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The Role of a Sustainability Report in Mediating the Effect of Board Size on Firm Value

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Sustainability reports have become more prevalent in today's business world. The purpose of this paper is to obtain empirical evidence of (1) the effect of board size on firm value, (2) the effect of sustainability reports on firm value, (3) the effect of board size on sustainability reports, and (4) the role of sustainability reports in mediating the effect of board size on firm value. This research uses quantitative methods through a sample of 103 companies which publish sustainability reports. The subjects in this study are all companies listed on the Indonesia Stock Exchange in the period 2013 to 2017. The results of hypothesis testing conclude that board size and a sustainability report positively affect firms' value, the effect of board size on a sustainability report is not significant, and a sustainability report cannot mediate board size relationship with firm value.

Key words: *Board size, Sustainability report, Firm value, Tobin's Q.*

Introduction

According to environmental experts, increasingly worsening global warming means that the earth's population has only until 2030 to fix the problem. This motivates management to inform stakeholders that the firm considers environmental aspects in their business processes as a contribution to preserving a sustainable environment. Sustainability reporting is one of the many communication tools by which management can communicate with stakeholders about firm policies for protecting the environment. With the widespread practice of publishing sustainability reporting the business world, it can be concluded that corporate management today is considering using Triple Bottom Line strategy rather than conventional strategies.

Triple Bottom Line (TBL) strategy is a management or business strategy of three main elements; namely economic, social, and environmental (Lozano, 2012). Its practice enhances the firm's reputation in the eyes of investors. Investors will be more willing to invest in companies that have a good reputation, because such companies have a lower risk profile. The more investors invest in a firm, the higher the value of the firm becomes.

In maximising the value of the firm, it relies heavily on technical steps by management to make the best decisions for itself. Good decisions are decisions based on objective thinking by managers who are members of the board. A larger board size will minimize the possibility of decisions based on certain groups (Ciftci, 2018). Thoughts that are free from group interests will produce objective decisions and can increase the firm's value. This statement is in line with research conducted by Singh et al. (2018) who stated that board size has a positive effect on firm value.

A larger board size will lead to more thoughts, perspectives, values, and different ideas in the decision-making process (Mahmood and Orazalin, 2017). The larger number of thoughts can enlarge the funding opportunities reached by a firm. One way that companies can expand funding opportunities is to publishing voluntary reports, like sustainability reports. Thus, the greater the number of members, the higher the chance for the firm to publish a sustainability report because of the firm's ability to reach greater funding opportunities (Chauhan and Kumar, 2018). However, other studies state that the quality of sustainability reports is not influenced by board size, because the members of the board of commissioners have not carried out their duties to supervise and guide the firm managers or management (Aliniar and Wahyuni, 2017).

Literature Review

Agency Theory

The separation of ownership in a firm creates agency, where the shareholders appoint an agent (management) as their representative to run the firm they own. Consequently, agency problems can emerge if management represents not shareholders, but its self-interest (Panda and Leepsa, 2017). According to Fama and Jensen (1983) in the study of Kuzey & Uyar (2017) it is stated that agency problems will cause agency costs. The higher the agency costs that arise in a firm, the lower the value of the firm. An increase in board members can increase agency costs (Basyith, 2016). This is because an excessive number of board members will cause the board meeting to be conducted to be of low quality, resulting in high agency costs. High agency costs encourage firm managers to provide additional reports that are voluntary, specifically disclosing social and environmental issues such as sustainability reports, to reduce agency costs (Loh et al., 2017).

Legitimacy Theory

According to Lindblom (1994) in a journal written by Deegan (2002), legitimacy occurs when the value system of an entity is the same as that of a social value system larger than the entity. A difference between the two value systems will threaten the legitimacy of the existing entity. In legitimacy theory, companies do not have rights to any resources or even exist, if not recognized by society (Deegan, 2002). One tool by which companies can be recognized socially is a sustainability report. The report informs stakeholders that the firm has contributed to environmental protection and has carried out its social obligations through management decisions and policies. The existence of this information can change the perspective of stakeholders and the community towards the firm, so that it can recognized. Investors will invest in companies recognized by the community, causing the firm's stock price to be high with a subsequent increase in firm value.

