Article Type: Research Paper

Disruptive innovation disclosure practices: Do board characteristics, ownership structure, and investor matter?

Indrian Supheni[1]*, Suyanto[2] and Tiyas Puji Utami[3]

AFFILIATION:
[1]Department of Accounting, Faculty of Economics and Business, Universitas PGRI Mpu Sindok, East Java, Indonesia

[2]Department of Accounting, Faculty of Economics, Universitas Sarjanawiyata Tamansiswa, Special Region of Yogyakarta, Indonesia

[3]Mater of Accounting, Directorate of Postgraduate Program, Universitas Muhammadiyah Yogyakarta, Special Region of Yogyakarta, Indonesia

***CORRESPONDENCE:**
isupheni@upms.ac.id

DOI: 10.18196/jai.v25i3.23018

CITATION:
Supheni, I., Suyanto, S., & Utami, T. P. (2024). Disruptive innovation disclosure practices: do board characteristics, ownership structure, and investor matter? *Journal of Accounting and Investment, 25*(3), 990-1004.

ARTICLE HISTORY
Received:
02 Jul 2024
Revised:
09 Aug 2024
14 Aug 2024
Accepted:
30 Sep 2024

Abstract

Research aims: This study aims to analyze the effect of board characteristics, ownership structures, and investors on disruptive innovation disclosure in the annual reports of companies in Indonesia.
Design/Methodology/Approach: This study used 237 cross-section data from 237 companies in the manufacturing sectors. The dependent variable in this study was obtained by analyzing the content of the company's annual report. The hypothesis in this study was then tested using multiple linear regression.
Research findings: The regression test results revealed that foreign ownership affected the disclosure of disruptive innovation in manufacturing companies. Other variables, such as characteristics of the board of commissioners, members and investors, did not affect the disclosure of disruptive innovation in manufacturing companies.
Theoretical contribution/Originality: Disclosure of disruptive innovation is rarely done, but this study looks at disclosure from the stakeholder theory perspective in manufacturing companies.
Research limitation/Implication: This study was only limited to manufacturing companies. Meanwhile, other companies are expected to be studied in further research. In addition, more observation data can be added to strengthen the research results.
Keywords: Board Characteristics; Disruptive Innovation Disclosure; Investors; Ownership Structure

Introduction

Technological developments cannot be denied in various sectors, one of which must continue to adapt to technological developments in manufacturing companies (Wanda, 2023). In the era of Industry 4.0, which is full of disruption, manufacturing companies must continue to innovate to increase transparency and accountability, attract investment and collaboration, improve the company's reputation and image, and so on (Supheni et al., 2023). The most important thing about adapting to technological advances for manufacturing companies is to retain consumers or face market competition (Suhardjanto et al., 2021).

One of the things that manufacturing companies can do to face market competition is to carry out disruptive innovation. Disruptive innovation is a business concept that describes the process by which innovations, often more straightforward and affordable, initially attract customers who are underserved by existing products or services. However, these innovations continue to develop and eventually disrupt established markets, even replacing previously dominant players (Adner, 2006; Sandström et al., 2014).

Therefore, companies must start disclosing disruptive innovations in their published annual reports. Proper disclosure of financial data relevant to users has always been a significant issue in financial reporting (Nur Probohudono et al., 2013). However, in recent years, there has been a phenomenon of stakeholder dissatisfaction with the presentation of economic data disclosure alone. The financial component alone is insufficient to meet stakeholder needs (McDaniel et al., 2002; Supheni et al., 2023). Voluntary disclosure can complement and expand mandatory disclosure to realize more complete, diverse, and systematic information disclosure (Supheni et al., 2023). Voluntary disclosure has a strategic function: to be a communication tool for related parties with interests (Tian & Chen, 2009). Voluntary disclosure can be in the form of disclosure regarding innovation (Ledoux & Cormier, 2013), disclosure of risk information (Nur Probohudono et al., 2013), and voluntary non-financial disclosure (Van Puyvelde et al., 2012). Disruptive innovation is one of the voluntary disclosures made by the company regarding the disclosure of innovation (Supheni et al., 2023).

The phenomenon of disruptive innovation is such as Apple becoming a leading company in providing innovation and disclosure of disruptive innovation in the electronics industry, or the well-known company Tesla becoming a leading company in automotive industry innovation by creating electric cars. In Indonesia itself, as quoted in the research of Supheni et al. (2023), in 2016, there was a decline in profits from the passenger transportation company Blue Bird. The reason is that in the third quarter, it reported a decrease in net profit of 42.3%, even though it made a profit of 625.42 billion rupiah in the same period. This is due to the rise of online transportation services that can disrupt established markets.

Furthermore, Blue Bird made efforts by disclosing information about the quality of service as indicated by investment and technology development, collaboration, and development of new services for customers, such as by presenting services through the My Bluebird application to improve user experiences. Collaboration was carried out with electronic money companies to provide convenience for customers in terms of payments on the My Bluebird application. Furthermore, Blue Bird collaborates with well-known technology companies, such as Traveloka and Gojek. All activities carried out by Blue Bird regarding technological innovation are voluntarily reported in the annual financial report (Supheni et al., 2023).

