

IMPACT OF GREEN LEADERSHIP AND ECO EFFICIENCY TOWARD WORK PERFORMANCE : EVIDENCE FROM INDONESIAN PUBLIC HEALTH CENTER

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Abstract: *This research purpose to analyze the effect green leadership and eco Efficiency to work performance in the public health center. This research uses a quantitative approach with Structural Equation Modeling (SEM) using smart PLS software. Data collection methods using online questionnaires and snowball sampling technique, the number of respondents to be used are 200 respondents of public health center management in Indonesia. The results of this research conclude that green leadership has a positive and significant effect on the work performance, eco efficiency also has a positive and significant effect on the work performance. This novelty of this research is new research of green leadership and eco efficiency of public health center sector in Indonesia.*

Keywords: *Eco Efficiency, Green Leadership, Work Performance*

1. INTRODUCTION

The negative impact of industrial activities on the environment is that there is a massive escalation in the industrial sector that provides benefits for many parties. The positive impacts of the buildings where industrial activities take place include increasing the number of jobs, helping to overcome problems related to poverty and unemployment, increasing state income, and so on. Even so, the negative impacts on the environment are no less. Unmanageable cleanliness and the emergence of various environmental pollution are the main results of industrial growth; which inevitably harms the people living in the surrounding area. Water and soil pollution. This contamination of water and soil can be caused by industrial wastes, such as non-organic waste and chemical substances left over from the

production process which are disposed of carelessly by industrial owners. Inorganic waste disposed of in the soil can affect the growth of organisms in the soil (which play a role in soil fertility); resulting in the soil no longer loose and fertile so that plants are reluctant to grow on it. Meanwhile, waste, both solid and liquid, which is disposed of into water sources can cause, for example, odors, changes in temperature, or silting of rivers. Besides, water is no longer healthy to use. When local residents force to use water mixed with waste, they are likely to experience health problems. Air pollution. Several types of industry involve a production process that produces smoke. No half-hearted, this smoke rises almost every time when the factory operates all day, 24 hours without stopping. This smoke certainly contains substances that are mostly harmful when inhaled. Apart from smoke, the dust that is produced can also cause clean air to be contaminated. The existence of this air pollution, whatever the specific cause, makes it even more difficult for the surrounding community to get clean air to breathe. Various respiratory diseases such as tuberculosis, pneumonia, and other dangerous diseases also threaten. Noise pollution. Activities in these sector often cause disturbing noises or what can be called noise pollution. If the intensity is high and the duration is long, this noise can cause disturbance, both to workers and the community nearby.

Environmental problems and their causes that we face today are completely pollution. The first environmental problem is pollution or environmental pollution. Air, water and land pollution can take millions of years to return to normal. The industrial sector and motor vehicle fumes are the main sources of pollution. Heavy metals, nitrates and toxic plastics are responsible for a variety of existing contaminants. Meanwhile water pollution is caused by oil spills, acid rain, urban runoff. On the other hand, air pollution is caused by various gases and toxins released by sector and factories as well as by burning fossil fuels; Soil pollution is mainly caused by industrial waste which destroys nutrients and nutrients in the soil which are important for plants. Climate change or global warming. Climate change such as global warming is the result of human practices such as greenhouse gas emissions. Global warming causes the temperature of the oceans and the earth's surface to rise, causing melting of polar ice and rising sea levels. It also changes natural patterns of seasons and rainfall such as flash floods, excessive snow or desertification. As a result of these weather changes, agricultural production often experiences crop failure and increases the chance of forest fires due to prolonged dry seasons. Overpopulation. The population of the planet is reaching unsustainable levels as it faces shortages of resources such as water, fuel and food. Population boom in developed and developing countries which continues to lead to increasingly scarce resources. Intensive agriculture, which aims to increase food production using pesticides, in turn creates new problems. The damage is in the form of decreased soil quality and human health. The use of fossil fuels such as petroleum is responsible for creating global warming and climate change. Globally, many parties are starting to switch to using renewable resources, such as solar electricity, biogas, solar-powered cars, which are being implemented by developed countries. Although in the short term, the installation of this environmentally friendly technology facility equipment will look quite expensive, in the long run it will be very cheap compared to the use of fossil and non-renewable energy. The next environmental problem is waste disposal. This is mainly plastic waste and urban waste such as in the Ciliwung River in Jakarta or cities in Indonesia. Apart from household waste, industrial waste, which is often disposed of into rivers, also causes fish to die and destroy river ecosystems. Whereas these rivers are important for the people's economy and important for supplying food sources for the community. This waste disposal will eventually cause marine pollution in Indonesia and damage marine ecosystems, a source of fisheries. No less important is the disposal of nuclear waste. Disposal of nuclear waste poses tremendous health hazards, mainly due to radiation. Plastics, fast food, packaging and cheap electronic waste

