Online ISSN 2345-0037. ORGANIZATIONS AND MARKETS IN EMERGING ECONOMIES, 2018, VOL. 9, No. 1 (17)
DOI: https://doi.org/10.15388/omee.2018.10.00004

STRATEGY TO IMPROVE FIRM PERFORMANCE THROUGH OPERATIONAL EFFICIENCY COMMITMENT TO ENVIRONMENTAL FRIENDLINESS: EVIDENCE FROM INDONESIA

Mohamad Nur Utomo
ORCID: https://orcid.org/0000-0003-1445-5009
Ph.D. student at the Department of Management, Faculty of Economics and Business, Diponegoro University, Semarang, Indonesia; Lecturer at the Department of Management, Faculty of Economics, Borneo Tarakan University, Indonesia

Sugeng Wahyudi
ORCID: https://orcid.org/0000-0003-2889-7123
Department of Management, Faculty of Economics and Business, Diponegoro University, Indonesia

Harjum Muharam
ORCID: http://orcid.org/0000-0002-4627-9997
Department of Management, Faculty of Economics and Business, Diponegoro University, Indonesia

Maximus Leonardo Taolin
ORCID: https://orcid.org/0000-0002-4864-250X
Ph.D. student at the Department of Management, Faculty of Economics and Business, Diponegoro University, Semarang, Indonesia; Lecturer at the Department of Management, Faculty of Economics and Business, Timor University, Indonesia

Abstract. *The objective of this study is to examine the effect of controlling shareholders' monitoring on firm performance through the implementation of operational efficiency commitment to environmental friendliness. Non-financial firms listed on the Indonesia Stock Exchange and joining the Environmental Performance Assessment Program (PROPER) are determined as the sample. Results indicate that controlling shareholders have a positive impact on operational efficiency commitment to environmental*

* Corresponding author: Ph.D. student at the Department of Management, Faculty of Economics and Business, Diponegoro University, Semarang, Indonesia and Lecturer at the Department of Management, Faculty of Economics, Borneo Tarakan University, Jl. Amal Lama, No. 1, Tarakan, 77115, Indonesia; e-mail: mohnurutomo@gmail.com

friendliness and also on firm performance. In addition, other key findings indicate that the controlling shareholders can improve firm performance through the implementation of operational efficiency commitment to environmental friendliness. The results of this study support the position of the agency theory, the stakeholder theory, and the legitimacy theory. Operational efficiency commitment to environmental friendliness is then suggested to be a meaningful strategy for the firms to obtain sustainable performance.

Key words: *controlling shareholders, environmental performance, firm performance, monitoring, operational efficiency commitment to environmental friendliness.*

Introduction

One important goal of the firm is to maximize performance in current and future days. The maximized firm performance will be increasing shareholders' wealth (Gill et al., 2014). Modern firms that list their stock on a capital market maximize their performance by separating functions of ownership and control (Berle & Means, 1932). This separation may distinguish the interests of the owner and the manager but can evoke among them a conflict called agency conflict (Ross, 1973, Jensen & Meckling, 1976). The conflict across the groups of a firm, or the agency problem, is a conflict between the owner (principal) and the manager (agent) when the manager has a greater interest to pursue an individual goal rather than a firm goal (Sartono, 2012).

The agency problem can affect firm performance and force both the owner and the manager to lose. One way to minimize the agency problems that inflict the loss to investors is by requiring a firm owner to do monitoring (Jensen & Meckling, 1976). Monitoring refers to several efforts conducted by the owner (principal) to reduce deviant behavior of the manager (agent), and these efforts may take several forms such as measuring, observing and controlling the agent behavior through budget restriction, compensatory policy, operational rule, and others.

Insisting to enforce monitoring action and also to protect their wealth from the agent's deviant behavior, the owner may strengthen control size by increasing share ownership (Grosfeld, 2006). When control is held by a few investors, then it will be easier to proceed with the control (Shleifer & Vishny, 1986). Having bigger shareholding and dominant position, and also receiving wealth greater than other shareholders, the controlling shareholders always have a strong incentive to collect information about the firm's condition, to monitor the manager to keep him/her maximizing firm performance, and to ensure that the agency problem is solved (Demsetz & Lehn, 1985; Claessens et al., 2002). Monitoring by controlling shareholders is truly effective to reduce the agency conflict in developing countries where the quality of corporate governance system is still weak (Nguyen et al., 2015).

Studies have been done lately concerning the effect of controlling shareholders on firm performance, but the results are varying. Some results show that monitoring by controlling shareholders is an efficient tool to reduce the agency problem and also to improve firm performance (Jaafar & El-Shawa, 2009, Alimehmeti & Paletta, 2010; Fa-

rooque et al., 2010; Krivogorsky & Grudnitski, 2010; Caixe & Krauter, 2013; Gaur et al., 2015; Hamadi & Heine, 2015; Li et al., 2015). Other results identify that controlling shareholders do not affect firm performance (Ahmed et al., 2012; Wahla et al., 2012; Warrad et al., 2013; Al-Saidi & Al-Shammari, 2015).

Such inconsistent results can be referred to as a fact that there is a missing link between controlling shareholders and firm performance. Controlling shareholders' monitoring has a direct effect on firm performance on condition that there is no conflict of interest between shareholders and other stakeholders. The firm owner (shareholders) always wants a good return on their investment. On the other hand, firm sustainability does not merely depend on firm performance. The damage to the natural environment due to the firm's hostile activity may give unfavorable impact on the firm's long-term feasibility. The healthy environment that is free of both pollution and damaging action is always vital to stakeholders (government, environment conserver, and general community). Since a conflict of interest is possible between shareholders and stakeholders, then the possible solution is giving certain rights by the firm to certain stakeholders, and these rights represent the firm's responsibility for society and environment (Jo et al., 2012).

Some pieces of literature on strategic management have claimed that firms applying efficiency paradigm into their operation will be potentially receiving benefits in the future and also creating a sustainable competitive advantage (McWilliams & Smart, 1993). Operational efficiency strategy also becomes a key to improving a firm's performance and competing for ability, to solving the agency conflict, reducing production cost, and to increasing the firm value in the future (Baik et al., 2013; Voulgaris & Lhemonakis, 2014).

The stakeholder theory asserts that maximization of sustainable firm performance can be achieved by integrating inherent interests of shareholders and stakeholders (Hill & Jones, 1992; Jensen, 2001). This integration refers to the integration between operational efficiency strategy and environmental friendliness managerial strategy. Some studies have found that environmental friendliness activities can create efficiency and bring into the firm some economic values, such as producing competitive advantage concerned with the more efficient operational process, increasing productivity, and giving lower cost of environmental infarction (Hart, 1995, Porter & Linde, 1995, Majumdar & Marcus, 2001; Alexopoulos et al., 2011; Caracuel & Mandojana, 2013). Environmental friendliness management can improve environmental performance, and it shall be a solution for agency conflict (de Villiers et al., 2011). Improving environmental performance can be potentially increasing firm performance (Al-Tuwaijri et al., 2004; Iqbal et al., 2013; Wassmer et al., 2014; Muhammad et al., 2015).

The current study attempts to understand the effect of controlling shareholders on firm performance through other perspectives, namely the integration of operational efficiency and environmental performance concepts. The product of this integration is called "operational efficiency commitment to environmental friendliness", and this new

concept is expected to become a solution to discrepancies in the effect of controlling shareholders' monitoring on firm performance.

Overall, the results of this study show that the controlling shareholders positively influence the operational efficiency commitment to environmental friendliness. The controlling shareholder positively affects the firm performance in both ROA and Tobin's Q measures. The operational efficiency commitment to environmental friendliness has a positive effect on the firm performance in both ROA and Tobin's Q measures. In addition, other key findings in the study indicate that the controlling shareholders have an indirect effect on firm performance (ROA & Tobin's Q) through operational efficiency commitment to environmental friendliness.