Based on the phenomena, this study examines the factors influencing the disclosure of disruptive innovation in manufacturing companies in Indonesia. Research on disruptive disclosure remains scarce. Previous studies have focused on research related to corporate social responsibility (CSR) disclosure (Kiliç et al., 2015; Liu et al., 2020; Nugraheni et al., 2022; Sharif & Rashid, 2014) and sustainability disclosure, such as environmental, social, and governance (Abu Qa'dan & Suwaidan, 2019; Al Amosh & Khatib, 2022; Michelon, 2011; Saini & Singhania, 2019). Previous studies on disruptive disclosure were conducted by Suhardjanto et al. (2021) in the banking sector in Indonesia and Supheni et al. (2023) conducted in five countries registered in Forbes Global 2000 during the 2011–2020 period. Hence, this study considers the determinants of board characteristics, ownership structures, and investors on disruptive disclosure in manufacturing companies. The reason for choosing manufacturing companies is that manufacturing companies have competitive market competition, meet changing customer needs, and are specific to survive in the midst of dynamic market competition.

Although the disruptive disclosure process has challenges, such as balancing disclosing sufficient information to attract stakeholders and protecting trade secrets, disruptive innovation can be expensive, requires significant investment in research and development, and has a high risk of failure. Despite the challenges, disclosing disruptive innovation is essential for manufacturing companies to remain competitive and thrive in the Industrial Era 4.0. By revealing their disruptive innovations, the contribution of this study can help companies improve transparency, attract investment, improve reputation, encourage a culture of innovation, and prepare for the future. In addition, it contributes specifically to providing recommendations for related governments, such as the Financial Services Authority, regarding the presentation of voluntary financial reports that have not been regulated in OJK Regulation No. 29/POJK.04/2016 concerning the presentation and disclosure of financial reports. This study also contributes to literature and theory. Apart from developing literature on disruptive disclosure, this study extends stakeholder theory. This theory states that the existence of a company or organization is influenced by support from parties who have relationships with the company (Supheni et al., 2023). Therefore, this study was conducted to create a stronger theoretical relationship between stakeholder involvement and Disruptive Innovation Disclosure.

Literature Review and Hypotheses Development

Stakeholders Theory

Companies must continue building and maintaining good stakeholder relationships (Freeman, 2010; Freeman & Reed, 1983). The core of this thinking leads to a company or organization that is influenced by the support of parties that have relationships with the company. Freeman's research shows that the implementation of a strategic stakeholder orientation results in higher levels of accountability, higher earnings quality, higher levels of voluntary disclosure, and the implementation of more conservative accounting policies. The resulting improvements have real social benefits for stakeholders. Therefore, this study was conducted to create a stronger theoretical relationship between stakeholder involvement and Disruptive Innovation Disclosure.

The role of stakeholders is important in helping companies adjust specific policies, regulations, or projects to be achieved with the direction of the company's development

(Supheni et al., 2023). The existence of stakeholders can influence companies to make disclosures, especially voluntary disclosures. In the context of this study, the voluntary disclosure in question is the disclosure of disruptive innovation. This is explained in stakeholder theory, which is a theory that explains the relationship between stakeholders and the information received (Jones & Wicks, 1999). Companies must continue to strive to maintain good relations with stakeholders, as stated (Freeman & Reed, 1983; Freudenreich et al., 2020). In essence, the existence of a company cannot be separated from stakeholders' support to survive in the face of a dynamic market.

The Influence of the Characteristics of Members of the Board of Commissioners on the Disclosure of Disruptive Innovation

Based on stakeholder theory, independent commissioners will prioritize stakeholders that will impact the effectiveness of their performance (Kathy Rao et al., 2012; Rahayu & Djuminah, 2022). The role of independent commissioners as representatives of all stakeholders will support the company in disclosing voluntary information better (Ntim & Soobaroyen, 2013). In addition, the level of education of an independent commissioner is a factor that can influence strategic decision-making, which results in the decision to disclose voluntary information; in this context is the disclosure of disruptive innovation (Fernandes et al., 2018; Rahayu & Djuminah, 2022). Commissioners with a higher level of education and an educational background in economics and business tend to be more strategic in making decisions related to voluntary information disclosure.

The statement that independent commissioners support voluntary information disclosure is supported by Kiliç et al. (2015) and Sharif and Rashid (2014), who studied banking in Pakistan and showed significant positive results between independent boards and voluntary information disclosure. Arayssi et al. (2020) and Javaid Lone et al. (2016) found that independent boards positively affect environmental, social, and governance disclosures. Furthermore, research by Rahindayati et al. (2015) on financial companies in Indonesia supports the statement that boards with better backgrounds will have a positive effect on voluntary disclosure of information.