Effect of Board Size on Firm Value

Ciftci et al. (2018) states that a bigger board size can reduce subjectivity caused by ownership by certain groups, where decisions are often based on their interests. A bigger board size makes it easier for professional managers to objectively base decisions on professional judgment. The more objective a decision taken by the board, the more positive the impact it has on firm performance, so that its value will increase along with its performance. The above statement is in line with Ciftci et al. (2018) who state that board size affects firm value positively.

H1. Board size has a positive effect on firm value.

Board Size Effect on the Sustainability Report

A larger board size will lead to higher agency costs (Basyith, 2016). To anticipate this, the management will publish additional, voluntary reports, to minimize the negative effects of the board's size. One voluntary report that can be published to minimize agency costs is a sustainability report (Loh et al., 2017). Sustainability reports can legitimize the actions of firm management, so that agency costs are reduced. A larger board size will lead to more different thoughts, perspectives, values, and ideas in the decision-making process (Mahmood and Orazalin, 2017). Thus, the decision to publish a sustainability report will be superior because the board has more considerations from the results of different thoughts. A recent study which discussed the role of boards in reporting corporate sustainability showed that board size has a positive effect on the disclosure of sustainability reports (Swarnapali and Mudiyanselage, 2018).

H2. Board size has a positive effect on sustainability report.

Effect of Sustainability Report on Firm Values

According to legitimacy theory, companies do not have rights to any resources, or even exist, if they are not recognized by society (Deegan, 2002). One tool that companies can use to be recognized by the community is to publish sustainability reports (Kuzey and Uyar, 2017). The sustainability report informs stakeholders that the firm has contributed to maintain the environment and has carried out its social obligations, through policies implemented by management. With this information, it can change the stakeholder and community perspective of the company's image, legitimizing it. Investors, as stakeholders, will be increasingly interested in investing in companies that are recognized by society, resulting in an increase in the company's stock price. The increase in the company's stock price will be followed by an increase in the company's value.

H3. A sustainability report has a positive effect on firm value.

The Role of a Sustainability Report in Mediating the Effect of Board Size on Firm Value

The effect of board size on firm value has non-linear results. Another variable is needed that can mediate the effect of board size on firm value and can answer environmental phenomena discussed above; the sustainability report. Research conducted by Al-Shaer and Zaman (2016) states that board size has a positive effect on the quality of sustainability reports. According to Loh et al. (2017), the quality of a sustainability report will positively affect the firm's value. Sustainability reports can also reduce agency costs (Loh et al., 2017). Decreasing agency costs can affect the risks of the firm in terms of funding in the eyes of investors, so that they can affect the firm's market value. Thus, the sustainability report and board size are related to the value of the firm.

H4. A sustainability report mediates the relationship between board size and firm value.

Methodology

This study uses the documentation study procedure, where data collection has been provided by the firm used as the research sample. All companies listed on the Indonesia Stock Exchange (IDX) will be used as the research population, while the research sample is all companies listed on the IDX which published sustainability reports in the period 2013 to 2017. The number of research sample that will be used to make decisions is 103 companies from 170 samples taken. The research sample was determined using purposive sampling, which is to determine the sample based on certain criteria. The hypotheses are tested using

SPSS 21 software which includes a classic assumption test, path analysis, t-statistical test, and sobel test to determine the mediating effect of a sustainability report.

Variables

The independent variable in this study is board size. It is measured using the total number of personnel in the board of commissioners, coupled with the number of personnel from the board of directors in a firm (Sari and Ardiana, 2014). The dependent variable in this study is the corporate value proxied by Tobin's Q, where the value of the firm will be calculated by dividing the total value of the firm according to the market, by the firm's total assets (Kurniawan et al., 2018). The mediation variable used in the research is sustainability reporting, measured by SRDI (Sustainability Report Disclosure Index) (Sejati and Prastiwi, 2015). The GRI standard that will be used in this study is the GRI G4 standard. It has 91 indices and is spread in three special disclosures; economic, environmental, and social. This study uses several control variables, namely the age of the firm (natural logarithm of the difference in accounting years with the firm's starting year), firm size (natural logarithm of total assets), and leverage (total liabilities divided by total assets).

