



The Influence of Green Transformational Leadership and Work Discipline on Employee Performance with Work Environment as a Moderating Variable

Deden Abdul Mubarak
Universitas Mercu Buana, Indonesia

Corresponding Author: Deden Abdul Mubarak abduldeden04@gmail.com

ARTICLE INFO

Keywords: Green Transformational Leadership, Work Discipline, Employee Performance, Work Environment, Sustainable

Received : 08, November

Revised : 29, November

Accepted: 28, December

©2025 Maidin, Azis, Baharuddin, Qalsum, Putera: This is an open-access article distributed under the terms of the [Creative Commons Attribution 4.0 International](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

Sustainability issues and environmentally friendly practices have become an essential part of modern organizational strategies. The purpose of this study is to analyze the influence of Green Transformational Leadership and Work Discipline on Employee Performance, as well as how the Work Environment functions as a moderating variable. The research is motivated by the need to enhance employee performance at PT Hermed to achieve optimal and sustainable outcomes. The research employs a quantitative method with an associative-causal approach. There are 53 responders in the sample, selected using a saturated sampling technique. Data were collected through surveys using questionnaires and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results reveal that Green Transformational Leadership, Work Discipline, and the Work Environment significantly affect Employee Performance. Furthermore, the Work Environment moderates the relationship between Green Transformational Leadership and Employee Performance, but it does not moderate the relationship among Work Discipline and Employee Performance. These findings emphasize that employee performance can be improved through environmentally oriented transformational leadership, strong work discipline, and a supportive work environment.

INTRODUCTION

The increasingly alarming phenomenon of environmental degradation and climate change is driving organizations to adopt sustainability-oriented business strategies. Companies are no longer judged solely by their ability to generate profits, but also by their contributions to environmental preservation and social responsibility. Stricter government regulations, growing stakeholder demands, and public awareness of sustainability issues have made environmentally friendly practices a strategic imperative. The application of sustainability principles encompasses energy efficiency, waste reduction, the use of renewable resources, and process innovations that support long-term sustainability.

Within an organization's internal context, the success of a green transformation is highly dependent on leadership quality. Green Transformational Leadership (GTL) is a leadership style capable of driving behavioral change, increasing ecological awareness, and building a work culture that supports sustainability. However, at PT. Hermed, pre-survey results indicate that employee perceptions of GTL's effectiveness remain low. This indicates that leaders are not optimal in providing environmentally-oriented inspiration, motivation, and direction.

In addition to leadership, PT Hermed's employee performance shows significant issues. Performance appraisal data from 2022–2024 shows that the majority of employees remain below expectations, despite the annual increase in employee numbers. Only a small percentage achieves the "as expected" category, and very few achieve the "above expected" category. This reflects a significant performance gap between actual conditions and the company's ideal targets. This low performance is also suspected to be related to discipline issues, with rates of lateness, leave, sick leave, and absences showing an increasing trend year over year.

The work environment is also a factor reflecting internal problems. Pre-survey results indicate that some employees do not feel that their current work environment supports comfort and productivity. A less than conducive work environment, both physically and psychologically, can weaken motivation, discipline, and leadership effectiveness. This condition becomes increasingly important because literature shows that the work environment can function as a moderating variable that strengthens the relationship between GTL and employee performance, as well as between work discipline and performance.

On the other hand, previous research has revealed gaps or inconsistencies in findings regarding the influence of GTL, work discipline, and the work environment on employee performance. Some studies have shown a significant positive effect, while others have shown the opposite. This inconsistency indicates that organizational context, employee characteristics, and work environment conditions can influence the results of testing these variables. This research gap reinforces the urgency of further research at PT. Hermed.

Based on actual conditions, pre-surveys, and research gaps, this study was conducted to analyze in more depth how Green Transformational Leadership and Work Discipline affect Employee Performance, as well as to test whether the

Work Environment is able to strengthen or weaken the influence of these two variables. This research is anticipated to generate a more thorough empirical understanding and to constitute a significant contribution to PT. Hermed's initiatives aimed at enhancing employee performance in ways that are both effective and sustainable.

LITERATURE REVIEW

Human Resource Management

Human Resource Management (HRM) is one of the main pillars of an organization's success, as it is directly related to the management of individuals who serve as the company's strategic assets. Human Resource Management is the systematic process of planning, organizing, leading, and overseeing all tasks associated with recruiting, developing, retaining, and effectively utilizing an organization's human resources to achieve organizational goals. In the modern business context, the role of HRM is not only limited to administrative functions such as payroll or attendance management, but has evolved into a strategic function that supports a company's competitive advantage amidst the dynamics of an increasingly complex business environment.

Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs) are a collection of worldwide objectives established by the United Nations in 2015 under the 2030 Agenda to promote sustainable development. The SDGs consist of 17 goals and 169 specific targets designed to eliminate poverty, safeguard the planet, and promote the well-being of all people, ensuring that no one is excluded (Pereira, 2023). Their implementation requires the active participation of all levels of society, including governments, the private sector, NGOs, and organizational leaders (Syahchari & Van Zanten, 2024). In the context of human resource management, the SDGs require a transformation of mindsets and actions that are environmentally friendly, inclusive, and sustainable (Aust et al., 2024). Relevant SDGs

Employee Performance

According to Aguinis (2019), employee performance is the results achieved by individuals in carrying out tasks and responsibilities assigned by the organization, in accordance with established standards, targets, or criteria. Performance encompasses not only the final result, but also work processes, effectiveness, efficiency, and work behaviors that support organizational goals.

Factors Affecting Employee Performance

1. Individual Abilities and Competencies

Work ability is largely determined by competence, which encompasses knowledge, skills, and professional attitudes. The higher a person's level of competence, the greater their opportunity to demonstrate optimal work performance.

2. Motivation at Work

Motivation serves as the primary driving force, driving enthusiasm and dedication to work. Employees with strong motivation tend to be more consistent, enthusiastic, and goal-oriented.