In addition to the board of commissioners and educational background, the board size, term of office, and age of the board will affect voluntary disclosure of information. Board size refers to the number of inside and outside directors serving (Khaireddine et al., 2020). A larger group characterized by greater diversity in experience, financial expertise, and problem-solving ability, which can improve the company's reputation and image (Ntim & Soobaroyen, 2013). However, there is an argument that a larger board is associated with coordination, communication, and monitoring problems (Ciampi, 2015), which can have a negative impact on disclosure (Khaireddine et al., 2020). These differences in results conclude that there is no consensus on the effect of board size on voluntary disclosure. Some argue in favor of larger size; however, other studies show that reducing the number of directors strengthens voluntary disclosure. In the context of this study, it is more directed and supports that compared to companies with smaller boards, companies with larger boards tend to increase disclosure of information related to their voluntary disclosure practices (Khaireddine et al., 2020). Thus, the proposed hypothesis is:

***H_1**: Characteristics of Board of Commissioners members have a positive effect on disclosure of disruptive innovation.*

The Influence of Ownership Structure on Disclosure of Disruptive Innovation

The ownership structure in this study was proxied as managerial ownership, foreign ownership, government ownership, and public ownership. Based on stakeholders, ownership structure is important in voluntary information disclosure. This is because management practices greatly influence stakeholders' attitudes to continue fulfilling their aspirations for information (Al Amosh & Khatib, 2022). In this case, managerial ownership represents stakeholders in the company, so it may or may not be in line with company management (Oanh et al., 2021). Previous studies have shown that managerial ownership does not impact voluntary disclosure practices (Juhmani, 2013; Lagasio & Cucari, 2019). Research by Khan et al. (2013) states that managerial ownership allows management to dominate company decisions and reduce participation, which drives innovation activities that have a negative impact on voluntary information disclosure. Research conducted by Al Amosh and Khatib (2022) found that managerial ownership supports voluntary disclosure practices in companies in Jordan.

Aside from managerial ownership, foreign ownership plays an important role in voluntary disclosure practices. Foreign shareholders are important to increase transparency and trust between companies and stakeholders (Al Amosh & Khatib, 2022). The presence of foreign ownership can also change existing policies to specific agendas, such as disruptive innovation, considering that disruptive innovation requires much money. Previous studies have stated that foreign ownership can affect voluntary disclosure practices for companies (Adeniyi & Adebayo, 2018; Alhazaimeh et al., 2014; Rustam et al., 2019). However, different results were revealed by the results of research by Saini and Singhania (2019) and Abu Qa'dan and Suwaidan (2019), stating that foreign ownership is negatively related to information disclosure.

Next is government ownership. Government ownership refers to the number of state-owned company shares because the government invests to achieve goals and improve national development (Al Amosh & Khatib, 2022). State ownership can increase legitimacy by increasing corporate transparency and accountability so that it is in accordance with stakeholder theory that this is for stakeholders to disclose information, such as disruptive innovation information. The results of previous studies regarding ownership structure on disruptive innovation disclosure practices are still lacking. Research by Al Amosh and Khatib (2022) revealed that state ownership positively affects information disclosure practices, while Al-Janadi et al. (2016) suggested that state ownership negatively impacts the level of disclosure. Finally, public ownership, commonly called general share ownership, refers to the proportion of share ownership owned by the public. Public ownership can provide a greater impetus for transparency and accountability (Nugraheni et al., 2022). Disruptive innovation has a possible risk of failure, so the disclosure of disruptive innovation is one of the information disclosures the public can consider. Previous research states that public ownership has a positive and significant relationship with voluntary disclosure (Khan et al., 2013). Hence, from the development of the literature, the proposed hypothesis is:

***H_2**: Ownership structure affects disruptive disclosure.*

Investor Influence in Disclosure of Disruptive Innovation

The importance of the role of shareholders in a company's sustainability will encourage companies to make voluntary disclosures more accurately; this is based on the fact that distributed share ownership will receive much supervision (Supheni et al., 2023). Companies will be more encouraged to disclose more social responsibility and tend to disclose more information to reduce information imbalance (Suhardjanto et al., 2021).

In accordance with stakeholder theory, the existence of a company or organization is influenced by support from parties who have relationships with the company (Freeman & Reed, 1983). One of the most significant supports is from shareholders. Shareholders can encourage management to implement social awareness and show greater responsibility for a company's sustainability (Michelon, 2011). Disclosure in annual financial reports is one way to reduce monitoring costs for shareholders and reduce moral hazard (Schipper, 1981; Supheni et al., 2023).

Research on investors that can pressure management to make disclosures is supported by previous research results, such as Supheni et al. (2023) on disruptive disclosures in five countries registered in Forbes Global 2000 during the 2011–2020 period, Li et al. (2023) on companies listed on A shares in industries with heavy pollution in China during 2008 to 2016, and Chen et al. (2020) on the firms' ranking in the Russell 1000 and 2000. According to Supheni et al. (2023), disclosures in annual reports continue to grow, and the number of shareholders has a positive relationship with disclosure scores. In the context of this study, voluntary disclosures such as disruptive innovations can provide investors with information about the company's innovation activities. Therefore, it can be hypothesized that:

***H_3**: Investors influence the disclosure of disruptive innovations.*

Research Method

This study used a quantitative approach with secondary data. Secondary data for this study were obtained from the Indonesia Stock Exchange website (https://www.idx.co.id/), IDX Statistics published by the Indonesia Stock Exchange, the Indonesian Capital Market Directory (ICMD), and the sample company website. The population in this study was manufacturing companies because they are one of the most competitive industries in the world. In fact, companies that do not innovate will be left behind by their more innovative competitors. The transparency of information presented by the company gets attention from stakeholders, such as customers, competitors, and potential investors (Suhardjanto et al., 2021; Supheni et al., 2023).

