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IMPLEMENTATION OF GREEN HUMAN RESOURCE MANAGEMENT AND EMPLOYEES ECO-FRIENDLY BEHAVIOR ON ENVIRONMENTAL PERFORMANCE WITH GREEN INNOVATION AS A MEDIATING VARIABLE AT PTPN 3 KEBUN RAMBUTAN

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Abstract

The type of research used is quantitative research, a research method that places more emphasis on the aspect of objective measurement of social phenomena. The data source used in this research is a primary data source which was directly collected by the researcher from the first source. The data analysis method used by researchers is the Structural Equation Model (SEM) based on Partial Least Square (PLS). The results of the Green Human Resource Management research (X1) do not have a significant influence on the Green Innovation variable (Z). Employees Eco-Friendly Behavior (X2) has a significant influence on the Green Innovation variable (Z). Green Human Resource Management (X1) has a significant influence on the Environmental Performance variable (Y). Employees Eco-Friendly Behavior (X2) has a significant influence on the Environmental Performance variable (Y). Green Innovation (Z) has a significant influence on the Green Innovation (Z) variable. Green Human Resource Management (X1) has a positive effect on Environmental Performance (Y) which is mediated by Green Innovation (Z). Employees Eco-Friendly Behavior (X2) has a positive effect on Environmental Performance (Y) which is mediated by Green Innovation (Z).

Keywords: ***Green Human Resource Management, Employees Eco-Friendly Behavior, Environmental Performance and Green Innovation***

1. INTRODUCTION

From a company perspective, Human Resource Management (HRM) has an important role in achieving sustainable competitive advantage in the business environment (Xu, Zhang, Yang, & Wu, 2020). Companies need to manage correlation with stakeholders on an ongoing basis (del-Castillo-Feito, Blanco-González, & Hernández-Perlines, 2022). Suppliers and organizations are influenced by the integrity and actions of the company itself, where ultimately these activities also affect corporate stability (Silva, Nuzum, & Schaltegger, 2019). This process is a central issue for organizations in building competitive advantage based on value creation (delCastillo-Feito et al., 2022; Freudenreich, Lüdeke-Freund, & Schaltegger, 2020).Green Human Resource Management (GHRM) is a company policy for managing human resources sustainably by involving environmental aspects to preserve nature in company management. (Purnama & Nawangsari, 2019). Green is the most beautiful color in the world and is the color of nature. Stepping into nature can bring us happiness and prosperity. However, the misuse of natural resources has led to the point where our existence on this planet is threatened by global warming and many other problems. All activities related to continuous improvement (Zurnali & Sujanto, 2020).

According to (Muchsinati & Lyvia, 2022) several elements are easy affecting employee performance, such as recruitment, training and development, providing compensation and performance appraisal. If all the evidence that correlates with GHRM practices is inherently possible convincing. environmental performance This step is very important for organizations for

example the plantation industry (Alfes et al., 2013). Due to pressure from many interest organizers such as society, competitors, and institutions government because of many problems industrial-oriented environment plantation Implementation of appropriate business practices sustainable, such as the urge to The practice of GHRM, can be a situation where there is a win-win solution for the organization and organizers. to raise environmental performance Important for promote GHRMk practices with recruitment and selection. Training and expansion of performance evaluation Compensation and employee development.

PT Perkebunan Nusantara III or commonly known as PTPN in running its business is quite focused on paying attention to sustainable activities, which are business operational activities that pay attention to economic, environmental and social aspects. This is driven by the awareness that the Company's existence is not just about seeking profit or gain, but is also required to preserve the environment and care about social issues. For information, PTPN is a State-Owned Enterprise (BUMN) which operates in the management, processing and marketing of plantation commodity products. The commodities cultivated are palm oil and rubber. A company policy that regulates its human resources so that they carry out their work while still paying attention to environmental interests is known as the Green Human Resource Management concept. Green HRM is a very comprehensive procedure with the main goal of the organization being to reduce costs, reduce energy use, reduce waste of resources or materials that can be recycled for finished goods (Cheema, Pasha, and Javed, 2015). According to Mwita (2019), the use of human resources in the workplace to achieve organizational goals in a deliberate manner to ensure the process contributes to preserving the environment is called Green Human Resource Management. With the aim of using HR functions, policies, strategies and practices as mechanisms for environmental management in the workplace.