3. Working Conditions and Environment

A conducive work environment in terms of facilities, atmosphere and relationships between employees can improve comfort and work productivity. A healthy work environment creates a sense of well-being and strengthens team performance.

4. Effective Leadership

The way leaders choose to lead significantly influences the development of a constructive workplace culture. Supportive and inspiring leaders will foster a sense of security, strengthen motivation, and increase employee loyalty to the company.

5. Discipline and Sense of Responsibility

Discipline reflects the extent to which employees are able to carry out their duties responsibly. A high level of discipline is generally directly proportional to timely and high-quality work results.

6. Performance Awards and Recognition

A fair and transparent reward system can increase job satisfaction, build loyalty, and motivate employees to provide maximum contribution on an ongoing basis.

Work Discipline

According to Hasibuan (2016), work discipline is a crucial aspect of human resource management, reflecting employee compliance with regulations, rules, and work standards established by the organization. Discipline is not only defined as punctual attendance, but also encompasses a professional attitude, responsibility, consistent behavior, and adherence to operational procedures in carrying out daily tasks. Employees who demonstrate high discipline generally have a strong internal awareness of the importance of work ethics and commitment to the organization. Mangkunegara (2015) explains that work discipline is closely related to the formation of individual character and morals within an organizational environment. Discipline is not only coercive, but must also be instilled through an educational and supportive work culture.

Green Transformational Leadership

According to Ayandibu (2019), Green Transformational Leadership is a leadership style that integrates transformational leadership principles with awareness and commitment to environmental conservation. Leaders who implement this approach not only focus on achieving organizational targets but also encourage work behaviors oriented towards sustainability and ecological responsibility across all levels of the organization. Alwali (2024) shows that green transformational leadership encourages Green HRM practices, which in turn strengthen morale and ecological norms among employees, while increasing their engagement in green initiatives.

Work Environment

According to Sanders and McCormick (2018), the work environment encompasses all physical and non-physical conditions surrounding the workplace that influence how employees perform their tasks. Physical conditions such as lighting, temperature, and cleanliness play a significant role in creating comfort and increasing employee productivity and well-being. Laloux (2014) explains that psychological aspects, including social relationships, work culture, and organizational atmosphere, also have a strong influence on employee motivation, loyalty, and performance.

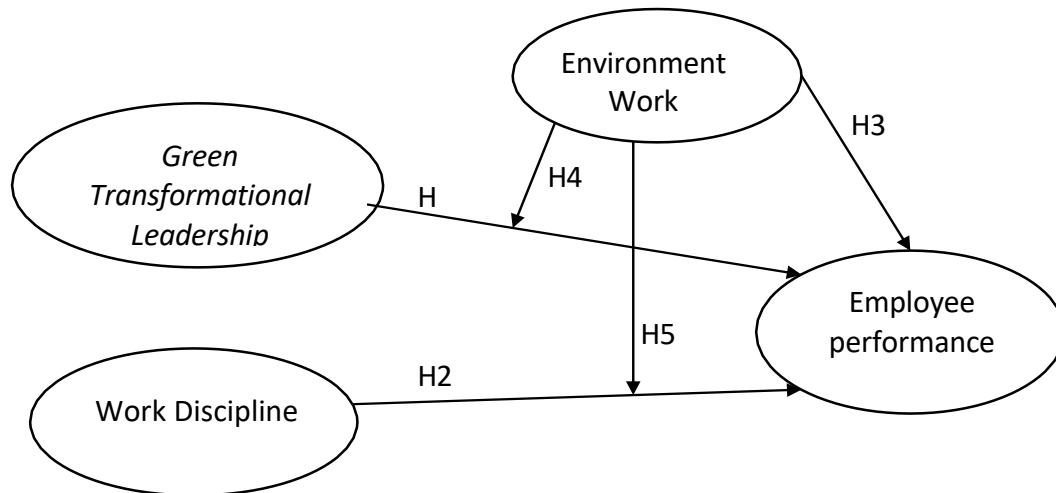


Figure 1. Conceptual Framework

METHODOLOGY

This study employs a quantitative method with an associative-causal design to investigate and explain the causal link between Green Transformational Leadership and Work Discipline in relation to Employee Performance. It also aims to examine the role of the Work Environment as a moderating variable. This explanatory study measures all variables using a Likert-scale questionnaire (1-5), designed based on established theories and findings from prior research. The research population includes all employees of PT Hermed, so the sampling technique used is a saturated sample, with a total of 53 respondents who are considered to have met the quantitative analytical requirements according to the Central Limit Theorem principle. Data were collected through closed questionnaires as primary data, as well as interviews, field observations, and company supporting documents as secondary data.

Data analysis was conducted using the Structural Equation Modeling method based on Partial Least Squares (SEM-PLS) through SmartPLS software, because this method is able to handle complex models and non-normal data. Testing was carried out in two stages, namely the measurement model (outer model) to assess the validity and reliability of indicators through loading factor tests, AVE, Composite Reliability, and Cronbach's Alpha, and the structural model (inner model) to assess the relationship between variables through the R^2 , Q^2 , effect size f^2 , and Goodness of Fit values. Hypothesis testing was carried out using the bootstrapping technique to produce t-statistic and p-value values based

on the significance limit of $t \geq 1.96$ or $p \leq 0.05$. Furthermore, a moderation test was carried out by forming interaction variables between the independent and moderator variables, then analyzed to see whether the work environment can strengthen or weaken the influence of Green Transformational Leadership and Work Discipline on Employee Performance, reviewed from the significance of the interaction path and changes in the R^2 value.