This study gives a significant contribution to works of literature concerning the relationship between controlling shareholders, environmental friendliness management concept, and firm performance. The paper is arranged into six sections. The second section is the literature review and hypotheses development. The methodology is discussed in the third section. Empirical results are provided in the fourth section, while the fifth section is given for conclusion and discussion. The final section focuses on limitation and possible improvement of the study in the future.

1. Literature Review and Hypotheses Development

1.1. The Effect of Controlling Shareholders on Operational Efficiency Commitment To Environmental Friendliness

The stakeholder theory affirms that successful relationship between stakeholders always involves creating and keeping trust. This trust shall be made and kept by the firm to fulfill responsibilities, and one responsibility is given to environment (Freeman, 1984). This theory also declares that a firm's motivation to be responsive to the environment issue and improving environmental performance are shaped by pressure from shareholders as one of the firm stakeholders (James, 1994; Henriques & Sadorsky, 1996). Some reasons stand behind shareholders' interest toward environmental friendliness management. These include (1) their worries that a big fine for environmental infarction may reduce profit, and (2) the difficulty to generate capital or attract new investors if the firm has poor environmental performance (Henriques & Sadorsky, 1996).

The agency theory asserts that dominant shareholders as controlling shareholders can influence operational strategic decisions and keep these decisions being more supportive of the achievement of their goal (Shleifer & Vishny, 1986). Through their dominance, controlling shareholders can put anyone in their favor to any strategic posts, such as general director or financial director, and by this authority, it must be easier for them to lead the firm's activity to use strategic policies to follow their aim (Francis et al., 2005).

Controlling shareholders differ from other shareholders in two aspects. First, controlling shareholders are concerned with the long-term feasibility of the firm, and second, it is important to them to maintain their reputation for the firm (Anderson et al.,

2003). It can be said that controlling shareholders gain more chances than other shareholders in making strategic decisions to maximize the firm's behavior to attain economic, social and environmental goals. Controlling shareholders with majority shareholding are more facilitated to lead the manager to execute business activity committed to environmental friendliness.

Some empirical studies have explained the presence of a positive relationship between controlling shareholders and environmental performance improvement. Earnhart and Lizal (2006) examined the effect of ownership structure and environmental performance in the Czech Republic. Environmental performance is measured based upon the level of air pollution emitted. Some pollutants are to be the issue, namely carbon monoxide (CO), sulfur dioxide, (SO2), particulates, and nitrogen oxides (NOx). These chemicals are the most emitted and the most regulated pollutions in the Czech Republic. The less is pollutant emission, the better is environmental performance at the firm. Meanwhile, controlling shareholders are measured by a number of the shareholders with the biggest shareholding. This study involves Czech-based firms listed on the Czech Stock Exchange during the period of 1993–1998. The result shows that the more concentrated is shareholders' ownership, the better is environmental performance. Chang (2013) conducted an empirical study in China and found that China-based firms with concentrated ownership have higher voluntary awareness toward environmental friendliness management, which is proved by the higher level of environmental performance disclosure. Sufian and Zahan (2013) claimed that controlling shareholders deliver a positive impact on CSR (Corporate Social Responsibility) disclosure, which makes a firm have a higher involvement in social and environmental activities.

Crisostomo and Freire (2015) carried out an empirical study in Brazil, and the result showed that controlling shareholders at Brazil firms have higher involvement in CSR activities. The controlling shareholders show greater concern about their name and reputation, and the policies to involve in CSR activities are aimed to keep their image and reputation good at the firm. Furthermore, Chang and Zhang (2015) acknowledged that the more concentrated is the ownership, the greater is the capacity of controlling shareholders in controlling and monitoring the manager in relation with the issue of the operational cost needed to improve environmental performance. Stricter control against environment cost shall increase the firm's efficiency and profitability.

Taking into account all theoretical reviews and also empirical studies above, the following hypothesis is then generated.

Hypothesis 1: Controlling shareholders have a positive effect on operational efficiency commitment to environmental friendliness.

1.2 The Effect of Controlling Shareholders on Firm Performance

Controlling shareholders can be an individual or a group but with the biggest shareholding, which gives shareholders a dominant position over the others (Dallas, 2004). This position can also be called as concentrated ownership. The concentrated owner-

ship may vary across the countries depending on the balance between the enforcement of ownership rights by the government and by the firm owner (Claessens et al., 2000). In the case of certain economic issues, if the government fails to enforce effectively ownership rights, then the enforcement will be taken over by the firm owner. Through such authority shift, the firm owner determines how far is the firm contract to be implemented, and this determination represents the ability and incentive to the owner in defending their rights (Claessens et al., 2000).

As already explained in the agency theory, controlling shareholders refer to a monitoring mechanism which can reduce the agency problem (Jensen & Meckling, 1976). Controlling shareholders may increase their ownership to have more control over the firm and the manager, and it can be done through voting power or by representing their self into managerial position (Porta et al., 1999). The less is the number of controlling shareholders, the more concentrated is the ownership, and thus the easier it is for them to control the manager to maximize firm performance (Shleifer & Vishny, 1986). Therefore, it can be said that controlling shareholders are very influential in the improvement of firm performance.

Some empirical studies confirmed that there is a positive effect from controlling shareholders on firm performance. Jaafar and El-Shawa (2009) investigated the relationship between controlling shareholders and firm performance in several firms listed on the Amman Stock Exchange, Jordania. Results of their study showed that controlling shareholders have a positive effect on firm performance based on measures of ROA and Tobin's Q. The measurement of controlling shareholders was done by determining a percentage of a shareholder with the biggest share ownership, and five controlling shareholders were identified with share ownership more than 5% of equity total. The study concluded that controlling shareholders can improve firm performance by increasing their monitoring of the manager and also by reducing the free rider issue.

Nguyen et al. (2015) examined the relationship between concentrated ownership and firm performance in Singapore (an advancing country) and in Vietnam (a developing country). The results of their study indicated that concentrated ownership has a positive effect on firm performance, and this effect is moderated by national governance quality. It was found that the positive effect of concentrated ownership on firm performance tends to be stronger in the developing country (Vietnam) rather than in the advancing country (Singapore). Tobin's Q was used as a proxy for firm performance, while the proxy for concentrated ownership was the biggest share ownership over 5 %. It was concluded that concentrated ownership is an efficient mechanism of corporate governance, which is possibly used when the quality of the national governance system is weak.

Gaur et al. (2015) conducted a study on the relationship between controlling shareholders and firm performance. Their study involves a sample of 167 firms listed on the New Zealand Stock Exchange. Firm performance was measured with ROA, ROE, and ROS, while controlling- hareholders were measured with the percentage of a shareholder

with the biggest ownership. The results of the study supported previous findings that controlling shareholders can improve firm performance and reduce the agency problem.

Based on theoretical reviews and empirical studies above, the following hypotheses are developed.

Hypothesis 2a: Controlling shareholders have a positive effect on firm performance based on ROA.

Hypothesis 2b: Controlling shareholders have a positive effect on firm performance based on Tobin's Q.

1.3 The Effect of Operational Efficiency Commitment to Environmental Friendliness on Firm Performance

The stakeholder theory declares that maximization of firm performance cannot deny stakeholder interest (Jensen, 2001). From the perspective of the legitimacy theory, firms can strategically do the corporate action to adapt to social and environmental values to obtain access to capital sources (Aerts & Cormier, 2009). Increasing legitimacy by respecting social and environmental values indeed helps firms to gain access to capital sources, either from the capital market or financial market.

