWN	0.13	-0.7	0.17	0.43	1				
LEV	-0.02	-0.2	0.11	-0.05	-0.01	1			
SIZE	-0.08	0.51	-0.36	-0.07	-0.13	0.08	1		
LIQ	-0.14	-0.11	-0.16	-0.01	-0.01	-0.02	0.28	1	
FPM	-0.16	-0.28	-0.17	0.02	-0.04	-0.06	0.11	0.14	1

Notes: Notes. CRMD = *cyber risk management disclosure*, MOWN = *management ownership*, FOWN = *foreign ownership*, DOWN = *dispersed ownership*, BOWN = *block ownership*, Lev = *leverage*, SIZE = *firm size*, LIQ= *liquidity*, FPM= *firm performance.*
Source*: Processed SPSS output secondary data, 2024.*

This suggests that foreign shareholders tend to require more extensive cyber risk management disclosures from companies (Chakroun et al., 2017). Foreign shareholders demand more extensive disclosure practices due to geographical differences with company management in foreign capital markets Haniffa & Cooke (2005), they tend to demand more extensive disclosure as a measure to monitor the actions of the company and management and to reduce information gaps. This study shows that foreign investors dominate the shareholding structure of companies. This is shown by the 110 research samples, where 87 companies have more than 50% ownership; by looking at the maximum value of foreign ownership of 95%, it can be interpreted that ownership shares above 50% are mostly acquired by foreign investors.

The results of data analysis show that the influence of dispersed ownership on cyber risk management disclosure in panel A and panel B is the same, dispersed ownership does not have a significant positive effect on cyber risk management disclosure. This study confirms the research of Otchere et al., (2012) and Nurhayati et al., (2016) which show that there is no influence between dispersed ownership and voluntary disclosure. The sample companies have a fairly low portion of spread ownership, 38.2% below 20% and 61.8% above 20%. This is contrary to stakeholder theory, which states that companies with larger spread ownership tend to make wider voluntary disclosures. Therefore, the scattered ownership in this study could not verify the existence of a significant positive impact on the disclosure of cyber risk management.

Panel A of Table 4 shows that block ownership has a positive impact on cyber risk management disclosures. Panel B, also, after incorporating the control variables into the research model, showed that block ownership had a significant positive impact on cyber risk management disclosures. This study supports previous research by Sufian et al. (2013), Díez et al. (2014), Crisóstomo & Freire, (2015), Baba & Baba, (2021), and (Jubaedah & Setiawan, 2023), which found that block ownership has a positive effect on voluntary disclosure. According to stakeholder theory, block ownership tends to put greater pressure on the company, for this reason, management must disclose more information, including information about cyber risk management disclosures (Jia & Zhang 2013). Block shareholders are considered important shareholders in the company and are considered controlling shareholders, who have the authority to regulate how the business runs, which will significantly affect the activities and operations of the company (Jubaedah & Setiawan, 2023).

Table 4.
Hypotheses testing results

	Panel A		Panel B	
Variable	**Coefficient**	**Prob.**	**Coefficient**	**Prob.**
C	0.00	41.41	0.00	6.90
MOWN	0.10	-1.63	0.03	-2.18
FOWN	0.02	2.28	0.02	2.26
DOWN	0.08	9.10	0.08	9.28
BOWN	0.04	-2.27	-0.04	-2.19
LEV			0.50	-0.66
SIZE			0.06	1.85
LIQ			0.03	-0.20
FPM			0.15	-1.42
Adjusted R-squared				
	0.46		0.49	
F-statistic	24.95		14.50	
Prob (F-statistic)	0.00		0.00	
N	110		110	

Notes: Notes. CRMD = *cyber risk management disclosure*, MOWN = *management ownership*, FOWN = *foreign ownership*, DOWN = *dispersed ownership*, BOWN = *block ownership*, Lev = *leverage*, SIZE = *firm size*, LIQ= *liquidity*, FPM= *firm performance*.
***Source**: Processed SPSS output secondary data, 2024*

