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The Influence of Green Transformational Leadership, Green Hrm Practices, and Environmental Awareness on the Performance of Environmentally Friendly Employees at PT Intitran Perkasa Abadi

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ABSTRACT
This study aims to analyze the influence of Green Transformational Leadership (GTL), Green Human Resource Management (GHRM) practices, and Environmental Awareness (EA) on Employee Green Behavior (EGB) at PT Intitran Perkasa Abadi, as well as test the role of Green HRM as a mediator of the relationship between GTL and EGB. The study uses a quantitative approach with Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis. The theoretical basis used is Ability-Motivation-Opportunity (AMO) and Resource-Based View (RBV). The results of the measurement model evaluation show that all constructs are valid and reliable (outer loading 0.742–0.891; AVE 0.660–0.718; Composite Reliability 0.906–0.933). The results of the structural model evaluation showed that GTL (β = 0.312; p < 0.001), Green HRM (β = 0.354; p < 0.001), and Environmental Awareness (β = 0.248; p = 0.002) had a positive and significant effect on EGB. All three simultaneously explained 68.4% of EGB variance (R^2 = 0.684) with strong predictive relevance (Q^2 = 0.452). Green HRM was shown to partially mediate the influence of GTL on EGB with an indirect effect of 0.187 (p = 0.001). These findings confirm that ecological leadership, green HR systems, and individual awareness need to be developed in an integrated manner to form sustainable eco-friendly work behaviors.

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INTRODUCTION

The global demand for ecological sustainability has shifted the paradigm of modern business management. Corporations are no longer judged solely by financial performance, but also by the extent to which their operational activities minimize negative impacts on the ecosystem. The achievement of ecological efficiency targets at the organizational level is highly dependent on the work behavior of employees at the micro level. Employees are the main execution agents who translate a company's sustainability policies into daily actions, such as energy savings, emission reduction, waste segregation, and environmentally friendly process innovation (Cao et al., 2026; Sachdeva & Singh, 2024). PT Intitran Perkasa Abadi, as a business entity operating in a dynamic industrial ecosystem, is faced with the urgency of strengthening its internal ecological capabilities. The formation of environmentally oriented employee behavior (employee green behavior) requires the integration of three elements:

leadership antecedents, organizational systemic certainty, and individual psychological awareness. GTL establishes ecological vision and inspiration, Green HRM provides policy infrastructure and capability facilitation, while Environmental Awareness becomes an intrinsic moral drive from within employees.

Previous research generally examined the three antecedents separately or in pairs. Studies that examine the partial, simultaneous, and mediated influence of Green HRM in one integrated model in the context of certain companies in Indonesia are still limited (Setyawasih et al., 2026). Based on this, this study was formulated to answer the following questions: (1) whether GTL, Green HRM, and Environmental Awareness have an effect on Environmentally Friendly Employee Performance partially and simultaneously; and (2) whether Green HRM mediates the influence of GTL on Environmentally Friendly Employee Performance. Practically, the results are expected to provide a basis for the management of PT Intitran Perkasa Abadi in designing leadership interventions and green HR policies.

LITERATURE REVIEW

AMO and RBV

The theoretical basis of this research is a combination of Ability-Motivation-Opportunity (AMO) Theory and Resource-Based View (RBV). AMO theory states that individual performance is formed by three pillars: ability, motivation, and opportunity to contribute (Alwali & Alwali, 2024). In the context of environmental management, Green HRM practices are designed to enhance employees' green capabilities through ecological training, build motivation through incentives and environmentally-based performance evaluations, and provide opportunities for participation in corporate sustainability programs.

The RBV perspective positions green leadership and the ecological capabilities of human resources as valuable, scarce, elusive, and irreplaceable internal assets (Elshaer et al., 2024). GTL serves as a managerial resource that directs the energy of the organization, while individual environmental awareness acts as a psychological capital that accelerates the internalization of environmentally friendly behaviors in the workplace.

Green Transformational Leadership and Green Employee Performance

GTL is defined as a leadership style that inspires, motivates, and supports subordinates to achieve the organization's environmental goals through a clear ecological vision and exemplary eco-friendly behavior (Oktaysoy et al., 2025). Based on Social Learning Theory (Cao et al., 2026), employees tend to observe, imitate, and internalize the behaviors exhibited by their leaders. Green transformational leaders not only provide verbal direction, but also provide intellectual stimulation that encourages employees to revisit conventional work routines and propose more ecologically efficient operational solutions (Sachdeva & Singh, 2024). This kind of leadership builds a green psychological climate that legitimizes employee involvement in pro-environmental actions (Oktaysoy et al., 2025). Liu and Yu (2023) also showed that GTL has a positive effect on organizational civic behavior for the environment in manufacturing industry employees, with a green organizational climate as a mediator.