Firm performance is not only measured with financial parameters but must also be integrated with environmental performance before one finds out how much performance is needed by firms (Saxena et al., 2003). High environmental performance sends a signal that the firm has a strong environmental management, and this indication increases equity value (share price). In contrast, environmental crisis produces a signal that the firm has a poor environmental management and usually, equity value declines as a result (Klassen & McLaughlin, 1996). A signal showing that a firm has a strong environmental management is positively appreciated by the market, and it is also helpful to increase the firm value.

Some empirical studies have similar findings indicating that operational efficiency commitment to environmental friendliness can affect firm performance. These studies include Al-Tuwaijri et al. (2004), Moneva and Ortas (2010), Purnomo et al. (2012), Gill et al. (2014) and Muhammad et al. (2015). An empirical study by Al-Tuwaijri et al. (2004) examined the relationship between environmental performance and economic performance. Environmental performance was measured by the percentage of the recycled waste total, while economic performance was measured with annual share return. The results of the study showed that environmental performance has a positive effect on economic performance.

Moneva and Ortas (2010) conducted an empirical study on the relationship between environmental performance and financial performance. It involved 230 European firms, and it was found that improving environmental performance potentially increases firm efficiency in consolidating financial situation and answering stakeholder demand. Their study concluded that environmental performance improvement will increase financial performance.

The same topic was investigated by Purnomo et al. (2012) through a study involving 50 firms listed on the Indonesia Stock Exchange during the period of 2006–2010. Environmental performance was measured with PROPER-based rank, while financial performance was measured with Net Profit Margin. The results of their study indicated that firms with a good environmental management system are those with the better environmental performance, which in turn delivers a positive impact on financial performance. Gill et al. (2014) affirmed that firms with capacity to increase operational efficiency may generate a positive effect on their future performance. Muhammad et al. (2015) discovered that environmental performance positively impacts financial performance and firm value.

Regarding the description of theoretical reviews and empirical studies above, the following hypotheses are made.

Hypothesis 3a: Operational efficiency commitment to environmental friendliness has a positive effect on firm performance based on ROA.

Hypothesis 3b: Operational efficiency commitment to environmental friendliness has a positive effect on firm performance based on Tobin's Q.

1.4 Operational Efficiency Commitment to Environmental Friendliness Mediates the Effect of Controlling Shareholders on Firm Performance

Jensen and Meckling (1976) clarified that agency conflict can be reduced through several monitoring mechanisms. The manager is subjected to such a mechanism, and one of them is a monitoring mechanism by controlling shareholders. Controlling shareholders monitor the manager's behavior and affect the manager to be more efficient in making the investment and other operational tasks. Being efficient in investment and operational activities will facilitate firms to achieve both shareholder and managerial goals, and such achievement delivers good impact by improving firm performance.

Henriques and Sadorsky (1996) implemented an empirical study and found that factors determining firm responsiveness to the environment are positively affected by intervention or pressure of stakeholders. One stakeholder with a strong position and great influence is shareholders. Firms respond to the intervention by integrating their strategic planning with the environment. The results of the analysis indicated that firms with environment strategic plans have a higher ratio of sale to asset compared to those without same plans. This study concluded that environment strategic plans can increase the sale, which in turn improves firm performance.

Bruce (2011) declared that the biggest share ownership (controlling shareholder) had a positive impact on efficiency technique. However, controlling shareholders still care about minority shareholders. Controlling shareholders represent a corporate governance mechanism that persuades the manager to take decisions to maximize firm performance in favor of shareholder interest. But not all of the controlling shareholders want the company more involved in environmentally friendly activities, they are

more focused how to obtain high profits*. This would conflict with the interests of external stakeholders with regard to corporate responsibility towards society and environment. The controlling shareholder must be able to integrate all stakeholder interests that may affect the firm performance. Companies not only pursue financial benefits but also contribute to social performance and environmental performance. Increased firm performance in terms of both ROA and Tobin's Q must go inherently with increased environmental performance. The concept of operational efficiency commitment to environmental friendliness integrates the company's economic goals and environmental performance objectives. It is expected to be a mediating solution of interest between shareholders and stakeholders.

Two hypotheses are written as follows based on the previous outline.

Hypothesis 4a: Operational efficiency commitment to environmental friendliness mediates the effect of controlling shareholders on firm performance based on ROA.

Hypothesis 4b: Operational efficiency commitment to environmental friendliness mediates the effect of controlling shareholders on firm performance based on Tobin's Q.

The summary of hypotheses is given in Figure 1.

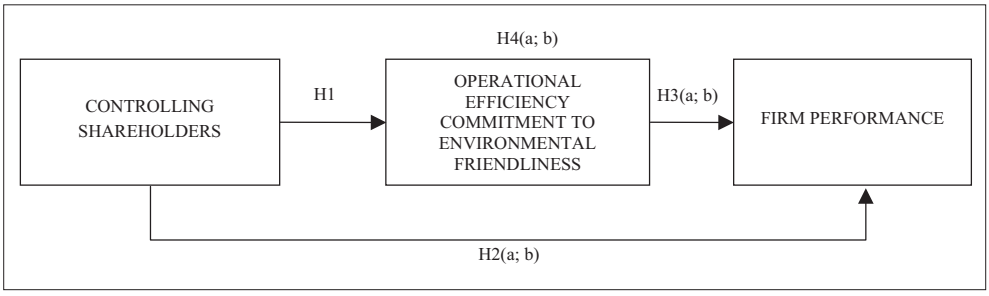

FIGURE 1. **Summary of Hypotheses**

2. Methodology

2.1 Data of the Sample

The sample of this current study is non-financial firms that list their share on the Indonesia Stock Exchange. The observation involves the period 2010–2016. The following criteria were used to determine the sample: (1) firms are consistently listed on the Indonesia Stock Exchange and (2) the firms participated in the Environment Performance Assessment Program (PROPER) from 2010 to 2016. Applying the two criteria above, the resulting sample is 44 firms, comprised of 33 firms from the manufactur-

* The firm performance with high ROA or Tobin's Q is not always generated from the high environmental performance

ing sector, 6 firms from the mining sector, 4 firms from the agriculture sector, and 1 firm representing a conglomerate sector (miscellaneous). The study period embraces 7 years. The total data panel, thus, is 308 (44 x 7). The data source is secondary data panel consisting of financial statements and annual reports of the firms listed on the Indonesia Stock Exchange, and this panel is obtained from the Indonesia Institute of Capital Market. Other sources of data are PROPER Report, released by the Ministry of Life Environment and Forestry of Indonesia Republic, which provides information about the firm's rating on environmental performance. The data was collected both manually and online. Manually the data was obtained by documenting at the stock exchange office Indonesia branch Semarang. Online data was downloaded through www.idx.co.id (financial report) and www.menlh.go.id (environmental performance report).

2.2 Variable Measurement

2.2.1 Dependent Variable

The dependent variable in this study is firm performance. Two bases, namely accounting base, and market value base, are used to measure this variable. Accounting-based performance is measured with Return On Asset (ROA), whereas market-based performance is measured with Tobin's Q (Lin, 2011; Warrad et al*.,* 2013). ROA is obtained by dividing net earnings by total assets. Tobin's Q is derived from the addition of share's market value and debt total, and the result of this addition is divided by the total asset.

2.2.2 Mediator Variable

The mediator variable for this study is operational efficiency commitment to environmental friendliness (OECEF). It represents a firm's ability to increase operational efficiency by improving environmental performance. Operational efficiency committed to environmental friendliness is a synthesis product from two concepts, operational efficiency (Fairfield & Yohn, 2001; Soliman, 2008; Goel, 2012; Gill et al*.,* 2014; Santosuosso, 2014) and Environmental Performance (Purnomo et al*.,* 2012; Sarumpaet et al*.,* 2017; Angeliaa & Suryaningsih, 2015). Thus, it can be said that operational efficiency committed to environmental friendliness is a strategic integration of the economic goal and environmental goal to improve firm performance. There must be a harmonious relationship between operational efficiency strategy and environmental friendliness management strategy. Integration of these strategies shall be able to improve firm performance.