threaten human well-being. Disposal of waste is one of the environmental problems that urgently needs to be resolved. Human activities that lead to the extinction of species and habitats and loss of biodiversity. Hunting activities that are not sustainable to meet human protein needs, such as hunting turtle eggs or Indonesian turtles which causes river turtles to become extinct. The extinction of species means the extinction of sources for the needs of human life. Ecosystems, which have taken millions of years to stabilize and support human life, are now in danger if any populations of species become extinct or disappear. The ecosystem balance is disturbed. The destruction of coral reefs in various oceans, which support rich marine life, has reduced the availability of fish in the oceans. Even though the human population is increasing. An environmental issue that is no less important is deforestation. Forest clearing for the development of the plantation sector, especially oil palm, causes the release of carbon to the earth, thereby increasing changes in the earth's temperature. Forests that actually play a role in absorbing toxic carbon dioxide from pollution, then converting it into oxygen, helping to create rain, becoming a habitat for various types of animals that are important to support human life, are destroyed and replaced by monocultural plants. In fact, monoculture plants will not be able to play a role like forests in supporting the fulfillment of human life needs. The ozone layer is an invisible layer of protection covering planet Earth, protecting us from the sun's harmful radiation. The depletion of the Ozone layer is thought to be caused by pollution caused by Chlorine and Bromide gases found in Chloro-floro.

The controversy regarding the causes and consequences of global warming has emerged as one of the most significant global social, political, technological and economic problems facing work today (Kissel, 2010). Climate change and global warming are phenomena that are beginning to be felt by all people on earth. Some of the real impacts include floods, landslides, droughts, which have become routine annual events which seem difficult to control in almost every country on earth. Therefore, it takes a certain effort from the company to minimize the enlargement of the problem. Chen et al. (2012) stated that companies must be able to be the first in terms of environmental management. According to Irawan & Swastha (1981), companies are one of the biggest factors that support current economic development, but on the other hand, companies are also one of the main sources of environmental pollution such as water, air and soil pollution. Pollution from the industrial sector results from the inefficiency of companies in managing resources and production processes (Hutagalung, 2010). According to Elkington (1997), companies must be able to operate in accordance with the 3P criteria, namely: profit, people, and the planet. According to Aras & Crowther (2013) Triple bottom line is the relationship between economic, environmental and social as a means of planning and measuring performance. This statement explains that the company must seek the maximum possible economic profit (profit), but the company must pay attention to maintaining the balance of its operational activities. Another thing that needs to be considered is that from the aspect of society (people), companies must pay attention to the welfare of the surrounding community, one of which is by building health facilities, and finally from the environmental aspect (planet), this is because if there is damage to the environment it can have an impact great for all company activities. With the occurrence of natural disasters caused by environmental damage, it can hamper the production and sales processes carried out by companies, so that the economic benefits obtained will be disrupted. Environment and inspire followers to take action beyond the expected target of environmental performance. Managers who demonstrate environmental transformational leadership behavior can act as role models for employees by sharing environmental values, discussing the importance of sustainability and showing commitment to environmental issues (Graves et al., 2013). Green transformational leadership is an