The test results for the control variables in panel B show that leverage proxied by the debt-to-equity ratio is not significant to the disclosure of cyber risk management. This result indicates that variations in changes in leverage levels do not result in variations in the level of cyber risk management disclosure. Furthermore, the company size control variable proxied by ln total assets is not significant to the disclosure of cyber risk management. This indicates that variations in changes in the level of company size do not result in variations in the disclosure of cyber risk management. In contrast, liquidity proxied by the current ratio shows a significant positive towards cyber risk management disclosure. This indicates that the greater the company pays current debt, the greater the likelihood of the company being actively involved in cyber risk management activities and disclosure. Meanwhile, the company's financial performance proxied by return on assets shows no significant impact on cyber risk management disclosure. This indicates that variations in changes in the level of financial performance do not result in variations in cyber risk management disclosure.

Table 4 also shows the results of the adjusted R square test analysis, it is known that panel A adjusted R square value is 46.8%, then the independent variables consisting of management ownership (X1), foreign ownership (X2), dispersed ownership (X3), and block ownership (X4) are able to explain 46.8% of changes in the dependent variable, 53.2% is explained by other variables outside this research model. The results of the F statistical test show a significance value of 0.00 <0.05 and F count 24.95> F table 2.46, it can be concluded that the research model is feasible to examine or model fit. In addition, in panel B after including the control variable, the adjusted R square value is 49.8%, so the independent variables consisting of management ownership (X1), foreign ownership (X2), dispersed ownership (X3), block ownership (X4), leverage (K1), Size (K2), Liquidity (K3), Profitability (K4) are able to explain 49.8% of changes in the dependent variable, 50.2% is explained by other variables outside this research model. The results of the F statistical test show a significance value of 0.00 <0.05 and F count 14.50> F table 2.03, it can be concluded that the research model is feasible to examine or the model fits.

CONCLUSION

The focus of this study is to examine how the influence of ownership structure, with its sub-variables, management ownership, foreign ownership, dispersed ownership, and block ownership on cyber risk management disclosure of financial sector companies listed on the Indonesia Stock Exchange (IDX) from 2018 to 2022. This study also includes control variables in the form of company financial ratios in the research model. The results of this study confirm that there is a significant positive effect of foreign ownership and block ownership on cyber risk management disclosure, but management ownership and dispersed ownership are not significant. In addition, the research model using the control variable of dispersed ownership shows insignificant results, while management ownership, foreign ownership, and block ownership show significant positive results on cyber risk management disclosure. These results show that foreign ownership has a strong and consistent influence on cyber risk management disclosure, Due to geographical differences, foreign shareholders tend to demand more extensive cyber risk management disclosure practices to monitor the actions and policies of company management. In addition, this is done to reduce the information gap between shareholders and the company.

The empirical findings in this study provide meaningful insights into the influence of ownership structure on cyber risk management disclosure within the scope of stakeholders from the perspective of company shareholders. The results of this study can be taken into consideration for regulators in making investment policies, especially for foreign investment, because the results of this study show that foreign ownership dominates the ownership structure of financial sector companies in Indonesia. This can be seen from 110 observation samples, as many as 87 frequencies of company share ownership greater than 50% so that by looking at the maximum value of foreign ownership of 95%, it can be interpreted that share ownership above 50% is mostly owned by foreign investors. This research can also be a consideration for the government in making regulations that encourage companies to disclose cyber risk management reporting, so that shareholders in the stock market are not worried about investing, with the cyber risk management disclosure program. In addition, this research also has implications for managerial parties to determine company policies and strategies by identifying, especially stakeholders who have a tendency to have considerable influence on the company, so that they can allocate company resources effectively and efficiently.

The limitation of this study is that reference sources that examine cyber risk management disclosures are still limited and difficult to find. Cyber risk management disclosure items using the disclosure scoring method, which are taken from annual reports and sustainability reports, have not been able to show the quality of information provided by companies regarding cyber risk management.

It is recommended for future research to develop more in-depth literature research to obtain more specific and quality sources, such as using different theories regarding cyber risk management disclosure. As well as developing more specific research methods to identify and evaluate cyber risk management disclosure items in annual reports and sustainability reporting to be able to show different and quality information quality regarding cyber risk management disclosure.

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