Operational efficiency commitment to environmental friendliness can be attained through operational control innovation and also through efforts to improve a firm's environmental performance such as decreasing environmental pollution, reducing emission waste, managing for energy efficiency, enforcing the application of 3R (Reuse, Reduce, Recycle) for B3 solid and non-solid wastes, protecting biodiversity, and conducting a community development program (Djajadiningrat et al*.,* 2014; PROPER,

2015). Operational Efficiency Commitment To Environmental Friendliness is measured with integration of two indicators, Asset Turnover (Fairfield & Yohn, 2001; Soliman, 2008; Goel, 2012; Gill et al., 2014; Santosuosso, 2014; Voulgaris & Lhemonakis, 2014) and PROPER-based environmental performance rating (Purnomo et al., 2012; Sarumpaet et al., 2017; Angeliaa & Suryaningsih, 2015).

Briefly, operational efficiency commitment to environmental friendliness (OECEF) is written as follows:

$$\text{OECEF} = \text{Asset Turnover X Environmental Performance}$$

$$\text{OECEF} = \frac{\text{Sales}}{\text{Asset Turnover}} \text{ x PROPER Score}$$

PROPER Score is determined based on environmental performance rating released by the Ministry of Life Environment of Indonesia Republic (PROPER, 2011). PROPER rating can be written as follows: (1) Golden Rating: Very Good; Score=5; (2) Green Rating: Good; Score=4; (3) Blue Rating: Adequate; Score=3; (4) Red Rating: Bad; Score=2; and (5) Black Rating: Very Bad; Score=1.

PROPER is a platform for environment-based economic practice in Indonesia, and it contains some important yardsticks, including Environment Management System, Energy Efficiency, Emission Reduction, 3R for Solid and Non-Solid Wastes (B3), Biodiversity Protection, and Community Development. This platform is used to assess operational congruence of a certain industry to life environment, and at least, to keep firms focusing on environment conservation while doing the economic activity (Djajadiningrat et al., 2014).

2.2.3 Independent Variable

The independent variable is controlling shareholders (CS), who are mostly few in number but holding the majority of shares, which gives them a dominant position over the others (Thomsen & Pedersen, 2000; Dallas, 2004). Controlling shareholders are proxied with the level of the biggest share ownership either held by an individual or institution above 5% of all shares circulating (Earle et al., 2004; Dwaikat & Queiri, 2014; Jaafar & El-Shawa, 2015; Nguyen et al., 2015).

2.2.4 Control Variable

The current study uses two control variables, namely firm size (SIZE) and leverage (LEV), and many previous studies have used these two. SIZE and LEV reinforce the relationship between controlling shareholders with operational efficiency committed to environmental friendliness and firm performance. Both SIZE and LEV are used by empirical studies to control environment management (Henriques & Sadorsky, 1996; Earnhart & Lizal, 2006; Cong & Freedman, 2011; Zou et al., 2015) and firm performance (Krivogorsky & Grudnitski, 2010; Desoky & Mousa, 2013). Firm size is count-

ed by the natural logarithm of total assets, while leverage is measured by the ratio of total debt to the total assets.

2.3 Analysis Model

Analysis technique of variance-based SEM, also called Partial Least Squares (PLS-SEM), is used for a few reasons (Sholihin & Ratmono, 2013). First, the model to the study is very complex involving more than one dependent variable. Second, theories utilized for this study are classified as new, and therefore, the proper way to examine them is by using PLS-SEM. Third, PLS-SEM can only work efficiently on a small sample size and a complex model. The study uses WarpPLS 6.0 for examining PLS-SEM model.

For testing H1, H2(a,b), H3(a,b), and H4(a,b), the model equation can be written as follows:

$$OECEF_t = \alpha_1 + \beta_1 CS_t + \beta_2 SIZE_t + \beta_3 LEV_t + \epsilon_1 \quad (1)$$

$$ROA_t = \alpha_2 + \beta_4 CS_t + \beta_5 SIZE_t + \beta_6 LEV_t + \beta_7 OECEF_t + \epsilon_2 \quad (2)$$

$$Tobins\ Q_t = \alpha_2 + \beta_8 CS_t + \beta_9 SIZE_t + \beta_{10} LEV_t + \beta_{11} OECEF_t + \epsilon_3 \quad (3)$$

3. Results

3.1 Description and Correlation

Table 1 displays descriptive data of variables, which include Minimum Score, Maximum Score, Mean, and Standard Deviation. It is shown in the table that shared ownership of dominant controllers usually remains above 50% (0.74). The sample contains mostly big firms (28.77), where the capital structure is funded by debt above 30% (0.44). The variable of operational efficiency commitment to environmental friendliness (OECEF) indicates that firms have managed environment based on laws and regulations, and thus, it can be said that firms already possess good operational efficiency (3.42). The variable

TABLE 1. **Descriptive statistics of variables studied**

Variable	Min	Max	Mean	SD
Shareholder Control (SC)	0.32	1.00	0.74	0.15
Firm Size (SIZE)	0.20	33.20	28.77	1.76
Leverage (LEV)	0.04	1.49	0.44	0.20
Operational Efficiency Commitment to Environmental Friendliness (OECEF)	0.05	12.46	3.42	1.92
ROA	-51.60	43.93	8.17	11.20
Tobin's Q	0.33	18.92	2.32	3.07

Source: Indonesia Stock Exchange

of firm performance based on accounting (ROA) shows that firms have attained the profit goal (8.17), while firm performance based on market value (Tobin's Q) indicates that the market value of the firms is higher than the asset value (2.32).

Table 2 shows the result of matrix correlation of all study constructs. It indicates that controlling shareholders have a positive correlation both with operational efficiency commitment to environmental friendliness and with Tobin's Q (significant at the level of 0.001 and 0.05), but have a negative correlation with firm size (significant at the level of 0.001). Firm size correlates positively with operational efficiency commitment to environmental friendliness, ROA and Tobin's Q (significant at the level of 0.001), but correlates negatively with leverage (significant at the level of 0.05). On the other hand, leverage correlates negatively with ROA (significant at the level of 0.001). Moreover, the variable of operational efficiency commitment to environmental friendliness has a positive correlation with ROA and Tobin's Q, and ROA correlates positively with Tobin's Q (significant at the level of 0.001). There is no strong correlation between explanatory variables, and therefore, multicollinearity is not an issue.

TABLE 2. **Correlation matrix of the main constructs**

Variable	1	2	3	4	5	6
1. SC	1					
2. SIZE	–0.233***	1				
3. LEV	–0.016	–0.140**	1			
4. OECEF	0.211***	0.219***	–0.041	1		
5. ROA	0.087	0.475***	–0.311***	0.611***	1	
6. Tobin's Q	0.166**	0.315***	–0.008	0.587***	0.717***	1

****, **, * denote significance levels at 0.001, 0.05 and 0.1, respectively.*

Source: Indonesia Stock Exchange

3.2 The Results of PLS-SEM Analysis

PLS-SEM analysis process involves five stages, including conceptualization of the model, determination of the algorithm analysis method, determination of the resampling method, delineation of the path diagrams, and evaluation of the model.

Since WarpPLS is used to determine the algorithm analysis method, there are two algorithms that must be considered before analyzing the model, and these two are the outer model and the inner model. In concert with the outer model, this study chooses PLS regression because it has a capacity to process data with collinearity issue (Latan & Ghozali, 2016). After determining the analysis method for the outer model, it is continued with the setting for the inner model. This study gives a choice to the linear method because all hypotheses in the model indicate a linear relationship.