important element in improving the green performance of a company (Zafar et al., 2019). Judge and Piccolo (2004) refer to (Bass, 1985) suggesting that transformational leadership has four dimensions, namely: 1. Charisma (charisma) or idealized influence (idealistic influence), namely leaders have amazing behavior so that their followers can recognize them. 2. Inspirational Motivation (inspirational motivation), namely the extent to which leaders are able to articulate a vision that can attract and inspire followers. 3. Intellectual Stimulation (intellectual stimulation), namely the extent to which leaders challenge assumptions, take risks and ask for ideas from subordinates so as to stimulate and encourage follower creativity. 4. Individualized Consideration (individual consideration), namely the extent to which the leader can meet the needs of each of his followers, act as a mentor and can listen to the needs of his subordinates. This research purpose to analyze the effect green leadership and eco efficiency to work performance in the public health center.

2. METHOD

The method used in this research is quantitative method. Data was collected by distributing questionnaires to top management of public health center in Indonesia. The instrument used to measure green leadership using four indicators. The instrument used to measure eco efficiency using four indicators and The instrument used to measure work performance using four indicators. The questionnaire was designed closed except for questions / statements about the identity of respondents in the form of a semi-open questionnaire. Each closed question / statement item is given five answer options, namely: strongly agree (SS) score 5, agree (S) score 4, less agree (KS) score 3, disagree (TS) score 2, and strongly disagree (STS) score 1. The method for processing data was by PLS and using SmartPLS software version 3.0 as a tool.

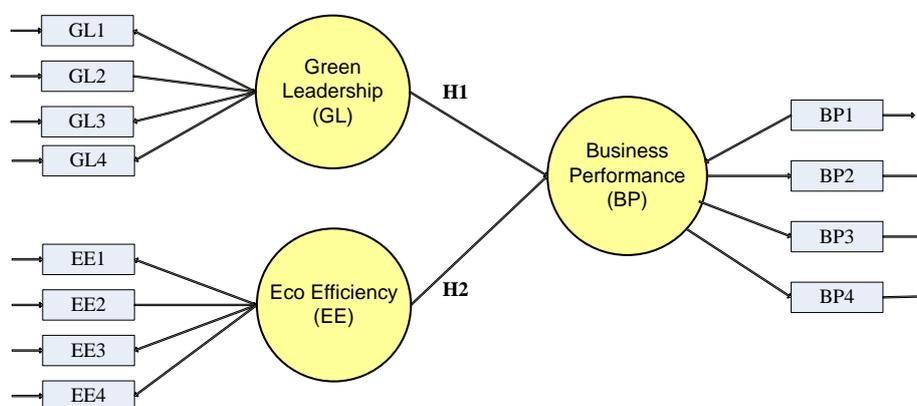


Figure 1. Research Model

Based on the above literature, design of research model at Figure 1 and the hypotheses to be examined are as follows:

Hypothesis 1: *Green Leadership* have positive and significant effect towards *Work Performance*

Hypothesis 2: *Eco Efficiency* have positive and significant effect towards *Work Performance*

The population in this research are top management of public health center in Indonesia. The questionnaire was distributed electronically with a simple random sampling technique. The results of the questionnaire returned were 200 respondents.

Tabel 1. Information descriptive of the sample

Criteria		Total
Age	< 30 years	60
	30 - 40 years	40
	> 40 years	100
Work Periode	< 5 years	80
	5 - 10 years	40
	> 10years	80

The total of respondents used in this research were 180 public health center company top management in Indonesia. The distribution of respondents' are 60 respondents below the age of 30, then 40 respondents to 40 years old and 100 respondents above the age of 40. Work periods under 5 years are 80 respondents, between 5 to 10 years are 40 respondents and above 10 years are 80 respondents.