RESEARCH RESULT

Outer Model Measurement Model

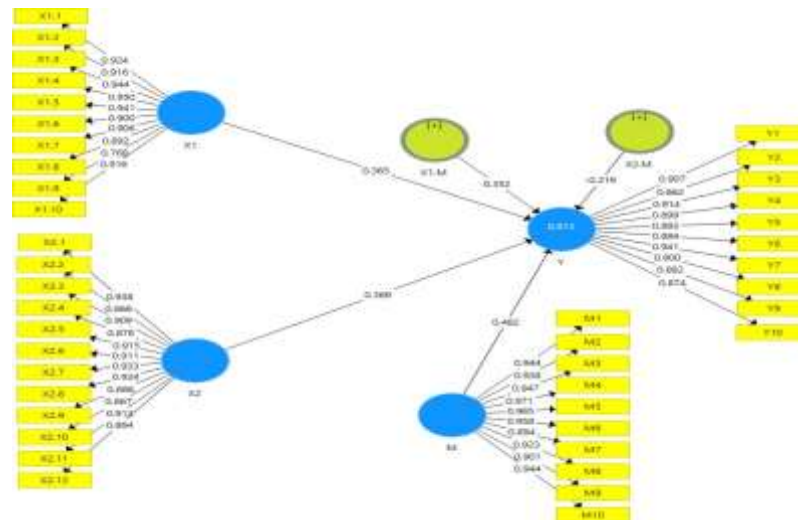


Figure 2. Outer Model
Source: Processed by Researchers

Convergent Validity

Table 1. Outer Loading

	Work environment	Green Transformational Leadership	Work Discipline	Employee performance	X1.M	X2.M
M1	0.944					
M2	0.938					
M3	0.947					
M4	0.971					
M5	0.965					
M6	0.958					
M7	0.894					
M8	0.923					
M9	0.901					
M10	0.944					
X1.1		0.924				
X1.2		0.916				
X1.3		0.944				
X1.4		0.950				
X1.5		0.941				
X1.6		0.900				

X1.7		0.906				
X1.8		0.892				
X1.9		0.768				
X1.10		0.916				
X2.1			0.938			
X2.2			0.866			
X2.3			0.909			
X2.4			0.878			
X2.5			0.915			

X2.6			0.911			
X2.7			0.933			
X2.8			0.924			
X2.9			0.886			
X2.10			0.867			
X2.11			0.912			
X2.12			0.864			
Y1				0.907		
Y2				0.862		
Y3				0.914		
Y4				0.899		
Y5				0.893		
Y6				0.884		
Y7				0.941		
Y8				0.900		
Y9				0.882		
Y10				0.874		
X1 *M						1,306
X2 *M						1,356

Source: Processed by Researchers

Based on the results of the outer loading analysis in Table 4.2, all indicators used in this study have loading factor values above 0.70. This indicates that each indicator has a good level of convergent validity and is able to optimally reflect the construct being measured. For the Work Environment (M) variable, the outer loading values ranged from 0.894 to 0.971, with the highest value in indicator M4 (0.971), which means that this indicator most strongly represents the work environment variable.

Table 2. AVE

Variables	AVE
Green Transformational Leadership	0.823
Work Discipline	0.811
Employee performance	0.803
Work environment	0.881
X1.M	1,000
X2.M	1,000

Source: Processed by Researchers

Based on the analysis results in Table 4.3 regarding the Average Variance Extracted (AVE) value, all variables in this study showed values above 0.50, which indicates that each construct has good convergent validity. The highest AVE value is found in the Work Environment variable at 0.881, which means the indicators in this variable are able to explain more than 88% of the construct's variance well. The Green Transformational Leadership variable has an AVE value of 0.823, Work Discipline of 0.811, and Employee Performance of 0.803 all indicating the ability of the indicators to represent their respective latent constructs very strongly.

Discriminant Validity

Table 3. Fornell Lacker

	Environ- mental Work	Green Transformat- ional Leadership	Work Disciplin- e	Employee performanc- e	X1 * M	X2 * M
Environment Work	0.939					
Green Transformatio- nal Leadership	0.511	0.907				
Discipline Work	0.296	0.393	0.901			
Employee Performance	0.700	0.623	(0.257)	0.896		
X1.M	(0.452)	(0.502)	(0.341)	0.610	1,000	
X2.M	(0.437)	(0.328)	0.638	(0.375)	(0.472)	1,000

Source: Processed by Researchers

Based on the analysis results in Table 4.4 of the Fornell-Larcker Criterion, it can be concluded that all variables in the research model meet the criteria for discriminant validity. This is evidenced by the square root of the AVE (indicated by the bold diagonal number in the table), which is greater than the correlation between other variables in the same row and column.

Table 4. Cross Loading

	Work environme- nt	Green Transformatio- nal Leadership	Work Discipline	Employee performance	X1.M	X2.M
M1	0.944	0.554	0.234	0.649	-0.383	-0.314
M2	0.938	0.501	0.355	0.739	-0.440	-0.510
M3	0.947	0.443	0.359	0.669	-0.436	-0.460
M4	0.971	0.509	0.232	0.650	-0.410	-0.348
M5	0.965	0.498	0.308	0.661	-0.455	-0.423
M6	0.958	0.475	0.215	0.607	-0.398	-0.305
M7	0.894	0.461	0.218	0.627	-0.517	-0.458
M8	0.923	0.410	0.218	0.651	-0.319	-0.409

