

The Effect of Green Innovation on Company Sustainability Performance With CEO Tenure As a Moderating Variable

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ABSTRACT

This research aims to determine green innovation on company sustainability and whether there is a tenured CEO who plays a moderating role. This research uses a sampling method in the form of non-probability sampling. The sampling technique used in this research used purposive sampling. The analytical method used in this research is a quantitative analysis method. The results of this research show that green innovation has a significant effect on company sustainability. And the CEO is able to moderate green innovation towards company sustainability

Keywords: CEO Tenure. Company Sustainability, Green Innovation

INTRODUCTION

Environmental pollution has become a concern for human stability in the future due to the growth of environmental damage and global warming (Chen, 2008). Overcoming the problem of economic growth which results in excessive energy consumption and increased environmental damage is a challenge for all business people (Zhang, 2011). With this in mind, one of the current challenges is how business people can achieve an ecologically sustainable life. (Huber, 2013) One way to protect the environment in which we live, business people need to adopt an approach to preventing environmental pollution (Chen, 2008).

Companies are encouraged to be able to identify activities to create economic value but must also be more environmentally friendly as a consideration for increasing environmentally friendly business practices (Delmas & Chen, 2012). Adopting green practices is an important consideration for companies today (Tseng et al., 2013); (Shu et al., 2016). Many industries are changing to adopt a green mindset (Shu et al., 2016). Furthermore, more and more companies are considering green innovation as a critical approach to reducing their Negative impact on the Environment (Albort-Morant et al., 2018).

Environmentally friendly innovation, known as green innovation, is an effort carried out in industry that can be carried out in all aspects and is developed sustainably along with its development from an environmental aspect (Rennings & Rammer, 2009). Appropriate environmentally friendly innovation activities not only have the ultimate goal of reducing

negative impacts on the environment but also have the ultimate goal of increasing the competitive advantage of green products (Porter & Van Der Linde, 1995).

There are many factors that trigger companies to engage in sustainability activities. In the literature, these factors are referred to as drivers or determinants of green innovation which can be company-specific internal or external factors (Law & Gunasekaran, 2012). All these factors have an important impact on a company's green process innovation. To be able to adapt to changes in the environment, both internal and external, company management must respond quickly and combine external knowledge. This can be used as internal knowledge capital and discussion of related issues that are included in the company's strategy in the context of implementing green process innovation and green product innovation.

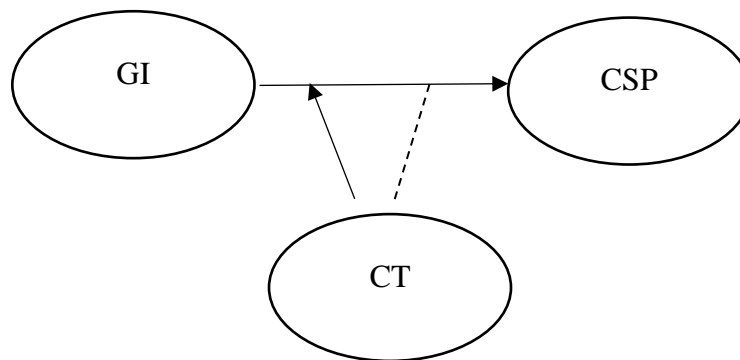
Such rapid demands have prompted companies to revise policies, one of which is related to products and production processes to reduce pollution and minimize resource use, but the changes are not enough to ensure sustainable business and environmental performance. Organizations need to undergo a culture of change and a transformation process so that the organization reacts to environmental problems with something adequate and in an adequate way. In other words, green organizational culture (green organizational culture) can help green strategies to be implemented successfully. Green organizational culture for organizations should be considered as a basic requirement of green innovation as it provides suitable conditions for sustainable practices and simplifies green innovation activities. Green organizational culture not only contributes to improving the organization but also represents an organizational culture that encourages employees to engage in environmentally conscious behavior and prepares a climate that allows the development of new ideas, behavior or cooperation in such a way as to reduce the negative environmental effects of the company in question. A green organizational culture allows an atmosphere to develop that encourages new ideas that lead to green innovation within the company (Gürlek & Tuna, 2018).