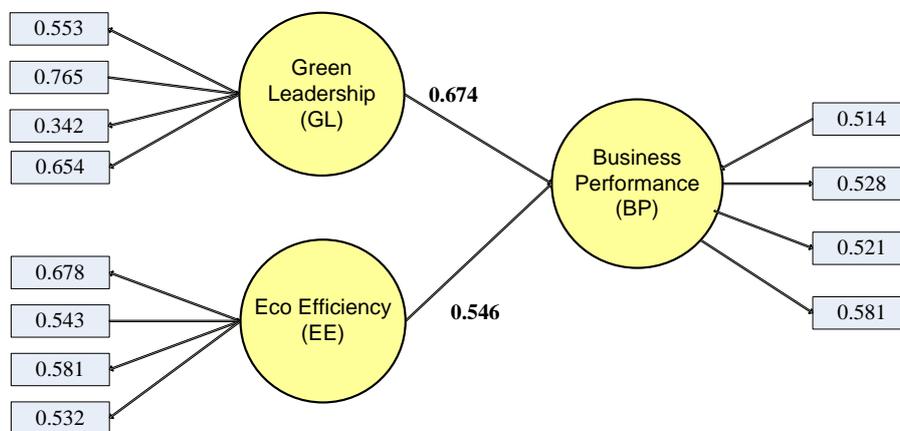
3. RESULT AND DISCUSSION

Validity and Reliability Test Result of Research Indicator

The testing phase of the measurement model includes convergent validity, discriminant validity and composite reliability testing. The results of the PLS analysis can be used to test the research hypothesis if all the indicators in the PLS model have met the requirements of convergent validity, discriminant validity and reliability testing.

1. Convergent Validity Test

Convergent validity test is done by looking at the loading factor value of each indicator to the construct. For most references, a factor weight of 0.5 or more is considered to have validation that is strong enough to explain latent constructs (Chin, 1998; Hair et al, 2010; Ghozali, 2014). In this research the minimum limit on the size of the loading factor received was 0.5, with the requirement that the AVE value of each construct > 0.5 (Ghozali, 2014).



Gambar 2. Estimation valid model

Based on the estimation results of the PLS model in the picture above, all indicators have a loading factor value above 0.5 so that the model meets the convergent validity requirements. Apart from looking at the loading factor value of each indicator, convergent validity is also assessed from the AVE value of each construct. AVE value for each construct of this research is above 0.5. So the convergent validity of this research model meets the requirements. The value of loadings, cronbach's alpha, composite reliability and AVE of each construct can be seen in table 2 below:

Tabel 2. Items, Loadings, Cronbach’s Alpha, Composite Reliability, and Average Variance Extracted (AVE)

Variables	Items	Loadings	Cronbach’s Alpha	Composite Reliability	AVE
Green Leadership (GL)	GL1	0.553	0.811	0.810	0.533
	GL2	0.765			
	GL3	0.342			
	GL4	0.654			
Eco Efficiency (EE)	EE1	0.678	0.812	0.901	0.764
	EE2	0.543			
	EE3	0.581			
	EE4	0.532			
Work Performance (BP)	BP1	0.514	0.910	0.902	0.811
	BP2	0.528			
	BP3	0.521			
	BP4	0.581			

Tabel 3. Discriminant Validity

Variables	GL	EE	BP
GL	0.732		
EE	0.718	0.913	
BP	0.717	0.813	0.873

Discriminant Validity Test

Discriminant validity is carried out to ensure that each concept of each latent variable is different from the other latent variables. The model has good discriminant validity if the AVE squared value of each exogenous construct (the value on the diagonal) exceeds the correlation between the construct and the other construct (values below the diagonal) (Ghozali, 2014). The results of discriminant validity test using the AVE squared value, namely by looking at the Fornell-Larcker Criterion Value obtained as Table 3. The results of the discriminant validity test in table 3 above show that all constructs have AVE square root values above the correlation value with other latent constructs (through the Fornell-Larcker criteria) so that it can be concluded that the model meets the discriminant validity.

Construct Reliability Test

Construct reliability can be assessed from the value of Cronbach's alpha and composite reliability of each construct. The recommended composite reliability and Cronbach's alpha values are more than 0.7. (Ghozali, 2014). The reliability test results in table 2 above show

that all constructs have composite reliability and Cronbach's alpha values greater than 0.7 (> 0.7). In conclusion, all constructs have met the required reliability.