The sampling technique from the population employed the purposive sampling method, which is a sampling technique based on specific criteria. The criteria used in the sampling process are as follows: (1) Manufacturing companies that were consecutively listed on the Indonesia Stock Exchange and had not delisted or left the Indonesia Stock Exchange in 2021; (2) The company submitted an annual report as of December 31, 2021, and had been audited; and (3) The company provided the necessary information related to the research. The research sample was a banking company with one year of observation data (recorded data of 237 observations). This amount of data met the requirements for a sample size according to Slovin's calculations (Sekaran & Bougie, 2016).

Table 1 Measurement of Research Variables

Variables	Proxy	Measurements	Source
Disruptive Innovation Disclosure	Technology Information	Disruptive Innovation Disclosure Index	(Suhardjanto et al., 2021; Supheni et al., 2023)
	Financial Information		
	Non-financial Information		
Characteristics of Board of Commissioners	Term of Office	$\frac{\sum \text{Years of service}}{\sum \text{Members of the board of commissioner}}$	(Rahayu & Djuminah, 2022)
	Educational Background	1= Senior High School; 2= associate degree; 3= Bachelor's degree; 4= Master degree; 5= doctoral degree	
	Age of Board of Commissioners	Age mode of members of the Board of Commissioners	
	Size of Board of Commissioners	$\sum \mathit{Member\ of}$ Board of Commissioners	
	Independent Commissioners	$\frac{\sum \mathit{Members\ of\ Independent\ Commissioners}}{\sum \text{Members of the Board of Commissioners}}$	
Ownership Structure	Managerial Ownership	$\frac{\sum \mathit{shares\ owned\ by\ management}}{\sum \mathit{outstanding\ shares}}$	(Al Amosh & Khatib, 2022; Masum et al., 2020; Nugraheni et al., 2022)
	Foreign Ownership	$\frac{\sum \mathit{Foreign\ owned\ shares}}{\sum \mathit{outstanding\ shares}}$	
	Government Ownership	$\frac{\sum \mathit{Government\ owned\ shares}}{\sum \mathit{outstanding\ shares}}$	
	Public Ownership	$\frac{\sum \mathit{Publicly\ owned\ shares}}{\sum \mathit{outstanding\ shares}}$	
Investors	Investor	Number of shareholders	(Supheni et al., 2023)

Furthermore, Table 1 presents the measurement of dependent and independent variables in this study. This study used a dependent variable in the form of disruptive disclosure and independent variables in the form of characteristics of the board of commissioner members, ownership structure, and investors.

The researchers used multiple linear regression analysis as the analysis method, aimed to test the influence of determinants that influence Disruptive Innovation Disclosure. The testing carried out was to provide empirical evidence for the researcher's assumptions that had been arranged into ten hypotheses. The analysis of the data collected was to test the strength and direction of the relationship between several independent variables and one dependent variable. Therefore, this study used a regression analysis tool (Gujarati, 2021). In general, the equation is as follows:

$$\mathbf{DID} = \boldsymbol{\alpha_0} + \boldsymbol{\beta_1}\ \mathbf{TO_{it}} + \boldsymbol{\beta_2}\ \mathbf{ED_{it}} + \boldsymbol{\beta_3}\ \mathbf{AGE_{it}} + \boldsymbol{\beta_4}\ \mathbf{SIZE_{it}} + \boldsymbol{B_5}\ \mathbf{IC_{it}} + \boldsymbol{\beta_6}\ \mathbf{MO_{it}} + \boldsymbol{\beta_7}\ \mathbf{FO_{it}} + \boldsymbol{\beta_8}\ \mathbf{GO_{it}} + \boldsymbol{\beta_9}\ \mathbf{PO_{it}} + \boldsymbol{\beta_{10}}\ \mathbf{SH_{it}}$$

Where DID is Disruptive Innovation Disclosure; α_0 for Constant; TO_{it} is the Term of Office of Commissioners of the company i in year t; EB_{it} is the Educational Background of Commissioners of the company i in year t; AGE_{it} explains the Age of Commissioners of the company i in year t; $SIZE_{it}$ for the Size of Board of Commissioners of the company i in year t; IC_{it} for Independent Commissioners of the company i in year t; MO_{it} for Managerial Ownership of the company i in year t; FO_{it} for Foreign Ownership of the company i in year t; GO_{it} for Government Ownership of the company i in year t; and PO_{it} for Public Ownership of the company i in year t; SH_{it} is Number of Shareholders.