Within PT Perkebunan Nusantara III there is a division called Human Resources Management (HRM). Human Resources Management (HRM) is the utilization, development, assessment, provision of services, and management of individual members of an organization or group of workers (Simamora, 2011). This division is divided into several teams, including Reward & HR Services, Employee Engagement, Learning & Performance, Industrial Relations, and HR Business Partner. In the Human Resources Management (HRM) division there are General Managers, Senior Managers, Managers, Assistant Managers, Supervisors, and Administrative Staff. All of these members will not work well if there is no good communication flow. Therefore, with too much workload, the Human Resources Management (HRM) division of PT Perkebunan Nusantara III requires teamwork. The teamwork formed in the Human Resources Management (HRM) division can be seen during internal meetings regarding major events, namely the "Manager Conference". The teamwork atmosphere in the Human Resources Management (HRM) division is harmonious, relaxed and family friendly. All this can be seen that this big event went well according to what was expected. Behind the success of this big event is a General Manager who implements vertical communication patterns well with all his employees.

A company's teamwork comes from the vertical communication patterns displayed by the company itself. If a company has good teamwork within the company then the teamwork is also good. But if vertical communication within the company is not good then the teamwork will not be good either. Stephen & Timothy (2008), state that teamwork is a group of individual efforts that produces higher performance than the sum of individual input. Teamwork produces positive synergy through coordinated efforts. This means that the performance achieved by a team is better than the performance of individuals in an organization or company. Therefore, teamwork is very influential in an organization or company in making jobs that are difficult to solve if done individually easier and easier if done together. This research was interesting to conduct because there was a change in the General Manager of Human Resources Management (HRM) at PT Perkebunan Nusantara III. New and old leaders have different characters in leading the Human Resources Management (HRM) division. The old General Manager had a character such as being

rigid, firm and disciplined. Meanwhile, the new General Manager has a very flexible, friendly and family character towards his subordinates, but remains disciplined in his work. The atmosphere of the Human Resources Management (HRM) division when it was led by the old General Manager of another division and the team felt that the Human Resources Management (HRM) division was stiff and could not be touched. Very few colleagues from other divisions are willing to talk or be friends with members of the Human Resources (HR) team because it is related to salaries, warning letters (SP) or other confidential matters. Thus, this has an impact on poor performance results during the General Manager's long term of office. Meanwhile, the atmosphere of the Human Resources Management (HRM) division when led by the new General Manager was more modern, open, and there was business partnering between the Human Resources (HR) team and other divisions. Therefore, the team feels more comfortable in carrying out their duties and colleagues from other divisions are willing to talk and make friends with the Human Resource Management (HRM) team. The performance results produced during the tenure of the new General Manager have improved drastically and are good.

2. LITERATURE REVIEW

2.1 Green Human Resource Management

Green human resource management or green resource management is the inclusion of environmental awareness in all HRM processes including recruitment, training, rewards and development of an environmentally friendly workforce as well as understanding and appreciating the existence of environmentally friendly values, practices and initiatives (Kim, Kim, Han, Jackson, & Ployhart, 2017). Tang, Chen, Jiang, Paille, & Jia (2018) said that green human resource management is different from normal HRM, HRM usually places more emphasis on improving employees or organizational profits, but GHRM can encourage employee commitment and involvement in environmental practices so that they can improve a sense of pride and ownership and motivation to work hard.

2.2 Employees Eco-Friendly Behavior

A definition of employee environmentally friendly behavior that includes all types of voluntary or prescribed activities carried out by individuals in the workplace aimed at protecting the natural environment or improving organizational practices in this area (Boiral, Paille, and Raineri, 2015). Employee environmentally friendly behavior is defined as actions and behaviors that can be said to be carried out by employees that reduce and contribute to environmental sustainability.

2.3 Environmental Performance

According to Ikhsan (2019), environmental performance is a measurable result of the environmental management system, which is related to the control of environmental aspects. Environmental performance assessment is based on environmental policies, environmental goals and environmental targets. According to Rahma (2018), environmental performance is a company's effort to create a good environment by carrying out activities and using materials that do not damage the environment.