Organizational structure factors play a fundamental role in shaping green organizational culture as well as organizational eco-innovation capabilities in addition to green innovation. Many studies discuss environmental innovation but ignore the role of key stakeholder groups, such as top management and shareholders (Munawwaroh et al., 2018). These stakeholders have a direct influence on the innovative capabilities of the organization's internal environment, because stakeholders will influence the culture and structural aspects of the organization (Salim et al., 2019). Attention to contextual factors such as market dynamics as well as stakeholder groups can help in further understanding eco-innovation and performance. The impact on performance as a result of eco-innovation is critical, given the high financial risks involved in eco-innovation (Hazarika & Zhang, 2019).

Based on the problems described above, the author's research objective is to see how environmentally friendly innovation influences the Company's Sustainability Performance with CEO Tenure as a Moderating Variable.

RESEARCH METHODS

Figure 1
Model



Noted:

CD: Green Innovation

EP: Company Sustainability Performance

C: CEO Tenure

This research uses a quantitative approach in associative form using moderation. This research aims to determine the effect of environmentally friendly innovation on sustainable performance, with a survey collecting online and paper questionnaires. This research uses a sampling method in the form of non-probability sampling. The sampling technique used in this research used purposive sampling. The measurement model used is Variance Based Structural Equation Modeling (VB-SEM) using the SmartPLS construct reliability and through validity, discriminant validity, and outer loading. The model used aims to test the relationship between constructs, whether the data can be used for further analysis.

Hypothesis Development

Green Innovation

Green innovation would imply that product innovation, process innovation or model innovation leads the company to a higher level of environmental sustainability (Triguero et al.,

2013). According to (Chen et al., 2006) green innovation, it consists of green product innovation and green process innovation designed to reduce energy use and pollution, recycle waste and utilize sustainable resources. Environmentally friendly product innovation involves creating goods or services that do not have a negative impact and minimize waste or reduce a company's negative impact on the environment (Wong et al., 2012). According to (Wong et al., 2012) green process innovation is a production process that uses environmentally friendly technology to produce goods and services that reduce negative impacts on the environment.

Several empirical studies have found a positive relationship between green innovation and performance (Cheng et al., 2014); (Hojnik & Ruzzier, 2016); (Huang & Li, 2017); (Shu et al., 2016) it is said that increasing the prospects of green innovation organizations leads to improved corporate performance. Likewise, (Charlo et al., 2015) it shows that socially responsible companies will obtain higher profits for the same level of risk.

H1: It is suspected that green innovation has a positive and significant effect on Company Sustainability

CEO Tenure

The CEO as the company's top management is actively involved in developing the company's sustainability implementation strategy. The decisions taken by the CEO will reflect the heterogeneity of the company leaders' goals. The CEO's educational background can provide an idea of the level of concern for the environment. CEOs play a critical role in guiding and directing the success of their companies (Field et al., 2013). The important role of the CEO greatly influences the company's operational activities, and also has an impact on company performance (Bertrand & Schoar, 2003); (Bennedsen et al., 2007); (Kaplan & Sorensen, 2016).

Support from the organization is important to achieve successful innovation implementation. In addition, Lin et al., (2009) showed that the more support for innovation by management, the more willing a company is to implement green innovation. Other empirical research also finds that managerial concern is the most important driver for the adoption of green practices (Qi et al., 2010). The role of management in implementing green innovation which can ultimately be converted into company performance cannot be ignored (Przychodzen et al., 2016). Furthermore, (Dangelico, 2015) he believes that considering environmental aspects from the start is a determining factor in the success of green product development.

H2: It is suspected that CEO tenure is able to moderate *green innovation capital* on Company Sustainability

Company Sustainability

According to researchers, (Haizam et al., 2019) sustainable performance is divided into two types, namely environmental performance and economic performance. Environmental performance is the company's performance to contribute to preserving the environment.