M9	0.901	0.438	0.297	0.638	-0.375	-0.424
M10	0.944	0.501	0.326	0.661	-0.508	-0.429
X1.1	0.426	0.924	0.284	0.507	-0.415	-0.251
X1.2	0.481	0.916	0.394	0.634	-0.460	-0.378
X1.3	0.510	0.944	0.359	0.604	-0.473	-0.247
X1.4	0.500	0.950	0.356	0.591	-0.458	-0.240
X1.5	0.466	0.941	0.384	0.555	-0.530	-0.303
X1.6	0.509	0.900	0.415	0.541	-0.459	-0.293
X1.7	0.504	0.906	0.383	0.633	-0.506	-0.425
X1.8	0.405	0.892	0.264	0.524	-0.390	-0.236
X1.9	0.251	0.768	0.340	0.375	-0.334	-0.150
X1.10	0.507	0.916	0.374	0.615	-0.484	-0.380
X2.1	0.234	0.280	0.938	0.548	-0.263	-0.317
X2.2	0.367	0.454	0.866	0.568	-0.348	-0.395
X2.3	0.277	0.378	0.909	0.562	-0.263	-0.257
X2.4	0.219	0.296	0.878	0.523	-0.237	-0.301
X2.5	0.220	0.313	0.915	0.584	-0.341	-0.391
X2.6	0.115	0.359	0.911	0.484	-0.216	-0.227
X2.7	0.247	0.330	0.933	0.552	-0.260	-0.316
X2.8	0.236	0.289	0.924	0.504	-0.406	-0.395
X2.9	0.302	0.312	0.886	0.524	-0.317	-0.280
X2.10	0.392	0.489	0.867	0.634	-0.377	-0.437
X2.11	0.427	0.385	0.912	0.626	-0.327	-0.351
X2.12	0.048	0.316	0.864	0.413	-0.304	-0.361
Y1	0.602	0.545	0.522	0.907	-0.203	-0.484
Y2	0.590	0.516	0.630	0.862	-0.319	-0.423
Y3	0.625	0.545	0.493	0.914	-0.226	-0.423
Y4	0.645	0.573	0.476	0.899	-0.187	-0.441
Y5	0.686	0.551	0.557	0.893	-0.312	-0.447
Y6	0.601	0.539	0.636	0.884	-0.160	-0.376
Y7	0.654	0.626	0.548	0.941	-0.248	-0.464
Y8	0.595	0.530	0.519	0.900	-0.144	-0.466
Y9	0.694	0.559	0.566	0.882	-0.339	-0.354
Y10	0.564	0.599	0.508	0.874	-0.142	-0.357
X1 * M	-0.452	-0.502	-0.341	-0.257	1,000	0.638
X2 * M	-0.437	-0.328	-0.375	-0.472	0.638	1,000

Source: Processed by Researchers

Based on the analysis results of Table 4.5 Cross Loading, it can be concluded that all indicators in this study have the highest loading values on the constructs they measure compared to other constructs. This indicates that each indicator has good discriminant validity, as it is able to distinguish its latent variable from other variables in the model.

Reliability

Table 5. Reliability

	Cronbach's Alpha	rho_A	Composite Reliability
Work environment	0.976	0.981	0.979
Green Transformational Leadership	0.979	0.981	0.981
Work Discipline	0.985	0.986	0.987
Employee performance	1,000	1,000	1,000
X2.M	1,000	1,000	1,000
X1.M	0.973	0.973	0.976

Source: Processed by Researchers

Based on the analysis results in Table 4.6 of Construct Reliability, all variables in this study showed very high Cronbach's Alpha, rho_A, and Composite Reliability values, which were above the minimum threshold of 0.70. This indicates that each construct in the model has excellent internal consistency, so it can be said to be reliable and stable in measuring the intended variables.

Inner Model Measurement Model

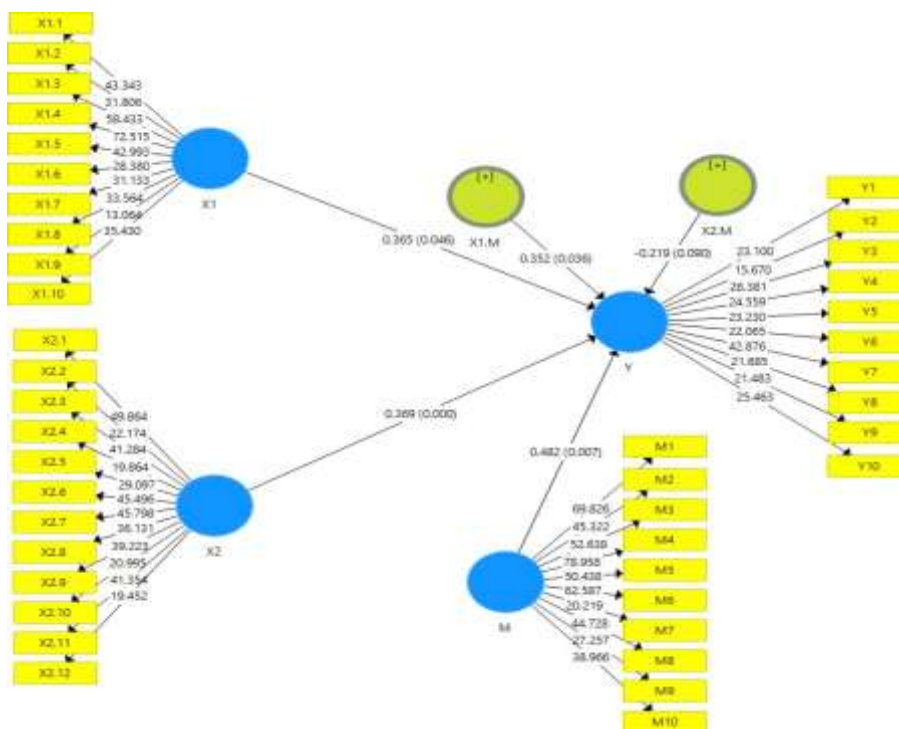


Figure 3. Inner Model

Source: Processed by Researchers

Coefficient of Determination (R²)

Table 6. R²

	R Square	Adjusted R Square
Employee performance	0.813	0.793

Source: Processed by Researchers

Based on the analysis results in Table 4.8 R², the R Square value of 0.813 and the Adjusted R Square of 0.793 indicate that the research model has excellent explanatory power. The R Square value (0.813) indicates that 81.3% of the variation in the Employee Performance variable can be explained by the independent variables including Green Transformational Leadership, Work Discipline, and Work Environment (as well as the moderating effect) used in the model. Meanwhile, the Adjusted R Square (0.793) takes into account the number of independent variables in the model, and still shows a high value, indicating that the model does not experience overfitting and has a stable level of accuracy.