2.4 Green Innovation

Green innovation can be used as an appropriate environmental approach to increase environmental efficiency, environmental protection and waste management (Chen et al., 2016). Green innovation not only improves processes, products and organizations by increasing technological capabilities, but can also prevent pollution and save energy. Green innovation is a mechanism that can minimize industrial pollution and reduce environmental impacts that can be detrimental to companies (Wong et al., 2013).

3.RESEARCH METHODS

3.1 Types of research

The type of research used is quantitative research. According to(Sugiyono, 2016), quantitative research is a research method that places more emphasis on the aspect of objective measurement of social phenomena. To carry out measurements, each social phenomenon is described in several problem components, variables and indicators. The aim of quantitative research is to develop and use mathematical models, theories or hypotheses related to natural phenomena. The measurement process is a central part of quantitative research, because it provides a fundamental link between empirical observations and the mathematical expression of quantitative relationships.

3.2 Data source

The data source used in this research is a primary data source which was directly collected by the researcher from the first source. Primary data sources can be the opinions of subjects (people) individually or in groups, the results of observations of objects (physical), events or activities and test results obtained directly from original sources (not through intermediary media).

3.3 Data analysis method

The data analysis method used by researchers is Structural Equation *Model*(SEM) based on Partial Least Square (PLS). PLS (Partial Least Square) is a variance-based structural equation analysis (SEM). can simultaneously carry out measurement model testing as well as testing structural model. The measurement model is used to test validity and reliability, while the structural model is used for causality testing (hypothesis testing with prediction models). Apart from that, this PLS software explains the relationships between variables to carry out analysis in one test. The aim of PLS is to help researchers to confirm theories and to explain whether or not there is a relationship between latent (predicted) variables.

4. DISCUSSION RESULTS

Evaluation of the Measurement Model (Outer Model)

The measurement model (outer model) is confirmatory factor analysis (CFA) by testing the validity and reliability of latent constructs. The following are the results of the outer model evaluation in this research.

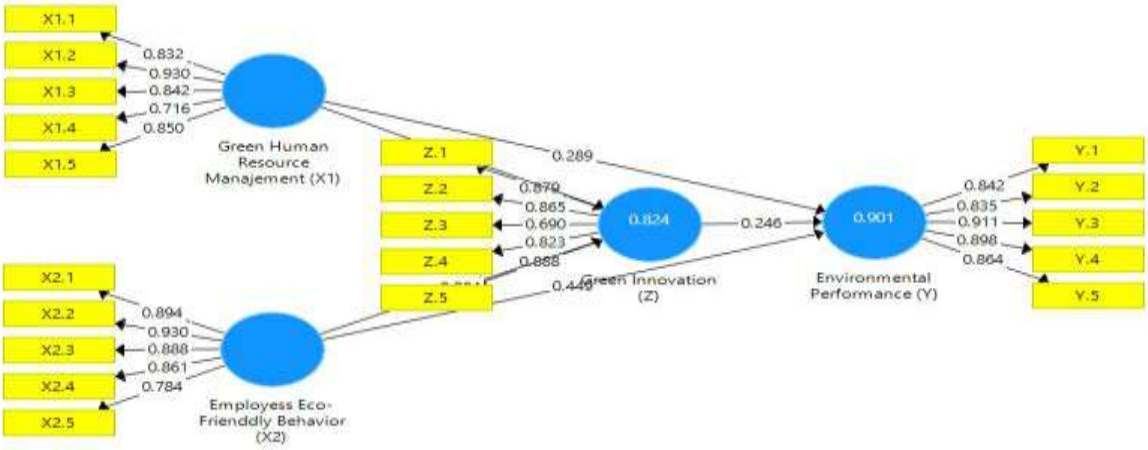

Figure 4.1. Outer Model

Validity test

This research uses assistance from Smart PLS 3.0 software to test the validity and reliability of the research instrument. To test the validity of data, convergent validity can

be used to test the validity of data by looking at the loading factor value and discriminant validity by looking at the cross loading value. In this study, a loading factor of 0.7 was used with algorithm calculations in Smart PLS 3.0. The following results of testing the convergent validity measurement model using the loading factor can be seen in Table 4.1:

Table 4.1
Instrument Validity Test Results Using Loading Factor

	Loading Factor			
X1. 1	0.832			
X1. 2	0.930			
X1. 3	0.840			
X1. 4	0.716			
X1. 5	0.850			
X2. 1		0.894		
X2. 2		0.930		
X2. 3		0.888		
X2. 4		0.861		
X2. 5		0.784		
Z. 1			0.879	
Z. 2			0.865	
Z. 3			0.790	
Z. 4			0.823	
Z. 5			0.888	
Y. 1				0.842
Y. 2				0.835
Y. 3				0.911
Y. 4				0.898
Y. 5				0.864

Source: Primary data processed (2024)

Based on the table above, it can be seen that all loading factor values have passed the limit of 0.7 so that it can be concluded that each indicator in this study is valid. Therefore, these indicators can be used to measure research variables.

Reliability Test

An instrument can be said to be reliable by looking at the value of Average Variance Extracted more than 0.5, Cronbach Alpha more than 0.6 and Composite Reliability more than 0.7. The following are the results of reliability calculations via Average Variance Extracted (AVE), Cronbach Alpha and Composite Reliability which can be seen in the following table:

Table 4.2
Calculation of AVE, Cronbach Alpha, and Composite Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Employees Eco-Friendly Behavior (X2)	0.921	0.927	0.941	0.762
Environmental Performance (Y)	0.920	0.925	0.940	0.758
Green Human Resource Management (X1)	0.892	0.914	0.921	0.700
Green Innovation (Z)	0.887	0.894	0.918	0.793

Source: Primary data processed (2024)

Based on the table above, it can be seen that the Cronbach Alpha value of the variable Environmental Performance (Y) of 0.920, variable Green Innovation (Z) of 0.887, variable Green Human Resource Management (X1) of 0.892 and variable Employees Eco-Friendly Behavior (X2) amounting to 0.921. From the calculation results above, it can be seen that all indicators are reliable in measuring the latent variable.

Structural Model Evaluation (Inner Model)

Evaluation of the inner model can be seen from several indicators which include the coefficient of determination (R2), Predictive Relevance (Q2) and Goodness of Fit Index (GoF) (Hussein, 2015).