The most important step before evaluating a model in PLS-SEM analysis is determining the resampling method. Resampling is a procedure to reset the sample when

the estimated significance value of the PLS model remains unknown (Latan & Ghozali, 2016). Two methods of resampling are usually used, namely bootstrap and jackknifing. The current study prefers to use the bootstrap because it is more stable when it is applied to a sample of more than 100 genuine members (Latan & Ghozali, 2016).

Evaluating a model in PLS-SEM involves two stages. It begins with the evaluation of the measurement model and then continues with the evaluation of the structural model. The evaluation of the measurement model is done by assessing reliability and validity of indicators that constitute latent constructs. The evaluation of the structural model is conducted to predict the relationship across latent variables, to understand how many variances are explained by latent variables, and to find out the significance level of p-value (Latan & Ghozali, 2016).

It should be noted that evaluation of the measurement model is not implemented in this study because the studied variable is classified as a manifest variable. Thus, it is not necessary to assess reliability and validity of the construct measurement.

3.3 Evaluation of the Structural Model (ROA-based Firm Performance)

The examination of the structural model starts with the evaluation of goodness-of-fit of the study model concerning ROA-based firm performance. The results of goodness-of-fit evaluation are shown in Table 3.

TABLE 3. **Goodness-of-Fit of Structural Model (ROA-based Firm Performance)**

Criteria	Parameter
Average path coefficient (APC)	0.245***
Average R-squared (ARS)	0.338***
Average adjusted R-squared (AARS)	0.331***
Average block VIF (AVIF)	1.092
Average full collinearity VIF (AFVIF)	1.911
Tanenhaus GoF (GoF)	0.582
Sympson's paradox ratio (SPR)	0.857
R-squared contribution ratio (RSCR)	1.000
Statistical suppression ratio (SSR)	0.857
Nonlinear bivariate causality direction ratio (NLBCDR)	0.857

****, **, * denote significance levels at 0.001, 0.05 and 0.1, respectively.*

Source: Indonesia Stock Exchange

As indicated by Table 3, the study model has a good fit because p-values for APC, ARS, and AARS are < 0.001; precisely APC = 0.245, ARS = 0.338 and AARS = 0.331. Both AVIF and AFVIF values are < 3.3, meaning that there is no multicollinearity issue across indicators and across exogenous variables. Moreover, GoF is obtained as 0.507, which is > 0.36, and therefore, it remains in a big category, which means that the model fit is very good. Concerning SPR, SSR, and NLBCDR, all values are the same, precisely 0.857, which is > 0.70. Meanwhile, RSCR value is 1.000, which is > 0.90, and

thus, it is acceptable, meaning that there is no causality problem in the model (Latan & Ghozali, 2016).

The result of the estimated relationship between constructs and both variance size and effect size are displayed in Table 4.

TABLE 4. **The result of the Structural Model Evaluation (ROA-based Firm Performance)**

Description Path	Path Coefficient	R^2	Q^2	Effect Size	Standard Error
CS → OECEF	0.278***	0.112	0.128	0.059	0.049
SIZE → OECEF	0.284***			0.062	0.057
LEV → OECEF	0.003			0.000	0.054
CS →ROA	0.053*	0.550	0.557	0.005	0.038
SIZE → ROA	0.341***			0.162	0.045
LEV → ROA	–0.242***			0.075	0.054
OECEF → ROA	0.515***			0.315	0.057

****, **, * denote significance levels at 0.001, 0.05 and 0.1, respectively.*

Path coefficient estimates are based on robust standard errors

Source: Indonesia Stock Exchange

As shown in the above table, the value of adjusted R-squared (R^2) for operational efficiency commitment to environmental friendliness is 0.112. This value belongs to a small category (≤0.25) and it means that only 11.2 % variances can be explained by the independent variable. The value of adjusted R-squared (R^2) for ROA is 0.55. This value remains in a strong category (≤0.70), meaning that both independent and mediation variables have explained the variances by 55%.

Q-squared values for variables of operational efficiency commitment to environmental friendliness and ROA are 0.128 (>0) and 0.557 (>0), which means that the model has predictive validity. The effect size from controlling shareholders on ROA is valued at 0.005 (<0.02), meaning that it does not have the effect size. Moreover, the effect size of operational efficiency commitment to environmental friendliness on ROA is the biggest of all variables (0.315), and therefore, it can be said that operational efficiency commitment to environmental friendliness plays an important role in determining accounting-based (ROA-based) firm performance.

The results of the estimated relationship across the constructs show that controlling shareholders have a significant positive effect on operational efficiency commitment to environmental friendliness, and it is proved by the path coefficient value of 0.278. This result means that Hypothesis 1 is supported. It also supports previous studies, which indicate that controlling shareholders have more opportunities to take strategic decisions to maximize firm behavior to attain economic, social and environmental goals (Earnhart & Lizal, 2006; Chang, 2013; Chang & Zhang, 2015; Crisostomo & Freire, 2015).

Next, the results of estimation also indicate that controlling shareholders have a significant positive effect on ROA as shown by the path coefficient value of 0.053. It means that Hypothesis 2a is supported, and it also confirms the study conducted by Gaur et al. (2015) and Jaafar and El-Shawa (2015), who found that controlling shareholders can be a proper mechanism to monitor managers and to drive them toward improving ROA-based firm performance.

Moreover, the results of the analysis show that operational efficiency commitment to environmental friendliness has a positive significant effect on ROA. The path coefficient value is 0.515, which supports Hypothesis 3a. The results of analysis also indicate that firms with good environmental performance are those with the capability to maintain firm efficiency and also to improve financial performance (Moneva & Ortas, 2010; Purnomo et al., 2012; Gill et al., 2014; Muhammad et al., 2015).

Mediation testing is conducted to examine Hypothesis 4a to answer the question "whether operational efficiency commitment to environmental friendliness has mediated the effect of controlling shareholders on ROA". The current study uses Variance Accounted For (VAF) method for this test. According to Hair et al. (2013), VAF method is considered as more suitable over other methods for mediation testing in PLS-SEM analysis because PLS-SEM requires the use of the resampling method and does not need any assumptions about variable distribution. Therefore, VAF method can be applied to a sample of a small size. Mediation testing with VAF method involves some procedures: (1) The direct effect of exogenous variable on endogenous variable is tested without involving the mediation variable; (2) If the direct effect of exogenous variable on endogenous variable is significant, then it is continued by testing the indirect effect of the exogenous variable on the endogenous variable with the involvement of the mediation variable; (3) Finally, if the indirect effect of the exogenous variable on the endogenous variable is significant, then the VAF value is counted to find out the size of mediation effect. The following criteria are considered:

a. If VAF is > 80%, there must be full mediation.
b. If 20% ≤ VAF ≤ 80%, there is partial mediation.
c. If VAF < 20%, there is no mediation effect on the model.

Variance Accounted For (VAF) can be obtained by dividing the indirect effect by the total effect (the addition of the direct effect to the indirect effect).

The direct effect of controlling shareholders on ROA without a mediation variable has been tested, and the result shows that the effect is positively significant (p-value < 0.001) with the path coefficient value of 0.196. It continues with the testing on the indirect effect of controlling shareholders (CS) on ROA through the mediation variable, namely operational efficiency commitment to environmental friendliness (OECEF). The result of this indirect effect testing is that the effect is significant (p-value < 0.001), with the path coefficient value of 0.143.

Next procedure is to calculate the VAF value to determine whether there is mediation effect or not. The VAF value and its constituents are presented in Table 5.