Goodness of Fit (GoF) Index

GoF is used to measure the overall suitability of the model so that it can be known whether the research model is suitable for use.

$$GoF = \sqrt{AVE_{rata-rata} \times R^2}$$

$$AVE_{rata-rata} = \frac{0.823 + 0.811 + 0.803 + \frac{0.881}{rata-rata}}{4} = \frac{3.318}{4} = 0.8295$$

$$R^2_{rata-rata} = 0.813$$

$$GoF = \sqrt{0.8295 \times 0.813} = \sqrt{0.6743} = 0.821$$

Based on the results of the Goodness of Fit (GoF) calculation obtained at 0.821, it can be concluded that this research model has a very strong level of fit between the measurement model (outer model) and the structural model (inner model). The GoF value is calculated from the square root of the product of the average AVE of 0.8295 and the average R² of 0.813, which produces a final value of 0.821. Based on the criteria put forward by Wetzels et al. (2019), a GoF value above 0.36 is included in the large or strong category, which means the model has a very good ability to explain the relationship between latent variables.

Q² Value (Predictive Relevance)

Table 7. Q²

	SSO	SSE	Q ² (=1-SSE/SSO)
M	530,000	530,000	
X1	530,000	530,000	
X1.M	53,000	53,000	
X2	636,000	636,000	
X2.M	53,000	53,000	
Y	530,000	195,377	0.631

Source: Processed by Researchers

Based on the results in Table 7 Q² (Predictive Relevance), the Q² value is 0.631 for the Employee Performance variable (Y). This value is calculated using the formula Q² = 1 - (SSE/SSO), where the SSE (Sum of Squares of Errors) value is 195.377 and the SSO (Sum of Squares of Observations) value is 530,000,

resulting in the result $Q^2 = 1 - (195.377/530,000) = 0.631$. This value indicates that the research model has excellent predictive relevance for the dependent variable.

F-Square (f^2 Effect Size)

Table 8. F-Square

	Employee performance
Green Transformational Leadership	0.430
Work Discipline	0.555

Source: Processed by Researchers

Based on the results in Table 4.10 F-Square, it is known that the Work Discipline variable has an F-Square value of 0.430, while the Green Transformational Leadership variable has a value of 0.555 on Employee Performance. These values indicate how much contribution each independent variable makes in explaining the dependent variable. Based on the criteria proposed by Cohen (1988), an F-Square value of 0.02 is categorized as small, 0.15 as medium, and 0.35 as large. Thus, both variables in this study are in the large category, which means that both have a strong influence on Employee Performance.

Hypothesis Testing

Table 9. Hypothesis

Information	Sample Original (O)	T Statistics (O/STDEV)	P Values
Green Transformational Leadership-> Performance Employee	0.365	2,001	0.046
Work Discipline -> Performance Employee	0.369	4,397	0.000
Work Environment -> Performance Employee	0.482	2,712	0.007

Source: Processed by Researchers

Based on the table above, the following results were obtained:

1. H1: Green Transformational Leadership → Employee Performance
 The path coefficient (O) is 0.365, with a t-statistic of 2.001 > 1.96 and a p-value of 0.046 < 0.05. These results indicate that that *Green Transformational Leadership* has a positive and significant effect on employee performance. Thus, H1 is accepted. This means that the better the implementation of leadership, the better the transformational based environment in the organization, the higher the employee performance. Leaders who are able to inspire, give motivation, and instilling sustainable values has been proven to increase employee morale and performance results.
2. H2: Work Discipline → Employee Performance
 The path coefficient value (O) is 0.369, with a t-statistic of 4.397 > 1.96 and a p-value of 0.000 < 0.05. These results this result indicates that work discipline has a positive and significant effect on employee performance. Thus, H2 is accepted. This means that the higher the level of employee discipline, the

better the resulting performance. Discipline in adhering to regulations, working hours, and task responsibilities has been proven to be an important factor in increasing employee effectiveness and productivity.

3. H3: Work Environment → Employee Performance

The path coefficient (O) is 0.482, with a t-statistic of 2.712 > 1.96 and a p-value of 0.007 < 0.05. These results indicate that the Work Environment has a positive and significant effect on Employee Performance. Thus, H3 is accepted. This means that the better the work environment conditions perceived by employees, both physically and non-physically, the higher the resulting performance. A comfortable, safe, and supportive work environment can improve employee concentration, motivation, and work results.

Moderation Test

Table 10. Moderation

Information	Sample Original (O)	T Statistics (O/STDEV)	P Values
Green Transformational Leadership* Environment Work	0.352	2,100	0.036
Work Discipline * Environment Work	-0.219	1,701	0.090

Source: Processed by Researchers

Based on the table above, the following results were obtained:

1. H4: Work Environment moderates the influence of Green

The path coefficient (O) is 0.352, with a t-statistic of 2.100 > 1.96 and a p-value of 0.036 < 0.05. These results indicate that the Work Environment acts as a moderating variable that strengthens and provides a positive influence on the relationship between Green Transformational Leadership and Employee Performance, so H5 is accepted. In other words, the better and more supportive the work environment conditions of the organization, the stronger the influence of environment-based transformational leadership on improving employee performance. In this context, leaders who have a green vision and high concern for environmental sustainability will be more effective in encouraging employee performance if supported by a comfortable, safe, healthy and conducive work environment productivity and creativity. A positive work environment not only strengthens the effects of green transformational leadership in shaping performance-oriented work behaviors, but also creates synergy between employee sustainability values, motivation, and commitment to organizational goals.

2. H5: Work Environment moderates the influence of Work Discipline on Employee Performance. The path coefficient (O) is -0.219, with a t-statistic of 1.701 < 1.96 and a p-value of 0.090 > 0.05. These results indicate that the Work Environment does not play a significant role as a moderating variable in the relationship between Work Discipline and Employee Performance. Thus, H5 is rejected. This means that the Work Environment variable is unable to strengthen or weaken the influence of Work Discipline on Employee Performance. The relationship between the two tends to be direct, with an

individual's level of work discipline remaining the primary factor determining performance regardless of the work environment. In other words, employee performance is more determined by personal discipline, such as adherence to rules, punctuality, and work responsibility, than by external environmental factors.