Environmental performance is made in the form of a ranking by an institution related to the environment. Almilia & Wijayanto (2007) stated that economic performance is the relative change in company performance from year to year in the same industry which is characterized by the company's annual return.

Sustainable performance is also called green performance. Sustainable performance is a business effort to minimize negative environmental and social impacts so that future generations have adequate resources to meet their needs and can ensure long-term health for survival. According to (Haseeb et al., 2019) sustainable business performance is very important for competitive success. environmentalism which (Larson et al., 2000) says that sustainable business is environmentally and socially conscious strategies and operating practices that both guide companies toward a cleaner, healthier world and offer a path to increased profits.

RESULT AND DISCUSSION

Convergent Validity Test

This test aims to provide an explanation of the extent to which measurement indicators are positively correlated with alternative construct measurements. An indicator is said to have a good valid value if the factor loading value is > 0.70 and the average factor inflation variance (AVE) value must be greater than 0.5 (Ghozali, 2021). Test results:

Table 1
Validity convergent

Variable	Items	Loading factors
Green Innovation	GI1	0.766
	GI2	0.875
	GI3	0.748
	GI4	0.830
	GI5	0.763
	GI6	0.738
	GI7	0.802
Company Sustainability	CS1	0.806
	CS2	0.752
	CS3	0.772
	CS4	0.721
CEO Tenure	CE1	0.703
	CE2	0.756

	CE3	0.716
	CE4	0.747
	CE5	0.806
	CE6	0.752

Based on table 1 above, it can be seen that all Questionnaire items in this study had a *loading factor value* > 0.70. So it can be concluded that the questionnaire items in this study have met the requirements of the *convergent validity test*.

Validity Discriminant

Test This evaluate is indicators something variable valid or No. Assumption Which underlying discriminant validity Which Good is square mark root AVE variable more big compared to correlation between other constructs. By Because That, variable the considered fulfil criteria the. According to Ghozali & Latan in (Rahmad Solling, 2019) testing Discriminant Validity by looking at the cross loading value must be more than 0.7.

Table 2
Validity discriminant

Variable	GHC (X1)	EP (Y)	GS (Z)
Green Innovation	1,000		
Company Sustainability		0.782	
CEO Tenure			0.856

Based on Table 2 . It is known that the cross loading value of items from each indicator on the measured variable because it is concerned is greater than measuring other variables. All values are > 0.5, so it can be concluded that the results of this research instrument meet discriminant validity.

Average Variance Extracted (AVE)

Objective from testing This is For evaluate is variables Which there is in modeling have consistency in measure What Which want to be measured or have reliability Which can accepted. Results the explained in the table following.

Table 3
Average Variance Extracted (AVE)

Variable	<i>Average Variance Extracted (AVE)</i>
Green Innovation	0.807
Company Sustainability	0.926
CEO Tenure	0.917

Based on Table 3, the results show that, the validity test of the AVE value of all variables, namely consisting of 7 variables, shows an AVE value > 0.50. This meets the minimum AVE value determined, namely 0.50, and the root value for each construct is greater than the correlation value so that the constructs in this research model can still be said to have good discriminant validity values.

Reliability Test (Composite Reliability)

Table 4
Composite Reliability and Cronbach Alpha

Variable	<i>Cronbach's Alpha value</i>	<i>Mark Composite Reliability</i>
Green Innovation	1,000	1,000
Company Sustainability	0.945	0.888
CEO Tenure	0.941	0.917

Based on Table 4, it shows that the results of the output composite reliability and Cronbach's alpha for all constructs are > 0.7. which shows that each construct or variable has good reliability. So it can be concluded that the construct values in the research are reliable.

Structural Model Analysis (Inner Model) R-Square

The R-Square value is used to explain how much endogenous variable data can be explained by exogenous variable data. R-Square is a number that ranges from 0 to 1, with the condition that the closer it is to one, the better. Ghozali's (2021) view explains that the r-square value is 0.75 (strong), 0.50 (medium), and 0.25 (weak).