Results and Discussion

This study had 208 observations of manufacturing sector companies listed on the IDX in 2021. Table 2 shows the results of descriptive statistical tests; the average for the disruptive innovation disclosure variable showed that the disclosure of disruptive innovation in manufacturing companies was in the moderate category. This means that some companies were still not concerned about voluntary disclosure of the innovations. For example, PT Wahana Interfood Nusantara Tbk, PT Sariguna Primatirta Tbk, PT Communication Cabble System Indonesia Tbk, PT Tifico Fiber Indonesia Tbk, PT Trisula Textile Industries Tbk, PT Sriwahana Adityakarta Tbk, PT Steel Pipe Industry of Indonesia Tbk, PT Cahayaputra Asa Keramik Tbk, PT Kapuas Prima Coal Tbk, PT Aneka Tambang Tbk, and PT Radiant Utama Interinsco Tbk.

Table 2 Descriptive Statistic

	N	Min	Max	Mean	Std. Deviation
Disruptive Innovation Disclosure	237	0	1.00	0.59	0.25
Term of Office	237	1.00	22.00	3.27	3.13
Educational Background	237	1.00	5.00	3.06	0.76
Age	237	39.00	86.00	62.21	9.21
Size	237	2.00	11.00	3.50	1.29
Independent Commissioner	237	0.20	2.00	0.38	0.14
Managerial Ownership	237	0	0.92	0.07	0.16
Foreign Ownership	237	0	0.99	0.23	0.26
Government Ownership	237	0	0.75	0.01	0.09
Public Ownership	237	0	0.77	0.26	0.16
Investors	237	6.01	12.24	8.08	1.13
Valid N (listwise)	237				

Before the hypothesis test, this study conducted a classical assumption test consisting of a normality test, a multicollinearity test, and a heteroscedasticity test. The results of the multicollinearity and heteroscedasticity tests showed that this study was free from classical assumptions. In addition, this study had a substantial sample. It approached the population and a broader cross-section of companies compared to period observations so that normality and autocorrelation assumption tests were not needed (Ghozali, 2016; Verbeek, 2017). In conclusion, all data in this study had been assessed so that hypothesis testing could be carried out.

Table 3 details that the foreign ownership hypothesis affected the disclosure of disruptive innovation in manufacturing companies. Other variables, such as the characteristics of the board of commissioners, ownership structure except foreign ownership, and the number of investors, did not support manufacturing companies' disclosure of disruptive innovation.

Table 3 Hypothesis Testing

	B	p-value	Conclusion
(Constant)	0.811	0.000	Unsupported
Term of Office	-0.001	0.919	Unsupported
Educational Background	0.003	0.917	Unsupported
Age	-0.002	0.385	Unsupported
Size	-0.002	0.915	Unsupported
Independent Commissioner	-0.130	0.287	Unsupported
Managerial Ownership	-0.057	0.580	Unsupported
Foreign Ownership	-0.154	0.022	Supported
Government Ownership	-0.130	0.481	Unsupported
Public Ownership	-0.057	0.611	Unsupported
Investors	-0.002	0.896	Unsupported

Discussion

The results of the hypothesis testing showed that the proxy of the characteristics of board members and investors did not encourage the disclosure of disruptive innovation. Only the proxy of foreign ownership from the ownership structure variable could promote the disclosure of disruptive innovation. These results do not support previous studies, such as those conducted by Ntim and Soobaroyen (2013), Rahayu and Djuminah (2022), Kiliç et al. (2015), Sharif and Rashid (2014), Arayssi et al. (2020), Javaid Lone et al. (2016), Rahindayati et al. (2015), and Khaireddine et al. (2020), which stated that the characteristics of board members affect voluntary disclosure. According to Ciampi (2015), the proxy of the board of directors' size may negatively affect voluntary disclosure due to coordination, communication, and monitoring problems. The investor variable also cannot increase the practice of disclosing disruptive innovation; these results are not in line with previous results such as Supheni et al. (2023), Li et al. (2023), and Chen et al. (2020).

The results of the hypothesis revealed that foreign ownership affected the disclosure of disruptive innovation. However, the coefficient results showed the opposite, namely a negative effect. The results of several studies stated that it is important for voluntary disclosure practices regarding the role of foreign ownership significantly to increase corporate transparency and accountability (Al Amosh & Khatib, 2022). This result is not in line with previous findings, such as Adeniyi and Adebayo (2018), Alhazaimeh et al. (2014), and Rustam et al. (2019). However, the results of this study are supported by the results of Saini and Singhania (2019) and Abu Qa'dan and Suwaidan (2019), that foreign ownership has a negative effect on the practice of disclosing disruptive innovation. This may be because disclosure of innovation has a high risk. Foreign ownership has a negative impact, and companies may have concerns. Companies with foreign ownership fear that the innovations they include in their financial statements can be bought or imitated, which can later endanger the company's competitive advantage. In addition, regulatory uncertainty may be the cause. Foreign-owned companies may face more significant regulatory uncertainty. Regulatory uncertainty can discourage companies from investing in disruptive innovations, as they may be unsure whether the innovation will be legal or profitable.

An example of a case related to foreign ownership can be seen in the case of Huawei developing disruptive 5G technology, and the acquisition of Qualcomm will give it access to valuable intellectual property and resources. However, the US government is concerned that the acquisition will allow Huawei to dominate the global 5G market and provide strategic advantages for China (CNN, 2024). Indeed, disruptive innovation has high potential, but it also has high risks. As such, companies must remain careful in disclosing disruptive innovations to protect trade secrets and company innovations.