TABLE 5. **VAF Calculation for the Effect of CS on ROA through OECEF Mediation**

Indirect effect	0.143
Direct effect	0.196
Total effect	0.339
VAF (indirect effect/total effect)	0.247

Source: Indonesia Stock Exchange

Table 5 shows that VAF value is 0.247, or 24.7%. This value remains within the category of partial mediation (20% ≤ VAF ≤ 80%), and therefore, it supports Hypothesis 4a. Based on this finding, it can be said that controlling shareholders can improve firm performance by directing the firm to implement the strategy or concept of operational efficiency commitment to environmental friendliness.

3.4 Evaluation of the Structural Model (Tobin's Q-based Firm Performance)

Goodness-of-fit of the model concerning Tobin's Q-based firm performance has been evaluated, and the result is presented in Table 6.

TABLE 6. **Goodness-of-Fit of the Structural Model (Tobin's Q-based Firm Performance)**

Criteria	Parameter
Average path coefficient (APC)	0.211***
Average R-squared (ARS)	0.257***
Average adjusted R-squared (AARS)	0.249***
Average block VIF (AVIF)	1.092
Average full collinearity VIF (AFVIF)	1.911,
Tanenhaus GoF (GoF)	0.507
Sympson's paradox ratio (SPR)	0.714
R-squared contribution ratio (RSCR)	0.999
Statistical suppression ratio (SSR)	0.714
Nonlinear bivariate causality direction ratio (NLBCDR)	0.714

****, **, * denote significance levels at 0.001, 0.05 and 0.1, respectively.*

Source: Indonesia Stock Exchange

In this model, all p-values for APC, ARS and AAR are < 0.001; namely, APC = 0.211, ARS = 0.257 and AARS = 0.249. The values of both AVIF and AFVIF are < 3.3, which means that multicollinearity issue does not exist across indicators and across the exogenous variables. GoF value is 0.507 (>0.36), meaning that the model has a very good fit. The values of SPR, SSR, and NLBCDR are similar, precisely 0.714 (>0.70). RSCR is valued at 0.999 (>0.90), which means that causality problem does not exist in the model.

The estimated relationship between the constructs and both variance size and effect size within this model are shown in Table 7.

TABLE 7. **The result of the Structural Model Evaluation (Tobin's Q-based Firm Performance)**

Description Path	Path Coefficient	R^2	Q^2	Effect Size	Standard Error
CS → Tobins Q	0.113**	0.386	0.395	0.019	0.047
SIZE → Tobin's Q	0.235***			0.074	0.048
LEV → Tobin's Q	0.048			0.000	0.042
OECEF → Tobin's Q	0.513***			0.301	0.071

****, **, * denote significance levels at 0.001, 0.05 and 0.1, respectively.*

Path coefficient estimates are based on robust standard errors

Source: Indonesia Stock Exchange

Based on the table above, the obtained value of adjusted R-squared (R^2) in Tobin's Q model is 0.386. It resides in moderate category (≤0.45) and also means that the proportion of variance explained by the independent and mediation variables is 38.6%. Q-squared value is 0.395 (> 0), meaning that Tobin's Q model fulfills predictive validity. Effect size from controlling-shareholders on Tobin's Q is 0.02, which means that the model has an effect size. Furthermore, the effect size of operational efficiency commitment to environmental friendliness on Tobin's Q is the biggest of all (0.301), and it is then reasonable to say that operational efficiency commitment to environmental friendliness has an important role in determining firm performance based on market value (Tobin's Q). All path coefficient estimates are based on robust standard errors.

The relationship between the constructs has been estimated, and it shows that controlling-shareholders have a significant positive effect on Tobin's Q as indicated by the path coefficient value of 0.113. It supports Hypothesis 2b and also confirms the results obtained by Nguyen et al. (2015) and Jaafar and El-Shawa (2015) stating that controlling shareholders can affect the firm management to maximize market value-based (Tobin's Q-based) firm performance.

In addition, the result of estimated relationship across the constructs supports Hypothesis 3b, meaning that operational efficiency commitment to environmental friendliness has a positive significant effect on Tobin's Q, and it is shown by the path coefficient value of 0.513. This position is consistent with Klassen and McLaughlin (1996), who deduced that firms with good environmental performance will transmit a signal of a strong environmental management, and this signal may increase share price (firm value). The statement above also justifies Muhammad et al. (2015), who summarized that environmental performance has a positive effect on Tobin's Q.

Verification of Hypothesis 4b involves a mediation test, and this test is needed to ensure "whether operational efficiency commitment to environmental friendliness mediates the effect of controlling shareholders on Tobin's Q". VAF method has been used for testing the ROA model, and it is also used for testing Tobin's Q model. Then, the direct effect of controlling shareholders on Tobin's Q without mediation is tested with VAF, and the result indicates that the effect is positively significant (p-value < 0.001) with the path coefficient value of 0.255.

VAF is also used for testing the indirect effect of controlling shareholders on Tobin's Q through the mediation variable, i.e. operational efficiency commitment to environmental friendliness. The results of this mediation test show that the effect is significant (p-value < 0.001), with the path coefficient value of 0.143.

Next step to calculate VAF value is to determine whether the mediation effect does indeed exist or does not exist, and VAF count can be seen in Table 8.

TABLE 8. **VAF Calculation for the Effect of CS on Tobin's Q through OECEF Mediation**

Indirect effect	0.143
Direct effect	0.255
Total effect	0.398
VAF (indirect effect/total effect)	0.359

Source: Indonesia Stock Exchange

As shown in Table 8, VAF is valued at 0.359, or 35.9 %, and therefore, mediation effect exists in partial mediation category (20% ≤ VAF ≤ 80%). This result supports Hypothesis 4b. It can be asserted that controlling shareholders can improve the market value of the firm (Tobin's Q) indirectly through applying the concept of operational efficiency committed to environmental friendliness.

Conclusion

This study is aimed to investigate the effect of controlling shareholders' monitoring on firm performance through the implementation of operational efficiency commitment to environmental friendliness. It is said that operational efficiency commitment to environmental friendliness is a product of integration of the operational efficiency concept and the environmental performance concept. Seven hypotheses have been made based on several sources, including theoretical sources such as agency theory, stakeholder theory and legitimacy theory, and also academic sources involving the results of previous empirical studies.

The results of this study show that controlling shareholders have a positive impact on commitment to environmental friendliness of the firm management. The implementation of environmental friendliness activities may create efficiency in firm operation, increase productivity, and reduce the cost of environmental infarction (Hart, 1995; Porter & Linde, 1995; Majumdar & Marcus, 2001; Alexopoulos et al., 2011; Caracuel & Mandojana, 2013). This result supports the stakeholder theory, which states that motivations of the firm to be responsive to the environment and also to improve environmental performance emerge usually due to the pressure of a shareholder as one of the important stakeholders (James, 1994; Henriques & Sadorsky, 1996). Controlling shareholders always have a great interest to produce environmental friendliness management, at least to keep their good reputation and to create favorable long-term sustainability.

Another important conclusion is that controlling shareholders can be the effective monitoring mechanism to compel firm management to improve firm performance. This result corroborates the agency theory, which asserts that controlling shareholders are one of the monitoring mechanisms at the firm that can reduce the agency problem (Jensen & Meckling, 1976). Controlling shareholders in the developing countries, including Indonesia, where corporate governance usually remains weak, often take initiative to take over the control of management in order to protect their wealth. It is consistent with Claessens et al. (2000), who said that if the government at a certain economic issue cannot effectively enforce ownership rights, then the firm owner will take a lead to dominate this enforcement.