Table 5
R- Square

Variable	<i>R-Square Value</i>
Green Innovation	0.442
Company Sustainability	0.576

Table 5, the R-square value for Green innovation is 0.442. This value indicates that the

model in this research is in the medium category . Meanwhile, Company Sustainability shows an r-square value of 0.576 , this value shows that the resulting influence is in the medium category.

Testing Hypothesis

Path Analysis

According to Ghozali & Latan in (Rahmad Solling, 2019) the significance value can be used (two-tiled) t-statistic (>1.96), path coefficient results (>0.1) and p-value (0.05).

Table 6
Path Coefficient Results

	Variable	Path coefficient	Q Statistics (O/STDEV)	P value
Influence	Green Innovation → Company Sustainability	0.189	2,691	0.001
	Green Innovation → Company Sustainability → CEO Tenure	0.149	2,258	0.002

Based on table 6 above, it can be concluded as follows:

Green Innovation towards Company Sustainability has a p-value ≤ 0.05 and the result is $0.001 \leq 0.05$. Based on this explanation, it can be concluded that Hypothesis 1, namely Green Innovation has a positive and significant effect on Company Sustainability, **is accepted**.

Green Innovation towards Company Sustainability is moderated by CEO Tenure with a p-value ≤ 0.05 and the result is $0.002 \leq 0.05$. Based on this explanation, it can be concluded that Hypothesis 2 , namely Green Innovation has an effect on Company Sustainability, moderated by CEO Tenure, **is accepted** .

DISCUSSION

The Influence of Green Innovation on Company Sustainability

Based on research conducted by greenn innovation, it has a positive effect on performance. Green innovation has environmental benefits for consumers and will result in stronger consumer demand. In addition, these innovations can also increase productivity which can offset environmental costs (Chen et al., 2006). In increasing productivity to produce products, companies that use environmentally friendly materials can save costs, increase sales, and increase market share so that they can increase profit margins which will make a major contribution to financial performance.

Green innovation has a positive influence on companies that are unable to develop products. Stagnant sales volume can be offset by efforts to minimize production costs, so that the company can still increase profits. This increase in profits will help boost the company's

performance. Previous research has shown that green innovation has a positive impact on a company's competitive advantage and sustainability. So, overall, it makes business sense for companies to invest in green process innovation.

This research is in line with (Cheng et al., 2014); (Hojnik & Ruzzier, 2016); (Huang & Li, 2017); (Shu et al., 2016) it is said that increasing the prospects of green innovation organizations leads to improved corporate performance.

The Influence of Green Innovation on Company Sustainability Moderated By CEO Tenure

Companies mostly engage in green innovation activities to support more transactions that meet the needs and desires of potential customers. The impact can cause increased sales volume (Xue et al., 2019); (Chen, 2008) so that it will support the company's financial position. Performance-oriented companies apply green innovation concepts in their activities (e.g., processes, practices, systems) to provide direct and positive benefits to the environment. Effective implementation of green innovation and sustainable practices in organizations must make optimal use of organizational resources to overcome environmental weaknesses so that this can lead to increased environmental benefits. In fact, such practices can reduce environmental threats (air emissions, prevalence of environmental accidents) to improve a company's environmental performance (Xue et al., 2019).

Organizational support of efficient and effective green integration practices is an important strategy to achieve resource optimization, energy efficiency, environmental health and safety (Xue et al., 2019); (van Kleef & Roome, 2007) and reliable production, which saves time and other related costs. (Xue et al., 2019) in his research, it was proven that green innovation has a significant and positive influence on organizational performance as proxied through operational performance dimensions.

This research is in line with (Chen et al., 2006); (Xue et al., 2019) which has proven that supporting green innovation is a company strategy that provides positive benefits to the environment.

CONCLUSION

Based on the results of research conducted in analyzing the influence of green innovation on company sustainability with CEO tenure as a moderating variable, it can be concluded that green innovation has an influence on company sustainability. Furthermore, the CEO tenure variable is able to moderate the green innovation variable on company sustainability. In this research, the test results are in accordance with the research hypothesis.

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