This study's results can contribute to literature, theory, and practice. The contribution of this research literature can expand the development of voluntary disclosure, especially in innovation, which researchers know is still rare. This study also provides theoretical contributions from the perspective of stakeholder theory. This study confirms that it is essential to have good relationships with related parties for the company's benefit. Most importantly, this study can provide practical contributions for companies to consider factors influencing the disclosure of disruptive innovations. Companies must also be more careful in disclosing innovations that have been carried out; disruptive innovations often have high potential and risk. Companies must balance disclosing sufficient information to attract stakeholders and protecting trade secrets. This study also provides recommendations for the Financial Services Authority regarding the presentation of voluntary financial reports that have not been regulated in OJK Regulation No.29/POJK.04/2016 concerning the presentation and disclosure of financial reports.

Conclusion

This study aims to test and obtain empirical evidence regarding the determinants of disruptive innovation disclosure, namely the characteristics of the board of commissioners, ownership structure, and investors. This study was conducted on manufacturing companies listed on the IDX with an observation year of 2021. The results of the hypothesis found that the disclosure of disruptive innovation in manufacturing companies is influenced by foreign ownership. However, the results exhibited a negative direction. This means that companies must be more careful in disclosing innovation. In addition, proxies for board characteristics and investor variables did not encourage disclosure of disruptive innovation. Other proxies for ownership structure also could not promote disclosure of disruptive innovation. It is possible that because this study was conducted in the observation year of 2021, after COVID-19, all companies were recovering together after the pandemic subsided. Companies are still struggling in various aspects and are careful in disclosure innovation because they have high risks. The results of this study have implications for both literature as an expansion of knowledge regarding voluntary disclosure; this study also confirms the stakeholder theory that it is important to have a good relationship with stakeholders. Most importantly, the results of this study contribute to companies being more careful in maintaining a balance between disclosing sufficient information to attract stakeholders and protecting trade secrets.

This study has several limitations; therefore, the results should be interpreted cautiously. The first limitation is that the research period was limited to only one year, namely in 2021; further research can add more observations to be more robust. Second, using the disclosure index to measure the level of disruptive innovation disclosure, there was no agreement on the specific nature or quantity of information to be included in the disclosure index. Therefore, the disruptive innovation disclosure score given to each company is valid as long as the disruptive innovation disclosure index applied is appropriate.

References

Abu Qa'dan, M. B., & Suwaidan, M. S. (2019). Board composition, ownership structure and corporate social responsibility disclosure: the case of Jordan. *Social Responsibility Journal*, *15*(1), 28-46. https://doi.org/10.1108/SRJ-11-2017-0225

Adeniyi, S. I., & Adebayo, H. O. (2018). Effect of financial leverage on voluntary corporate social disclosure among listed firms on Nigerian stock exchange: a study of selected manufacturing firms. *Academic Journal of Economic Studies*, *4*(3), 18-24.

Adner, R. (2006). Match your innovation strategy to your innovation ecosystem. *Harvard Business Review*, *84*(4), 98.

Al Amosh, H., & Khatib, S. F. (2022). Ownership structure and environmental, social and governance performance disclosure: the moderating role of the board independence. *Journal of Business and Socio-Economic Development*, *2*(1), 49-66. https://doi.org/10.1108/JBSED-07-2021-0094

Al-Janadi, Y., Abdul Rahman, R., & Alazzani, A. (2016). Does government ownership affect corporate governance and corporate disclosure? Evidence from Saudi Arabia. *Managerial Auditing Journal*, *31*(8/9), 871-890. https://doi.org/10.1108/MAJ-12-2015-1287

Alhazaimeh, A., Palaniappan, R., & Almsafir, M. (2014). The impact of corporate governance and ownership structure on voluntary disclosure in annual reports among listed Jordanian companies. *Procedia-Social and Behavioral Sciences*, *129*, 341-348. https://doi.org/10.1016/j.sbspro.2014.03.686

Arayssi, M., Jizi, M., & Tabaja, H. H. (2020). The impact of board composition on the level of ESG disclosures in GCC countries. *Sustainability Accounting, Management and Policy Journal*, *11*(1), 137-161. https://doi.org/10.1108/SAMPJ-05-2018-0136

Chen, T., Dong, H., & Lin, C. (2020). Institutional shareholders and corporate social responsibility. *Journal of financial economics*, *135*(2), 483-504. https://doi.org/10.1016/j.jfineco.2019.06.007

Ciampi, F. (2015). Corporate governance characteristics and default prediction modeling for small enterprises. An empirical analysis of Italian firms. *Journal of Business Research*, *68*(5), 1012-1025. https://doi.org/10.1016/j.jbusres.2014.10.003

CNN. (2024). *US revokes some export licenses for selling semiconductors to China's Huawei*. CNN Business. Retrieved 2 July from https://edition.cnn.com/2024/05/08/tech/us-export-licenses-china-huawei-hnk-intl/index.html

Fernandes, S. M., Bornia, A. C., & Nakamura, L. R. (2018). The influence of boards of directors on environmental disclosure. *Management decision*, *57*(9), 2358-2382. https://doi.org/10.1108/MD-11-2017-1084

Freeman, R. E. (2010). *Strategic management: A stakeholder approach*. Cambridge university press. https://doi.org/10.1017/CBO9781139192675

Freeman, R. E., & Reed, D. L. (1983). Stockholders and stakeholders: A new perspective on corporate governance. *California management review*, *25*(3), 88-106. https://doi.org/10.2307/41165018

Freudenreich, B., Lüdeke-Freund, F., & Schaltegger, S. (2020). A stakeholder theory perspective on business models: Value creation for sustainability. *Journal of Business Ethics*, *166*(1), 3-18. https://doi.org/10.1007/s10551-019-04112-z

Ghozali, I. (2016). Aplikasi analisis multivariete dengan program IBM SPSS 23.