This study also demonstrates that firms with environmental friendliness commitment are receiving great economic contribution to their business, having their operational performance increased, and most importantly, finding their market value-based performance improved. This finding sustains the stakeholder theory, which says that the process of firm performance maximization will proceed without neglecting stakeholder interest (Jensen, 2001). Moreover, the current study supports the perspective of legitimacy theory, which affirmed that firms conducting corporate action to adapt with social and environmental values are given easier course to access capital sources (Aerts & Cormier, 2009). Easy access to capital sources will be potentially improving firm performance.

The results of the mediation test indicate that controlling shareholders' monitoring has a direct effect on performance output, while the indirect effect of this monitoring on performance is made through the concept of operational efficiency commitment to environmental friendliness. Controlling shareholders indeed can improve firm performance by putting pressure on the firm management to implement operational efficiency commitment to environmental friendliness. Indeed, the environmental friendliness managerial strategy has been proved as the determinant factor behind the favored firm performance, either based on accounting measure (ROA-based) or market value measure (Tobin's Q-based).

Limitation

The limitation of this study should be noted. The selected sample is non-financial firms dominantly coming from the manufacturing sector (75%). The number of the firms from other sectors is lower than the manufacturing sector, for instance, only 14 % from the mining sector, 9% from the agriculture sector, and other 2% from other sectors. Also, not many firms were found joining the Environmental Performance Assessment Program (PROPER) during the study period. Consequently, all results from this study cannot be generalized to the non-financial sector entirely. Next study is could provide a complete description of non-financial firms and also be more inclusive by involving other sectors as the sample in a proportional way.

References

Aerts, W., & Cormier, D. (2009). Media legitimacy and corporate environmental communication. *Accounting, Organizations and Society, 34*(1), 1–27.

Ahmed, K., Sehrish, S., Saleem, F., & Yasi, M. (2012). Impact Of Concentrated Ownership On Firm Performance (Evidence From Karachi Stock Exchange). *Interdisciplinary Journal of Contemporary Research In Business, 4*(5).

Al-Saidi, M., & Al-Shammari, B. A. (2015). Ownership concentration, ownership composition and the performance of the Kuwaiti listed non-financial firms. *International Journal of Commerce and Management, 25*(1).

Al-Tuwaijri, S. A., Christensen, T. E., & Hughes, K. E. (2004). The relationship among Environmental Disclosure, Environmental Performance, and Economic Performance: A Simultaneous Equation Approach. *Accounting Organization and Society, 29*(5/6), 447–471.

Alexopoulos, I., Kounetas, K., & Tzelepis, D. (2011). Environmental performance and technical efficiency, is there a link? *International Journal of Productivity and Performance Management, 61*(1), 6–23.

Alimehmeti, G., & Paletta, A. (2010). Ownership Concentration And Effects Over Firm Performance: Evidences From Italy. *European Scientific Journal, 8*(22), 39–49.

Anderson, K. L., Deli, D. N., & Gillan, S. L. (2003). Boards of Directors, Audit Committees, and the Information Content of Earnings. (*Weinberg Center for Corporate Governance Working Paper).*

Angelia, D., & Suryaningsih, R. (2015). The Effect of Environmental Performance And Corporate Social Responsibility Disclosure Towards Financial Performance (Case Study to Manufacture, Infrastructure, And Service Companies Listed Indonesia Stock Exchange). *Social and Behavioral Sciences, 211,* 348–355.

Baik, B., Chae, J., Choi, S., & Farber, D. B. (2013). Changes in Operational Efficiency and Firm Performance: A Frontier Analysis Approach. *Contemporary Accounting Research, 30*(3), 995–1026.

Berle, A., & Means, G. (1932). *The Modern Corporation and Private Property.* New York: The Macmillan Company.

Bruce, D. N. (2011). Corporate Governance Mechanisms and Firm Efficiency. *International Journal of Business and Management, 6*(5).

Caixe, D. F., & Krauter, E. (2013). The Influence of the Ownership and Control Structure on Corporate Market Value in Brazil. *R. Cont. Finance, 24*(62), 142–153.

Caracuel, J. A., & Ortis-de-Mandojana, N. (2013). Green Innovation and Financial Performance: An Institutional Approach. *Organization & Environment http:/oae.sagepub.com*.

Chang, K. (2013). The Effects of Ownership and Capital Structure on Environmental Information Disclosure Empirical Evidence from Chinese Listed Electric Firms. *WSEAS Journal, 12*(12).

Chang, K., & Zhang, L. (2015). The Effects of Corporate Ownership Structure on Environmental Information Disclosure—Empirical Evidence from Unbalanced Penal Data in Heavy-pollution Industries in China. *WSEAS Transactions on Systems and Control, 10*.

Claessens, S., Djankov, S., Fan, J. P. H., & Lang, L. H. P. (2002). Disentangling the Incentive and Entrenchment Effects of Large Shareholdings. *The Journal of Finance*, LVII(6).

Claessens, S., Djankov, S., & Lang, L. H. P. (2000). The separation of ownership and control in East Asian Corporations. *Journal of Financial Economics, 58,* 81–112.

Cong, Y., & Freedman, M. (2011). Corporate governance and environmental performance and disclosures. *Advances in Accounting, incorporating Advances in International Accounting, 27*, 223–232.

Crisostomo, V. L., & de Souza Freire, F. (2015). The Influence of Ownership Concentration on Firm Resource Allocations to Employee Relations, External Social Actions, and Environmental Actions. *Review of Business Management, 17*(55), 987–1006.

Dallas, G. (2004). *Governance and Risk. Analytical Hand books for Investors, Managers, Directors and Stakeholders Standard and Poor.* New York: McGraw Hill.

Demsetz, H., & Lehn, K. (1985). The structure of corporate ownership: Causes and consequences. *Journal Of Political Economy, 93,* 1155–1177.

Desoky, A. M., Mousa, G. A. (2013). An empirical investigation of the influence of ownership concentration and identity on firm performance of Egyptian listed companies. *Journal of Accounting in Emerging Economies, 3*(2), 164–188.

Djajadiningrat, S. T., Hendriani, Y., & Famiola, M. (2014). *Green Economy.* Bandung: Rekayasa Sains.

Dwaikat, N., & Queiri, A. (2014). The Relationship between Ownership Structure and Firm's Performance: An Empirical Evidence from Palestine. *International Journal of Business and Management, 9*(12), 49–61.

Earle, J. S., Kucsera, C., & Telegdy, A. (2004). Ownership Concentration and Corporate performance on the Budapest Stock Exchange. *Journal of Corporate governance, 11,* 1–24.

Earnhart, D., & Lizal, L. (2006). Effects of ownership and financial performance on corporate environmental performance. *Journal of Comparative Economics, 34,* 111–129.

Fairfield, P. M., & Yohn, T. L. (2001). Using Asset Turnover and Profit Margin to Forecast Changes in Profitability. *Review of Accounting Studies, 6*, 371–385.

Farooque, O. A., van Zijl, T., Dunstan, K., & Karim, A. W. (2010). Co-deterministic relationship between ownership concentration and corporate performance. *Accounting Research Journal, 23*(2), 172–189.

Francis, J., Schipper, K., & Vincent, L. (2005). Earnings and dividend informativeness when cash flow rights are separated from voting rights. *Journal of Accounting and Economics, 39*(2), 329–360.

Freeman, R. E. (1984). *Strategic Management: A Stakeholder's Approach*. Boston, MA.: Pitman.

Gaur, S. S., Bathula, H., &d Singh, D. (2015). Ownership concentration, board characteristics and firm performance. *Management Decision, 53*(5), 911–931.

Gill, A., Singh, M., Mathur, N., & Mand, H. S. (2014). The Impact of Operational Efficiency on the Future Performance of Indian Manufacturing Firms. *International Journal of Economics and Finance, 6*(10).

Goel, S. (2012). The Link Between Operational Efficiency and Solvency: The Case Of Food Processing Industry in India. *Accountancy Business and The Public Interest, 11*, 143–161.