DISCUSSION

Green Transformational Leadership on Employee Performance

This study also found that environmentally oriented transformational leadership (Green Transformational Leadership) has a positive and significant impact on employee performance. Leaders with this style are typically able to inspire, motivate, and direct employees to work not only for short-term goals but also for long-term sustainability (Rahmayanti et al., 2024). Employees feel more valued because they are seen as a vital part of organizational change, not simply task implementers.

Green Transformational Leadership can build a stronger sense of belonging among employees. Leaders with a sustainable vision encourage subordinates to be more innovative, care about the environment, and work enthusiastically for the common good (Purwanto et al., 2024). This condition makes employees more motivated in carrying out their roles, which is ultimately reflected in increased productivity and work quality.

Work Discipline on Employee Performance

The results of this study indicate that work discipline has a positive and significant impact on employee performance. This finding aligns with the view that discipline is the primary foundation for achieving optimal work results. Disciplined employees demonstrate a high level of awareness and commitment to comply with regulations, adhere to work schedules, and complete tasks according to established organizational standards (Suliman et al., 2023). This results in a more orderly, measurable, and minimally disruptive work process, enabling consistent performance improvement.

Furthermore, work discipline fosters a conducive organizational culture. When employees are accustomed to working according to clear rules and deadlines, harmony is created between individuals and departments. This culture of discipline not only reduces potential conflict but also increases a sense of responsibility and loyalty to the organization (Rimald et al., 2024). As a result, companies have a more productive, efficient workforce that is focused on achieving goals.

Work Environment on Employee Performance

The work environment is closely related to employee performance because it is a key supporting factor in creating a productive and harmonious work atmosphere. A good work environment encompasses not only physical aspects such as room layout, ventilation, lighting, and cleanliness, but also non-physical aspects such as social relationships between employees, communication with leaders, and the work culture prevailing in the organization (Evina et al., 2024).

When employees experience a comfortable, safe, and supportive work environment, they will adapt more easily to their tasks, be motivated to work optimally, and demonstrate responsibility for the work they are entrusted with (Ansari & Khan, 2024). Conversely, a less supportive work environment can cause stress, burnout, and decreased work morale, which impacts performance.

Furthermore, the work environment also plays a role in shaping employee behavior, attitudes, and work motivation. A conducive work environment can create a sense of belonging to the organization, strengthen teamwork, and foster a desire to excel. Aspects such as harmonious relationships between coworkers, support from superiors, and clarity of roles and responsibilities are key drivers of optimal performance (Suliman et al., 2023). In the context of modern organizations, attention to the quality of the work environment is a strategic necessity to maintain employee productivity and loyalty (Aulia & Nawangsari, 2023). Therefore, companies need to create a pleasant work atmosphere, pay attention to the physical and psychological needs of employees, and ensure that each individual feels valued in their work environment.

The Moderating Role of Work Environment in the Relationship between Green Transformational Leadership and Employee Performance

The work environment plays a crucial role in strengthening the relationship between Green Transformational Leadership and employee performance. Environmentally based transformational leadership emphasizes the leader's ability to inspire, motivate, and model employee concern for sustainability and environmental responsibility (Rahmayanti et al., 2024). In this context, a positive work environment can be a factor that strengthens the effectiveness of this leadership style. When leaders behave visionarily and support green innovation, and the work environment is supportive with a comfortable, safe, and communicative atmosphere, employees will feel more motivated and encouraged to perform optimally (Purwanto et al., 2024). Conversely, if the work environment is less conducive, the positive influence of transformational leadership on employee performance can be weakened because employees do not feel they receive appropriate support from their surroundings.

The relationship between environment-based transformational leadership and employee performance is strengthened when the work environment fosters a sense of security, togetherness, and collaboration. A harmonious work environment helps employees more easily accept leadership values, such as commitment to change, social responsibility, and innovation in their work (Abourokbah et al., 2024). Therefore, the work environment plays a role in strengthening the synergy between leaders and employees in achieving organizational goals. A supportive environment allows for the more effective implementation of sustainability-oriented leadership messages and behaviors, thereby improving employee performance in terms of both productivity and work quality.

The Moderating Role of Work Environment in the Relationship between Work Discipline and Employee Performance

The work environment is closely related to work discipline, as a positive work environment can influence employee behavior, discipline, and responsibility in carrying out their duties. However, the results of this study indicate that the work environment does not act as a moderating variable in the relationship between work discipline and employee performance (Rimald et al., 2024). This means that the level of employee discipline in carrying out their work is more influenced by internal factors such as self-awareness, personal responsibility, and commitment to organizational rules, rather than solely by the conditions of the work environment (Alkhozaim et al., 2024). Although a positive work environment can support task implementation, it does not necessarily strengthen the relationship between discipline and performance, as discipline is more individual and is the result of character development and consistent work habits.

In an organizational context, work discipline is a form of compliance with applicable regulations and procedures, which is the main basis for creating effective performance (Purwanto et al., 2024). Disciplined employees will strive to complete work on time, comply with company policies, and demonstrate high dedication to their work. Although a conducive work environment can create a comfortable atmosphere, its influence on the relationship between discipline and performance is not very strong because discipline grows from the employee's internal drive (Alkhozaim et al., 2024). Thus, although the work environment plays an important role in supporting productivity, it does not directly strengthen the relationship between discipline and performance outcomes.