Javaid Lone, E., Ali, A., & Khan, I. (2016). Corporate governance and corporate social responsibility disclosure: evidence from Pakistan. *Corporate Governance: The International Journal of Business in Society*, *16*(5), 785-797. https://doi.org/10.1108/CG-05-2016-0100

Jones, T. M., & Wicks, A. C. (1999). Letter to AMR regarding "convergent stakeholder theory". *Academy of Management Review*, *24*(4), 621-623. https://doi.org/10.5465/amr.1999.12600876

Juhmani, O. I. (2013). Ownership structure and corporate voluntary disclosure: Evidence from Bahrain. *International Journal of Accounting and Financial Reporting*, *3*(2), 133. https://doi.org/10.5296/ijafr.v3i2.4088

Kathy Rao, K., Tilt, C. A., & Lester, L. H. (2012). Corporate governance and environmental reporting: an Australian study. *Corporate Governance: The International Journal of Business in Society*, *12*(2), 143-163. https://doi.org/10.1108/14720701211214052

Khaireddine, H., Salhi, B., Aljabr, J., & Jarboui, A. (2020). Impact of board characteristics on governance, environmental and ethical disclosure. *Society and Business Review*, *15*(3), 273-295. https://doi.org/10.1108/SBR-05-2019-0067

Khan, A., Muttakin, M. B., & Siddiqui, J. (2013). Corporate governance and corporate social responsibility disclosures: Evidence from an emerging economy. *Journal of Business Ethics*, *114*, 207-223. https://doi.org/10.1007/s10551-012-1336-0

Kiliç, M., Kuzey, C., & Uyar, A. (2015). The impact of ownership and board structure on Corporate Social Responsibility (CSR) reporting in the Turkish banking industry. *Corporate Governance*, *15*(3), 357-374. https://doi.org/10.1108/CG-02-2014-0022

Lagasio, V., & Cucari, N. (2019). Corporate governance and environmental social governance disclosure: A meta-analytical review. *Corporate social responsibility and environmental management*, *26*(4), 701-711. https://doi.org/10.1002/csr.1716

Ledoux, M. J., & Cormier, D. (2013). Market assessment of intangibles and voluntary disclosure about innovation: the incidence of IFRS. *Review of Accounting and Finance*, *12*(3), 286-304. https://doi.org/10.1108/RAF-Apr-2012-0033

Li, Q., Ruan, W., Li, R., & Li, H. (2023). Do institutional investors' holdings affect corporate environmental information disclosure? Evidence from China. *Environment, Development and Sustainability*, *25*(12), 14733-14751. https://doi.org/10.1007/s10668-022-02686-9

Liu, Y., Lei, L., & Buttner, E. H. (2020). Establishing the boundary conditions for female board directors' influence on firm performance through CSR. *Journal of Business Research*, *121*, 112-120. https://doi.org/10.1016/j.jbusres.2020.08.026

Masum, M. H., Latiff, A. R. A., & Osman, M. N. H. (2020). Ownership structure and corporate voluntary disclosures in transition economy. *The Journal of Asian Finance, Economics and Business*, *7*(10), 601-611. https://doi.org/10.13106/jafeb.2020.vol7.no10.601

McDaniel, L., Martin, R. D., & Maines, L. A. (2002). Evaluating financial reporting quality: The effects of financial expertise vs. financial literacy. *The accounting review*, *77*(s-1), 139-167. https://doi.org/10.2308/accr.2002.77.s-1.139

Michelon, G. (2011). Sustainability disclosure and reputation: A comparative study. *Corporate reputation review*, *14*, 79-96. https://doi.org/10.1057/crr.2011.10

Ntim, C. G., & Soobaroyen, T. (2013). Corporate governance and performance in socially responsible corporations: New empirical insights from a Neo-Institutional framework. *Corporate governance: an international review*, *21*(5), 468-494. https://doi.org/10.1111/corg.12026

Nugraheni, P., Indrasari, A., & Hamzah, N. (2022). The impact of ownership structure on CSR disclosure: Evidence from Indonesia. *Journal of Accounting and Investment*, *23*(2), 229-243. https://doi.org/10.18196/jai.v23i2.14633

Nur Probohudono, A., Tower, G., & Rusmin, R. (2013). Risk disclosure during the global financial crisis. *Social Responsibility Journal*, *9*(1), 124-137. https://doi.org/10.1108/17471111311307859