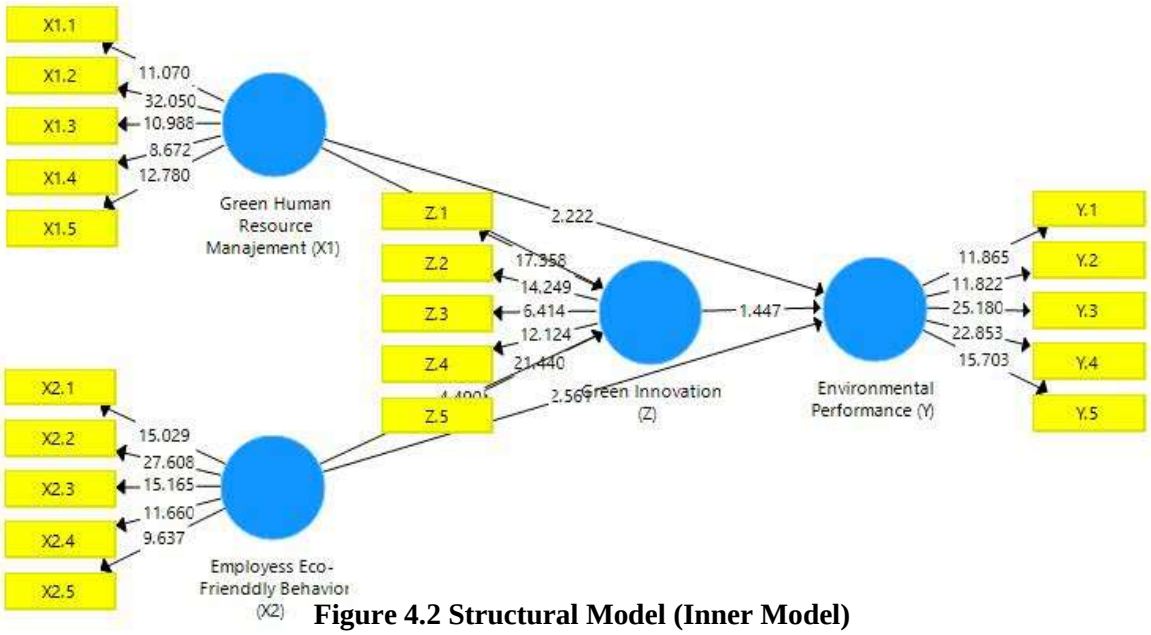

Figure 4.2 Structural Model (Inner Model)

R2 Results (R-square)

In assessing the model with PLS, start by looking at the R-square for each dependent latent variable. The results of the r2 calculation in this study are as follows:

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Table 4.3
Correlation Value (r2)

Variable	r^2
Environmental Performance (Y)	0.892
Green Innovation (Z)	0.814

Source: Primary data processed (2024)

Based on the results of calculations using bootstapping in Table 4.3 above, it is known that the r2 value of the Green Innovation (Z) variable is 0.814, which means that the Green Innovation (Z) variable is influenced by the Green Human Resource Management variable (X1) and the Employees Eco-Friendly Behavior variable (X2) of 78.6 % or in other words the contribution of the Green Human Resource Management (X1) variable and the Employees Eco-Friendly Behavior (X2) variable of 81.4 % while the remaining 18.6 % is the contribution of other variables that are not discussed in this research.The r2 result of variable Y is 0.892%, which means that the Environmental Performance (Y) variable is influenced by Green Human Resource Management (X1), the Employees Eco-Friendly Behavior variable (X2) and the Green Innovation variable (Z) by 89.2% or by In other words, the contribution of the Green Human Resource Management variable (X1), the Employees Eco-Friendly Behavior variable (X2) and the Green Innovation variable (Z) is 89.2% while the remaining 10.8% is the contribution of other variables not discussed in this research .

Goodness of Fit Model

Goodness of fit calculations can be used to determine the magnitude of the contribution made by exogenous variables to endogenous variables. The GoF value in PLS analysis can be calculated using Q-square predictive relevance (Q2). The following are the results of the Goodness of Fit Model calculations in this research:

$$Q^2 = 1 – (1 – r12) (1 – r22)$$
$$Q2 = 1 – (1 – 0.892) (1 – 0.814)$$
$$Q2 = 0.9799$$

Based on the calculation above, the Q-square predictive relevance (Q2) value is 0.9799 or 97.99%. This is able to show that the diversity of variablesEnvironmental Performance (Y)can be explained by the overall model of 0.9799 or it can also be interpreted that the contribution of the Green Human Resource Management variable (X1), the Employees Eco-Friendly Behavior variable (X2) and the Green Innovation variable (Z) to the variableEnvironmental Performance (Y)overall it is 97.99%, while the remaining 2.01% is the contribution of variables not discussed in this research.

Hypothesis test

Based on the results of the outer model carried out, all the hypotheses tested have met the requirements, so they can be used as analysis models in this research. Hypothesis testing in this study uses an alpha of 5%, which means that the t-statistic value is ≥ 2.048 or the probability value is ≤ level of significance (α = 5%).

Table 4.4

Path Coefficients

	Original Sample (O)	*Sample Mean (M)*	*Standard Deviation (STDEV)*	*Q statistics (|O/STDEV|)*	*P Values*
X2 -> Y	0.449	0.437	0.197	2,561	0.004
X2 -> Z	0.884	0.860	0.130	4,490	0,000
X1 -> Y	0.289	0.308	0.211	3,222	0.002
X1 -> Z	0.226	0.655	0.170	0.121	0.904
Z -> Y	0.246	0.241	0.175	3,447	0.001

Source: Primary data processed (2024)

H1: Green Human Resource Management (X1) influences Green Innovation (Z). Based on the test results in Table 4.4, it can be seen that the first hypothesis is that Green Human Resource Management (X1) does not have a significant influence on the Green Innovation variable (Z). The Green Human Resource Management variable (X1) has a t-statistic value of 0.121 and a p-value of 0.904. The t-statistic value of Green Human Resource Management (X1) is below the t-table value of 1.96 (0.121 < 1.96), with a p-value of 0.904 > 0.05 so the first hypothesis is rejected.