Result

Path analysis examines the direct effect of independent variables and explains the indirect effects given by independent variables through mediating variables. Figure 1 explains that the effect of board size (BS) on sustainability report (SR) is 0.070. The effect of board size (BS) and sustainability report (SR) on firm value (TQ) is 0.254 and 0.209. The indirect effect of the board size on firm value is 0.01463 (0.070 × 0.209).

Figure 1. Path analysis.

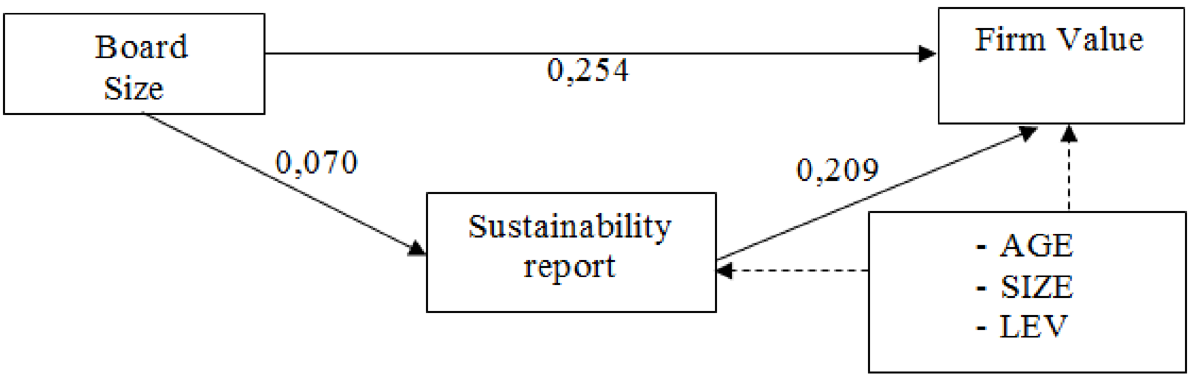

Table 1: Hypothesis testing

Path (hypothesis)	Coefficients	Std. Error	t value	Description
BS → TQ (H1)	0,254	0,017	2,000	**Supported**
BS → SR (H2)	0,070	0,007	0,529	**Not supported**
SR → TQ (H3)	0,209	0,239	2,171	**Supported**
BS → SR → TQ (H4)	0,01463	0,017	0,867	**Not supported**

After conducting the T statistical tests, Hypothesis 1 produces a T test value of 2,000 (>± 1,65). This implies that the effect of board size on firm value is positive and significant. It can be concluded that Hypothesis 1 is supported. A bigger board size can make it easier for professional managers, who are members of the board, to influence decisions that will be taken based on their professional judgment. Decisions taken from thinking that is free of group interests will result in more objective decisions, which will produce policies that focus on the company's success in the future. The more objective the decisions taken by the board, the lower the agency costs will be, as caused by differences of opinion between agents (managers) and principal (investors). A smaller agency cost caused by differences of opinion between agents and principals can increase the value of the company, along with the increasing satisfaction of the principal (investor) for the performance of the agent (manager).

Additionally, Hypothesis 2 produces a t test value of 0.529 (<± 1.65). This can imply that the effect of board size on sustainability report is positive but not significant. Hypothesis 2 is not supported. It can be said that the boards of the companies listed on the IDX consider sustainability reports a burden. This is because the effect of board size on a sustainability report is not significant. In other words, the quality of a sustainability report in Indonesia cannot increase, even though board size is increasing. This is because the boards of the companies in Indonesia consider sustainability reporting as a burden that must be borne by the company, so it must minimize the costs caused by all activities related to sustainability reporting. Some studies that are in line with these results are those conducted by Aliniar and Wahyuni (2017), and Ganesan et al. (2017). Their research states that the effect of board size was not significant towards sustainability report.