CONCLUSIONS

1. Green Transformational Leadership influence employee performance. This demonstrates that environment-based transformational leadership can drive improved employee performance by providing inspiration, motivation, and role models. Leaders who have a vision for sustainability and empower employees will foster high work morale and optimal work results.
2. Work discipline impacts employee performance. This means that employees with a high level of discipline, whether in terms of complying with regulations, maintaining attendance, or completing tasks on time, tend to perform better. Discipline reflects employee responsibility and professionalism in carrying out their duties and contributing to the achievement of organizational goals.
3. The work environment influences employee performance. A comfortable, safe, clean, and supportive work environment can improve employee focus, motivation, and productivity. Both physical factors, such as facilities and layout, and non-physical factors, such as relationships between coworkers and communication with superiors, play a crucial role in creating optimal performance.
4. The work environment acts as a moderating variable in the relationship between Green Transformational Leadership and Employee Performance.

This means that a positive work environment can strengthen the influence of environmentally-based transformational leadership on improving performance. When the work environment is supportive, inspirational and sustainability-oriented leadership values are more easily implemented and perceived by employees, thus positively impacting work outcomes.

5. The work environment does not act as a moderating variable in the relationship between work discipline and employee performance. This means that employee discipline levels are more influenced by internal factors such as responsibility, personal awareness, and commitment to work, rather than by the work environment. While a positive work environment can create a comfortable work environment, it does not directly strengthen the relationship between discipline and employee performance.

RECOMMENDATIONS

1. Green Transformational Leadership

The highest indicator (X1.4) indicates that leaders are capable of increasing productivity, which needs to be maintained through regular briefings, weekly meetings, exemplary environmentally friendly behavior, and consistency in sustainable work practices. The lowest indicator (X1.9) indicates a lack of accuracy and punctuality; improvements can be made through regular progress monitoring, weekly progress reviews, and setting priority-based work goals.

2. Work Discipline

The highest indicator (X2.1) indicates good procedural compliance and needs to be maintained through strengthening SOPs, refreshing regulations, and consistent oversight. The lowest indicator (X2.12) related to the habit of procrastination can be improved through time management training, clear prioritization, and a culture of strict adherence to deadlines.

3. Work environment

The highest indicator (M4) indicates a conducive work environment and needs to be maintained through noise reduction, layout adjustments, interruption restrictions, and facility maintenance. The lowest indicator (M7), related to low social support, can be improved by increasing employee appreciation, incorporating collaboration into performance appraisals, holding gatherings, and rotating operators between shifts.

ADVANCED RESEARCH

Based on the research results showing an R^2 value of 0.813, there are still 18.7% of other variables that cannot be explained by this research model. Therefore, further researchers are advised to develop the research by adding other variables derived from the pre-survey results, such as Employee Engagement, Green Motivation, Green Training, Employee Green Behavior, Green Compensation and Rewards, Green Recruitment, Green Talent Management, and Organizational Citizenship Behavior for the Environment (OCBE). These variables have the potential to influence employee performance and can provide a more comprehensive picture of its determining factors.

Furthermore, future research could incorporate new mediating or moderating variables, such as organizational commitment, job satisfaction, organizational culture, green work climate, or work motivation, to strengthen the research model. Further research could also employ more complex analytical methods, such as mediation models, moderated mediation, or multilevel analysis, to provide more in-depth results. The scope of the research could be expanded by involving companies from other sectors so that the results can be more broadly generalized.

REFERENCES

- Abourokbah, S., Bajaba, S., & Yaqub, M. Z. (2024). *Leading The Green Wave: How And When Green Transformational Leadership Cultivates Employee Green Creativity*. *Acta Psychologica*, 250(September), 104503. <https://doi.org/10.1016/j.actpsy.2024.104503>
- Afshar Bakeshlo, Z., Omidvar, M., & Gigauri, I. (2024). *Green Transformational Leadership: A Systematic Literature Review And Future Research Suggestion*. In *Marketing And Resource Management For Green Transitions In Economies* (Pp. 47–74). Igi Global
- Afshar Bakeshlo, Z., Omidvar, M., & Gigauri, I. (2024). *Green Transformational Leadership: A Systematic Literature Review And Future Research Suggestion*. Dalam M. Andrei, M. Vasić, L. Chivu, & B. Kuzman (Eds.), *Marketing And Resource Management For Green Transitions In Economies* (Hlm. 47–74). Hershey, Pa: Igi Global.
- Aguinis, H. (2019). *Performance Management* (4th Ed.). Chicago Business Press.
- Alkhozaim, S. M., Alshiha, F. A., Alnasser, E. M., & Alshiha, A. A. (2024). *How Green Performance Is Affected By Green Talent Management In Tourism And Hospitality Businesses: A Mediation Model*. *Sustainability (Switzerland)*, 16(16). <https://doi.org/10.3390/Su16167093>
- Alwali, J., & Alwali, W. (2024). *Transformational leadership and moral norms: green human resource management and behaviour*. *Management Decision*. <https://doi.org/10.1108/MD-09-2023-1682emerald.com+1jnbr.ppm-school.ac.id+1>
- Amriani, S., Maulana, R., & Suryani, D. (2025). *The Effect Of Green Transformational Leadership, Work Discipline And Organizational Citizenship Behavior On Employee Performance*.
- Ángeles, L.-C., Vázquez-Rodríguez, P., & Quiñoá-Piñeiro, L. M. (2022). *An approach to employees' job performance through work environmental variables and leadership behaviours*. *Journal of Business Research*, 140, 361–369. <https://doi.org/10.1016/j.jbusres.2021.11.006>
- Ansari, H. U. H., & Khan, S. N. (2024). *Linking green transformational leadership and employee pro-environmental behavior: The role of intention and work environment*. *Sustainable Futures*, 8(October), 100336. <https://doi.org/10.1016/j.sftr.2024.100336>
- Apriyani, N., Jaya, R. C., & Nuradina, K. (2023). *The impact that work environment, work motivation, and work discipline have on the performance of Hammer Strong*