Hypothesis Test

Hypothesis test in PLS is also called the inner model test. This test includes a test of the significance of direct and indirect effects and measurement of the magnitude of the effect of exogenous variables on endogenous variables. To determine Green Leadership effect towards Work Performance and Eco Efficiency effect towards Work Performance, it takes a direct effect test. The direct effect test is performed using the t-statistic test in the partial least squared (PLS) analysis model using the help of SmartPLS 3.0 software. With the bootstrapping technique, R Square values and significance test values are obtained as the table below:

Tabel 4. R Square Value

	R Square	R Square Adjusted
BP	0.889	0.587

Tabel 5. Hypothesis Test

Hypothesis	Relationship	Beta	SE	T Statistics	P-Values	Decision
H1	GL -> BP	0.201	0.041	3.312	0.002	Supported
H2	EE -> BP	0.321	0.042	4.634	0.001	Supported

Based on Table 4 above, R Square TIC value of 0.889 means that the work performance (BP) variable can be explained by green leadership (GL) and eco efficiency (EE) variables by 88.9%, while the remaining 11.1% is explained by other variables (not discussed in this research). While Table 5 displays the T Statistics and P-Values which show the effect between the research variables that have been mentioned.

Green Leadership have positive and significant effect towards Work Performance

Based on the test results and summaries in Table 6, for Hypothesis 1 (H1) beta value is 0.201, SE is 0.041, t statistics is 3.312 and p values is 0.002 so this research concludes that green leadership has a positive and significant effect on Work Performance so H1 is accepted. Chen (2012) divides green innovations into two types: proactive and reactive green innovations, because their origins are different. The results show that both of the internal origins – environmental leadership, environmental culture, and environmental capability and the external origins – the environmental regulations and the environmentalism of investors and clients – can generate reactive green innovation. However, only the internal origins can facilitate proactive green innovation. This study suggests that companies should invest their resources in cultivating the internal origins rather than the external origins. Conceptual Framework for the Effect of Green Transformational Leadership on OCBE According to Mi et al. (2019), transformational leadership effectively promotes OCBE, but the transformational leadership dimensions have different paths and strengths in influencing OCBE. Transformational leaders are able to influence their followers to do something more than expected (Mathew and Gupta, 2015). (Kim et al., 2016). According to Mital (2016) The leader inspires the organization members with the environmental plans, The leader provides a clear environmental vision for the members to follow. The leader gets the organization

members to work together for the same environmental goals, The leader encourages the organization members to Achieve the environmental goals, The leader acts with considering environmental beliefs of the organization members, The leader stimulates the organization members to think about green ideas. The research model was tested based on responses from 196 regional food service franchising headquarters in South Korea. Structural equation modeling, namely, confirmatory and path analysis, was the primary method of data analysis in the study. Results indicate that the top management's environmental transformational leadership influences the internal and external environmental orientation of a food service franchise firm. Also, the two types of environmental orientation improve the market and eco performances of the firm. Finally, two dimensions of environmental orientation, internal and external, act as full mediators of the relationship between environmental transformational leadership and the performance of the firm.

Previous research results also state that there are many factors that can influence performance including green transformational leadership (Mi et al., 2019), organizational commitment (Temminck et al., 2015) and autonomous motivation (Priyankara et al., 2018). Based on empirical research, it is known that transformational leadership has a very important role in influencing the behavior of employees. If transformational leaders have pro-environmental values, it will encourage their subordinates to behave in a prolific environment like him (Robertson and Barling, 2013). For example, these leaders can motivate subordinates to do more things that are beneficial to the organizational environment, think about sustainable organizational development, and solve environmental problems in an innovative way (Han et al., 2018). One of the antecedents of performance according to Daily et al. (2009) is an organizational commitment. The more committed employees are to the organization, the easier it will be to be involved in performance compared to employees who are less committed to the organization.