Additionally, Hypothesis 3 produces a t test value of 2.171 (> ± 1.65). This implies that the effect of a sustainability report on firm value is positive and significant. It can be concluded that Hypothesis 3 is supported. This happens because information contained in a sustainability report can change the perspective of stakeholders and the community towards the firm's image, so that the firm can be legitimized by the community. Investors, as stakeholders, will be more willing to invest in firm that has a good reputation (image), because firms that have a better reputation have a lower risk profile. With more and more investors buying the company's shares, its share price will increase, which will be followed by an increase in the value of the company.

After using the sobel test formula, the standard error value of the indirect effect is 0.017 and the calculated t value is 0.867. From the results of t value obtained from the sobel test, the t value (0.867) is smaller than the value of the t table (± 1.65). Thus, the effect of a sustainability report cannot mediate the effect of board size on firm value. This is because the board of the companies in Indonesia considers the costs incurred for sustainability reporting activities are not commensurate with the profits generated for the company. If the company's goal in publishing a sustainability report is only to look good in the eyes of investors, then the report's quality will also be minimal, in the hope that the costs incurred will be minimal as well. Thus, the number of boards in a company cannot affect the quality of a sustainability report. In other words, the quality of sustainability reporting will remain unchanged despite the addition of a board member in the company. If the quality of the sustainability report does not change, then the company value will be unchanged too. This can occur because stakeholder perspectives on the company's image cannot change if a sustainability report is ineffective.

Discussion

From the results of the hypothesis testing in this study, the size of the board does not affect the sustainability report. This can happen because, the larger the size of the board, the more that thoughts, perspectives, values, and different ideas will lead the decision-making process (Mahmood and Orazalin, 2017). The increasing number of board members in a firm will cause more debate to publish the sustainability report, which in turn causes different views about how to respond to the report.

There are two possibilities on how boards address the sustainability report; consider it a necessity or a burden. If the boards consider sustainability reports a necessity, they will be happy to recommend the most optimal reporting for their firm, so that stakeholders can find out what the firm contributes overall, environmentally, socially and economically. If the boards consider sustainability reports a burden, they will only recommend the most minimal reporting, to minimise reporting costs.

When viewed from the results of this study, it can be said that company boards listed on the IDX consider sustainability reporting a burden. It can be said that the influence of the board size on the sustainability report is not significant. In other words, publishing sustainability reports in Indonesia cannot increase even though board size is getting bigger. This view has resulted in a lack of maximum sustainability reporting in Indonesia. This is reflected in the results of the average value of sustainability report in Indonesia which is less than 50%.

The results of the sobel test indicate that the mediating effect of a sustainability report is not significant. Boards in Indonesia consider that the costs incurred for sustainability reporting are not commensurate with the profits generated for the firm. This view motivates companies to report sustainability just to look good in the eyes of investors. If the firm's goal to report sustainability is only to look good in the eyes of investors, then the quality of the sustainability report will be minimal, in the hope of reducing the costs incurred. Thus, the quality of the sustainability report will remain unchanged despite the addition of board members to a firm. If the quality of sustainability report does not change, then the value of a firm will stay the same.

Conclusion

From the several statistical tests performed, it can be concluded that board size has a positive influence on firm's value, board size does not influence sustainability reporting, a sustainability report has a positive influence on firm's value, and a sustainability report cannot mediate the influence of board size on firm value.

This research contributes in terms of expanding the literature about the effect of board size on the company's market value with sustainability reports as a mediating variable. In addition, this research also contributes in inspiring other academics to investigate more deeply about board size and /or sustainability reports. The practical contributions of this research are, (1) it can be taken into consideration when determining what reports should be published by a company to maximize company market value, (2) it can provide new insights to company boards in Indonesia, about the role of board size and sustainability reports and their benefits for companies.

Acknowledgement

Researchers acknowledged that this research were far from perfect. The method used to make decisions may not be accepted by some parties, but in the decision-making process of this research, researchers have followed the existing statistical procedures. The limitation of this research is that not many companies listed on the IDX have published G4 sustainability reports and the limitations of the statistical ability possessed by the researchers. Researchers also hope that this research can motivate further research and can also build up the existing body of research.

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