Grosfeld, I. (2006). Ownership Concentration and Firm Performance: Evidence from an Emerging Market. (*William Davidson Institute Working Paper 834)*.

Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2013). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Los Angeles: SAGE.

Hamadi, M., & Heine, A. (2015). Firm Performance when Ownership is very Concentrated: Evidence from a Semiparametric Panel. *Journal of Empirical Finance, 34*(C), 172–194.

Hart, S. (1995). A natural resource-based view of the firm. *Academy of Management Review, 20*(4), 874–907.

Henriques, I., & Sadorsky, P. (1996). The Determinants of an Environmentally Responsive Firm: An Empirical Approach. *Journal of Environmental Economics And Management, 30,* 381–395.

Hill, C. W. L., & Jones, T. M. (1992). Stakeholder-Agency Theory. *Journal of Management Studies, 29*(2).

Iqbal, M., T, S., Assih, P., & Rosidi (2013). Effect of Environmental Accounting Implementation and Environmental Performance and Environmental Information Disclosure as Mediation on Company Value. *International Journal of Business and Management Invention, 2*(10), 55–67.

Jaafar, A.. & El-Shawa, M. (2009). Ownership concentration, board characteristics and performance: evidence from Jordan. *Accounting in Emerging Economies, 9,* 73–95.

Jaafar, A., & El-Shawa, M. (2015). Ownership concentration, board characteristics and performance: evidence from Jordan. *Accounting in Emerging Economies, 9,* 73–95.

James, P. (1994). Business environmental performance measurement. *Business Strategy and the Environment, 3*(2), 59–67.

Jensen, M. C. (2001). Value Maximization, Stakeholder theory, and the Corporate Objective Function. *European Financial Management, 7* (3), 297–317.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, *3*(4), 305–360.

Jo, H., Maretno, & Harjoto, A. (2012). The Causal Effect of Corporate Governance on Corporate Social Responsibility. *Journal of Business Ethics*, 106, 53–72.

Klassen, R. D., & McLaughlin, C. P. (1996). The Impact of environmental management on firm performance. *Management Science, 42*(8), 1199–1214.

Krivogorsky, V., & Grudnitski, G. (2010). Country-specific institutional effects on ownership: concentration and performance of continental European firms. *Journal of Management and Governance,* 14,167–193.

Latan, H., & Ghozali, I. (2016). *Partial Least Squares: Konsep, Metode dan Aplikasi Menggunakan WarpPLS 50*, Semarang: Badan Penerbit Universitas Diponegoro.

Li, K., Lu, L., Mittoo, U. R., & Zhang, Z. (2015). Board Independence, Ownership Concentration and Corporate Performance – Chinese Evidence. *International Review of Financial Analysis*.

Lin, C. J. (2011). An Examination Of Board And Firm Performance: Evidence From Taiwan. *The International Journal of Business and Finance Research*, *5*(4).

Majumdar, S. K., & Marcus, A. A. (2001). Rules versus Discretion: The Productivity Consequences of Flexible Regulation. *The Academy of Management Journal 44*(1), 170–179.

McWilliams, A., & Smart, D. L. (1993). Efficiency v. Structure-Conduct-Performance: lmplications for Strategy Research and Practice. *Journal of Management, 19*(1), 63–78.

Moneva, J. M., & Ortas, E. (2010). Corporate environmental and financial performance: a multivariate approach. *Industrial Management & Data Systems, 110*(2), 193–210.

Muhammad, N., Scrimgeour, F., Reddy, K., & Abidin, S. (2015). The Relationship between Environmental Performance and Financial Performance in Periods of Growth and Contraction: Evidence from Australian Publicly Listed Companies. *Journal of Cleaner Production, 102,* 324–332.

Nguyen, T., Locke, S., & Reddy, K. (2015). Ownership concentration and corporate performance from a dynamic perspective: Does national governance quality matter? *International Review of Financial Analysis, 41,* 148–161.

Porta, R. L., Lopez-De-Silanes, F., & Shleifer, A. (1999). Corporate Ownership Around the World. *The Journal of Finance,* LIV(2).

Porter, M. E., & van der Linde, C. (1995). Green and competitive: Ending the stalemate. *Harvard Business Review, 73*(5), 120–134.

PROPER. (2015). *Publication of Corporate Performance Rating Program in Environmental Management.* Jakarta: Ministry of Environment.

Purnomo, Karin, P., Widianingsih, & Patricia, L. (2012). The Influence of Environmental Performance on Financial Performance with Corporate Social Responsibility (CSR) Disclosure as a Moderating Variable: Evidence From Listed Companies in Indonesia. *Society of Interdisciplinary Business Research, 1*(1).

Ross, S. A. (1973). The Economic Theory of Agency: The Pricipal's Problem. *American Economic Review, 63*(2), 134–139.

Santosuosso, P. (2014). Do Efficiency Ratios Help Investors to Explore Firm Performances? Evidence from Italian Listed Firms. *International Business Research, 7*(12).

Sartono, R. A. (2012). *Financial Management Theory and Applications*. Yogyakarta: BPFE.

Sarumpaet, S., Nelwan, M. L., & Dewi, D. N. (2017). The value relevance of environmental performance: evidence from Indonesia. *Social Responsibility Journal, 13*(4), 817–827.

Saxena, A. K., Bhardawaj, K. D., & Sindha, K. K. (2003). Sustainable growth through green productivity: a case of the edible oil industry in India. *International Energy Journal, 4*(1), 81–91.

Shleifer, A., & Vishny, R. W. (1986). Large Shareholders and Corporate Control. *Journal of Political Economy, 94*(3), 461–488.

Sholihin, M., & Ratmono, D. (2013). *Analysis of SEM-PLS with Warp PLS 3.0 for Nonlinear Relations in Social and Business Research.* Yogyakarta: ANDI Publisher.

Soliman, M. T. (2008). The use of DuPont analysis by market participants. *The Accounting Review, 83* (3), 823–853.

Sufian, M. A., & Zahan, M. (2013). Ownership Structure and Corporate Social Responsibility Disclosure in Bangladesh. *International Journal of Economics and Financial Issues*, *3*(4), 901–909.

Thomsen, S., & Pedersen, T. (2000). Ownership Structure and Economic Performance in the Largest European Companies. *Strategic Management Journal, 21,* 689–705.

de Villiers, C., Naiker, V., & van Staden, C. J. (2011). The Effect of Board Characteristics on Firm Environmental Performance. *Journal of Management, 37*(6), 1636–1663.

Voulgaris, F., & Lhemonakis, C. (2014). Competitivenes and profitability: The Case of Chemicals, Pharmaceuticals and Plastics. *The Journal of Economics Asymmetries, 11,* 46–57.

Wahla, K.-U.-R., Shah, S. Z. A., & Hussain, Z. (2012). Impact of Ownership Structure on Firm Performance Evidence from Non-Financial Listed Companies at Karachi Stock Exchange. *International Research Journal of Finance and Economics,* 84.

Warrad, L., Almahamid, S. M., Slihat, N., & Alnimer, M. (2013). The Relationship Between Ownership Concentration and Company Performance: A Case of Jordanian Non-Financial Listed Companies. *Interdisciplinary Journal of Contemporary Research in Business, 4*(9).

Wassmer, U.., Cueto, D. C., & Switzer, L. N. (2014). The Effect of Corporate Environmental Initiatives on Firm Value: Evidence from Fortune 500 Firms. *Business and Economics—Management, 17*(1), 1–19.

Zou, H. L., Lin, S. X. Z. H., & Xie, X. M. (2015). Top executives' compensation, industrial competition, and corporate environmental performance: Evidence from China. *Management Decision, 53*(9), 2036–2059.