H2: Employees Eco-Friendly Behavior (X2) influences Green Innovation (Z). Based on the test results in Table 4.4, it can be seen that the first hypothesis is that Employees Eco-Friendly Behavior (X2) has a significant influence on the Green Innovation variable (Z). The Employees Eco-Friendly Behavior (X2) variable has a t-statistic value of 4,490 and a p-value of 0.000. The t-statistic value of Employees Eco-Friendly Behavior (X2) is below the t-table value of 1.96 (4,490 > 1.96), with a p-value of 0.000 < 0.05 so the second hypothesis is accepted.

H3: Green Human Resource Management (X1) has an effect onEnvironmental Performance (Y). Based on the test results in Table 4.4, it can be seen that the first hypothesis is that Green Human Resource Management (X1) has a significant influence on the variableEnvironmental Performance (Y). Variable Green Human Resource Management (X1) has a t-statistic value of 3.222 and a p-value of 0.002. The t-statistic value of Green Human Resource Management (X1) is below the t-table value of 1.96 (3,222 > 1.96), with a p-value of 0.002 < 0.05 so that the third hypothesis is accepted.

H4: Employees Eco-Friendly Behavior (X2) has an influence onEnvironmental Performance (Y). Based on the test results in Table 4.4, it can be seen that the first hypothesis is that Employees Eco-Friendly Behavior (X2) has a significant influence on the variableEnvironmental Performance (Y). Variable Employees Eco-Friendly Behavior (X2) has a t-statistic value of 2.561 and a p-value of 0.004. The t-statistic value of Employees Eco-Friendly Behavior (X2) is below the t-table value of 1.96 (2,561 > 1.96), with a p-value of 0.004 < 0.05 so that the fourth hypothesis is accepted.

H5: Green Innovation (Z) has an effect onEnvironmental Performance (Y).Based on the test results in Table 4.4, it can be seen that the first hypothesis is that Green Innovation (Z) has a significant influence on the Green Innovation (Z) variable. The Green Innovation (Z) variable has a t-statistic value of 3.447 and a p-value of 0.001. The t-statistic value of Green Innovation (Z) is below the t-table value of 1.96 (3,447 > 1.96), with a p-value of 0.001 < 0.05 so that the fifth hypothesis is accepted.

Indirect Effect Testing

The indirect influence test is carried out by testing the strength of the indirect influence of the independent variable (variable).

Table 4.5. Indirect Effects

	Original Sample (O)	*Sample Mean (M)*	*Standard Deviation (STDEV)*	*Q statistics (|O/STDEV|)*	*P Values*
(X1) -> (Z) -> (Y)	0.218	0.317	0.475	3,247	0,000
(X2)-> (Z) -> (Y)	0.383	0.412	0.461	3.103	0.003

Source: Primary data processed (2024)

H6: Green Human Resource Management (X1) has a significant effect on Environmental Performance (Y) through Green Innovation (Z). Based on table 4.5 above, it can be seen that the t-statistical value of the effect of Green Human Resource Management (X1) has a positive effect on Environmental Performance (Y) mediated by Green Innovation (Z) which is greater than the statistical value (1.96), namely with an influence size of 3,247 and p-value > 0.05 with a spread of 0.000. So it can be concluded that Green Innovation (Z) has a positive and significant effect in mediating Green Human Resource Management (X1) on Environmental Performance (Y).

H7: Employees Eco-Friendly Behavior (X2) has a significant effect on Environmental Performance (Y) through Green Innovation (Z). Based on table 4.5 above, it can be seen that the t-statistic value of the influence of Employees Eco-Friendly Behavior (X2) has a positive effect on Environmental Performance (Y) which is mediated by Green Innovation (Z) is greater than the statistical value (1.96), namely with a large influence of 3,103 and p-value > 0.05 with a spread of 0.003. So it can be concluded that Green Innovation (Z) has a positive and significant effect in mediating Employees Eco-Friendly Behavior (X2) on Environmental Performance (Y).

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