- Bandung employees. Journal of Business and Management Inaba*, 2(2), 111–130. <https://doi.org/10.56956/jbmi.v2i02.252>
- Aulia, K. Z., & Nawangsari, L. C. (2023). *Effects of green human resource management and green transformational leadership towards employee sustainable performance through employee green behavior at Mercu Buana University. European Journal of Business and Management Research*, 8(5), 181–186. <https://doi.org/10.24018/ejbmr.2023.8.5.2128>
- Aulia, R., & Nawangsari, D. (2024). *Effects of green human resource management and green transformational leadership on sustainable performance.*
- Aust, I., Cooke, F. L., Müller-Camen, M., & Wood, G. (2024). *Achieving sustainable development goals through common good HRM: Context, approach and practice. Human Resource Management Review*, 35(2), 101060. <https://doi.org/10.1177/23970022241240890>
- Averina, M. Z., Irawanto, W., & Kurniawati, D. (2023). *The effect of transformational leadership on sustainable employee performance with organizational commitment and green motivation as the mediating.*
- Avriesa, N. K., & Gumilar, D. (2024). *Pengaruh disiplin kerja dan kepuasan kerja terhadap kinerja karyawan pada CV. Sinar Abadi Bandung. JEMSI (Jurnal Ekonomi, Manajemen, dan Akuntansi)*, 10(3), 2027–2035. <https://doi.org/10.35870/jemsi.v10i3.2504>
- Azhar, M., & Yang, J. (2022). *Transformational leadership and sustainable practices: How leadership style shapes pro-environmental behavior.*
- Bhatti, S. H., Awan, H. M., & Razaq, Z. (2021). *The role of green intellectual capital and green transformational leadership on sustainable performance.*
- Bucuk, A. (2021). *Manajemen sumber daya manusia modern.* Bandung: Remaja Rosdakarya.
- Chen, Y., & Wu, C. (2022). *Green transformational leadership and organizational green performance: Mediating role of green policies.*
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cop, S., Kusumastuti, R. D., & Kartika, D. (2021). *Environmental leadership boosts green innovation: The moderating role of organizational climate.*
- Demir, B., Akdemir, M. A., Kara, A. U., Şahin, Y., & Topcuoğlu, E. (2025). *Mediating role of green innovation and environmental performance in GTL effect on competitive advantage.*
- Eliwaidi, R., Alqubaisi, F., & Alghamdi, N. (2022). *Environmentally transformational leadership and green innovation in hotel industry: The role of support and promotion focus.*
- Evina, E., Saputra, A. R. P., & Nuvriasari, A. (2024). *Green training, green recruitment, and green transformational leadership on employee performance in retail store. International Journal of Management, Knowledge and Learning*, 13, 13–27. <https://doi.org/10.53615/2232-5697.13.13-27>
- Fahrurrozi, M., Supriyono, & Sumekar, K. (2023). *The effect of work discipline and work environment on employee performance through work motivation: Study of employees of the State Treasury Service Office in Central Java Province. Formosa Journal of Science and Technology.* <https://doi.org/10.55927/fjst.v2i3.3447>

- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
- Harasis, A., Al-Helalat, J., & Aqrabawi, R. (2024). *Linking transformational leadership and green innovation via employee performance*.
- Igi Global. (2024). *Green transformational leadership and organizational behavior effectiveness*. IGI Global Publishing.
- Karimah, F., Prasetyo, E., & Mulyadi, Y. (2025). *The impact of green human resource management and green transformational leadership on sustainable performance*.
- Karimah, S., Suswati, E., & Priyatna, N. M. (2025). *Green HRM practices and sustainable performance: Examining the role of green transformational leadership*. *E-Jurnal Ekonomi dan Bisnis Universitas Udayana*, 14(2), 178–192. <https://doi.org/10.24843/EEB.2025.v14.i02.p04>
- Kim, Y. J., Kim, W. G., Choi, H.-M., & Phetvaroon, K. (2024). *Enhancing employee green performance through green training: The mediating influence of organizational green culture and work ethic in the mining sector*. *Journal of Cleaner Production*, 449, 141105. <https://doi.org/10.1016/j.jclepro.2024.141105>
- Kurnia, C., & Widigdo, A. M. N. (2021). *Effect of work-life balance, job demand, job insecurity on employee performance at PT Jaya Lautan Global with employee well-being as a mediation variable*. *European Journal of Business and Management Research*, 6(5), 147–152. <https://doi.org/10.24018/ejbmr.2021.6.5.948>
- Leal Filho, W., Azul, A. M., Brandli, L., Lange Salvia, A., & Wall, T. (Eds.). (2020). *Partnerships for the goals*. Springer.
- Li, F., Zhou, W., & Wang, D. (2024). *How green transformational leadership affects employee green performance*.
- Lituhayu, A. S., Dewi, A. Y. P., & Wibowo, B. A. (2024). *The effect of green transformational leadership and environmental satisfaction on employee performance*.
- Lopez, M. A., Fernandez, J., & Rosas, V. (2022). *Green transformational leadership and team green performance under team climate*.
- Mangkunegara, A. A. A. P. (2015). *Manajemen sumber daya manusia perusahaan*. Bandung: Remaja Rosdakarya.
- M. A., Mohamud, F. A. S., Mohamud, I. H., & Farah, M. A. (2024). *The influence of workplace relationships and job satisfaction of private universities in Mogadishu: Employee performance as a mediator variable*. *Frontiers in Education*, 9 (December), 1–12. <https://doi.org/10.3389/educ.2024.1485356>
- Moningkey, P. L., & Dotulong, L. O. H. (2022). *Pengaruh disiplin kerja dan motivasi kerja terhadap kinerja karyawan BPTD Wilayah XXII Provinsi Sulawesi Utara*. *Jurnal EMBA*, 10(1). <https://doi.org/10.35794/emba.v10i1.38515>
- Muhammad Ramdhan Rimald, M., & Permana Saputra, A. R. (2024). *Gestión de recursos humanos y liderazgo verde en transformación rendimiento de los empleados en la cueva turismo industria*. *Journal of Management & Business Studies*, 6, 1–23. <https://doi.org/10.32457/jmabs.v6i1.2529>