Eco Efficiency have positive and significant effect towards Work Performance

Based on the test results and summaries in Table 6, for Hypothesis 1 (H1) beta value is 0.321, SE is 0.042, t statistics is 4.634 and p values is 0.001 so this research concludes that eco efficiency has a positive and significant effect on Work Performance so H2 is accepted. Research conducted by Osazuwa & Che-Ahmad (2016) explains that eco-efficiency has a positive effect on firm value. Osazuwa & Che-Ahmad's (2016) research was conducted at Bursa Malaysia 2013 in all non-financial companies. The results of research by Osazuwa & Che-Ahmad (2016) say that company management and potential investors tend to choose investment in the concept of eco-efficiency which leads to high company value. Osazuwa & Che-Ahmad's (2016) research contrasts with research conducted by (Rosdiana et al. 2017) which provides empirical evidence that ecoefficiency has a negative effect on firm value. Research by Rosdiana et al. (2017) was conducted in public health center companies listed on the Indonesia Stock Exchange from 2013 to 2015. The results showed that the eco-efficiency variable proxied by using ISO 14001 environmental management certification had no effect on firm value. Osazuwa & Che-Ahmad's (2016) research was conducted in 201 companies in the UK over a five-year period. This study says that the eco-efficiency strategy is not suitable for increasing corporate profits in the short term. This is because implementing an efficiency strategy requires a large amount of money and a long process to carry out this strategy. In other words, the company needs a long period of time to get profits in order to increase company profits. As a result of this research, capital market investors assess that if the company uses an eco-efficiency strategy it will not provide more profits in the short term.

Eco-efficiency Eco-efficiency is an initial term that was officially popularized by the World Work Council For Sustainable Development (WBCSD) in 1992. Eco-efficiency is defined as the competitive delivery of goods or services that satisfy human needs and improve the quality of life, where also progressively reduce the ecological impact and intensity of resource use throughout the life cycle, to a level that is relatively the same as the estimated carrying capacity of the earth (WBCSD, 1992) Eco-efficiency in Indonesian actually comes from the abbreviation of the word eco and efficiency where eco is the source. economic-ecological power and efficiency itself is the level of efficient and optimal use of resources (DeSimone & Popoff, 1997). Meanwhile, technically, eco-efficiency is the ratio between product output and the resulting environmental impact (Roger Burrit, 2005). Environment Australia (1999) defines eco-efficiency as the right combination of economic efficiency and ecological efficiency and is basically 'doing more with less' in companies, which means that companies are able to produce more goods and services by using more natural resources and energy. a little, so that pollution and waste generated in production activities will also be less. Eco-efficiency focuses on improving work output through the use of improved environmental management and efficiency of resources. Besides that, ecoefficiency also wants a work concept that emphasizes the obtaining of lower value of material and energy inputs so as to reduce waste. Therefore, companies are expected to act more creatively and innovatively. According to Mowen (2009: 410) eco-efficiency is defined as the defense that organizations can produce goods and services that are more useful by simultaneously reducing the negative impact on the environment, resource consumption and costs. Eco-efficiency is one of the strategic tools to ensure sustainable development (Khicerer and Wittlinger, 2005). Eco-efficiency assesses the environmental and economic impact of products and processes over their entire life cycle. Eco-efficiency is the concept of environmental sustainability by companies to reduce environmental impacts due to company operational activities by minimizing company operating costs (Amalia & Rosdiana, 2016) The application of the eco-efficiency concept focuses on how companies can create products with added value that can help the company. in meeting consumer needs and can assist companies in reducing the impact due to the production process. Companies that pay less attention to eco-efficiency by ignoring this possibility will gradually be left behind because by implementing eco-efficiency, companies will find it easier to reduce their production costs.

4. CONCLUSION

The results of this research conclude that green leadership has a positive and significant effect on the work performance, eco efficiency also has a positive and significant effect on the work performance. This novelty of this research is new research of green leadership and eco efficiency of public health center in Indonesia. Therefore it is highly recommended that further research can be carried out on this topic in other sector.

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