Oanh, T. T. K., Hien, D. T. T., Anh, H. T. P., & Ha, D. T. T. (2021). Ownership structure and firm performance: empirical study in Vietnamese stock exchange. *Data Science for Financial Econometrics*, 353-367. https://doi.org/10.1007/978-3-030-48853-6_25

Rahayu, R., & Djuminah, D. (2022). Does the Board of Commissioners' Characteristics Relevant to the Sustainable Finance Disclosure in Indonesian Banks? *Journal of Accounting and Investment*, *23*(2), 209-228. https://doi.org/10.18196/jai.v23i2.14163

Rahindayati, N. M., Ramantha, I. W., & Rasmini, N. K. (2015). Pengaruh Diversitas Pengurus Pada Luas Pengungkapan Corporate Social Responsibility Perusahaan Sektor Keuangan. *E-Jurnal Ekonomi Dan Bisnis Universitas Udayana*, *4*(5), 312-330.

Rustam, A., Wang, Y., & Zameer, H. (2019). Does foreign ownership affect corporate sustainability disclosure in Pakistan? A sequential mixed methods approach. *Environmental Science and Pollution Research*, *26*(30), 31178-31197. https://doi.org/10.1007/s11356-019-06250-3

Saini, N., & Singhania, M. (2019). Performance relevance of environmental and social disclosures: The role of foreign ownership. *Benchmarking: An International Journal*, *26*(6), 1845-1873. https://doi.org/10.1108/BIJ-04-2018-0114

Sandström, C., Berglund, H., & Magnusson, M. (2014). Symmetric assumptions in the theory of disruptive innovation: Theoretical and managerial implications. *Creativity and Innovation Management*, *23*(4), 472-483. https://doi.org/10.1111/caim.12092

Schipper, K. (1981). Discussion of voluntary corporate disclosure: The case of interim reporting. *Journal of accounting research*, 85-88. https://doi.org/10.2307/2490986

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. john wiley & sons.

Sharif, M., & Rashid, K. (2014). Corporate governance and corporate social responsibility (CSR) reporting: an empirical evidence from commercial banks (CB) of Pakistan. *Quality & Quantity*, *48*, 2501-2521. https://doi.org/10.1007/s11135-013-9903-8

Suhardjanto, D., Probohudono, A. N., & Supheni, I. (2021). Pengungkapan Inovasi Disruptif Industri Perbankan Indonesia. *EKUITAS (Jurnal Ekonomi Dan Keuangan)*, *5*(3), 283-299. https://doi.org/10.24034/j25485024.y2021.v5.i3.4997

Supheni, I., Suhardjanto, D., & Probohudono, A. N. (2023). Disruptive Innovation Disclosure Practices and Application of Stakeholder Theory. In *Macroeconomic Risk and Growth in the Southeast Asian Countries: Insight from SEA* (Vol. 33, pp. 41-51). Emerald Publishing Limited. https://doi.org/10.1108/S1571-03862023000033B003

Tian, Y., & Chen, J. (2009). Concept of voluntary information disclosure and a review of relevant studies. *International Journal of Economics and Finance*, *1*(2), 55-59. https://doi.org/10.5539/ijef.v1n2p55

Van Puyvelde, S., Caers, R., Du Bois, C., & Jegers, M. (2012). The governance of nonprofit organizations: Integrating agency theory with stakeholder and stewardship theories. *Nonprofit and voluntary sector quarterly*, *41*(3), 431-451. https://doi.org/10.1177/0899764011409757

Verbeek, M. (2017). *A guide to modern econometrics*. John Wiley & Sons.

Wanda, M. M. (2023). PT. Nestle Indonesia: Perencanaan dan Pengembangan Sumber Daya Manusia di Era Society 5.0 Studi Kasus Peran Perencanaan Sumber Daya Manusia. *Research Gate*.

About the Authors

Indrian Supheni (I.S.) is a lecturer from the Department of Accounting, Faculty of Economics and Business, Universitas PGRI Mpu Sindok, East Java, Indonesia. Her research interests cover Accounting (including Management Accounting on corporate social responsibility and creating value responsibility); She can be contacted by email: isupheni@upms.ac.id

Suyanto (S) is a lecturer from the Accounting Department, Faculty of Economics, Universitas Sarjanawiyata Tamansiswa, Indonesia. His research interests Financial Accounting (including Financial Performance, Innovation, and sustainability); Can be contacted via email: iyant@ustjogja.ac.id

Tiyas Puji Utami is a student from the Mater of Accounting, Directorate of Postgraduate Program, Universitas Muhammadiyah Yogyakarta, Special Region of Yogyakarta, Indonesia. She can be contacted by email: tiyaspujiutami@gmail.com

Author Contributions

Conceptualisation, I.S.; Methodology, I.S. and S; Investigation, I.S. and S; Analysis, I.S., S and TPU.; Original draft preparation, I.S., S and TPU.; Review and editing, I.S., S and TPU.; Visualization, I.S., S and TPU.

Conflicts of Interest

The authors declare no conflict of interest. The funders had no role in the design of the study, in the collection, analyses, or interpretation of data, in the writing of the manuscript, or in the decision to publish the results.