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Green HRM and Environmentally Friendly Employee Performance

Green HRM refers to the integration of environmental sustainability values and goals into HR management functions, including recruitment and selection, training and development, performance appraisals, and compensation and rewards (Juhari et al., 2024; Perez et al., 2023). Green HRM acts as an institutional mechanism that translates the leadership vision into a measurable operational routine. Green recruitment recruits value-aligned candidates; green training increases technical understanding and employee self-confidence to act in an environmentally friendly manner; while performance appraisals and green incentives ensure pro-environmental behavior is formally recognized thereby reinforcing extrinsic motivation.

Environmental Awareness and Employee Performance are Eco-Friendly

Environmental Awareness describes the level of understanding, concern, and sensitivity of individuals to ecological problems and the impact of human activities on nature conservation. Based on the Theory of Planned Behavior and the Value-Belief-Norm theory, awareness of ecological crises forms personal norms that give birth to moral obligations to act pro-environment (Alwali & Alwali, 2024; Setyawasih et al., 2026). Employees with high environmental awareness tend to show discretionary green behavior that does not solely rely on superiors' orders or written SOPs.

Green HRM as a Mediator

Highly committed leadership will allocate organizational resources to design and implement comprehensive Green HRM practices. Without leadership commitment, Green HRM policies risk becoming a formal document without effective operational execution. Thus, GTL is expected to influence employees' green behavior not only directly, but also indirectly through the institutionalization of Green HRM practices.

Research Hypothesis

H1: GTL has a positive and significant effect on EGB.
H2: Green HRM practice has a positive and significant effect on EGB.
H3: Environmental Awareness has a positive and significant effect on EGB.
H4: GTL, Green HRM, and Environmental Awareness simultaneously have a positive and significant effect on EGB.
H5: Green HRM mediates the influence of GTL on EGB.

METHOD

This study uses an explanatory quantitative approach with a questionnaire survey of employees of PT Intitran Perkasa Abadi. The research population is [number and criteria of employee population]. The sample amounts to [number of respondents] people selected by the technique [sampling technique, e.g. purposive or stratified random sampling]. Data are collected in [data collection period] using a Likert scale questionnaire [number of scale points, e.g. 1–5]. Data are analyzed with PLS-SEM through two stages, namely the evaluation of the

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measurement model (outer model) and the evaluation of the structural model (inner model) (Becker et al., 2023; Hair et al., 2024). Convergent validity was assessed by outer loading (> 0.70) and AVE (> 0.50); reliability was assessed by Cronbach's Alpha and Composite Reliability (> 0.70); discriminant validity was assessed by Fornell-Larcker and HTMT criteria (< 0.85) (Ringle et al., 2023). Structural models were evaluated through R^2, Q^2, effect size (f^2), and bootstrapping procedures at a 95% confidence level (t-table 1.96; $p<0.05$).

RESULTS AND DISCUSSION

Evaluation of Measurement Models (Outer Model)

All indicators have an outer loading above 0.70 (range 0.742–0.891) and all constructs have an AVE above 0.50, so the convergent validity is met. Cronbach's Alpha and Composite Reliability values of the entire construct are above 0.70 (Table 1).

Table 1. Construct Validity and Reliability

Construct	Cronbach's Alpha	Composite Reliability	AVE	Conclusion
GTL	0,884	0,918	0,692	Valid and reliable
GHRM	0,902	0,927	0,718	Valid and reliable
EA	0,865	0,906	0,660	Valid and reliable
EGB	0,914	0,933	0,665	Valid and reliable

The discriminant validity is met: the square root of AVE of each construct is greater than its correlation with the other construct (Fornell-Larcker), and the entire HTMT ratio is below 0.85.

Structural Model Evaluation (Inner Model) and Hypothesis Testing

The R^2 value for EGB was 0.684, meaning that 68.4% of the EGB variance was explained together by GTL, Green HRM, and Environmental Awareness, while 31.6% was influenced by factors outside the model. A Q^2 value of 0.452 indicates strong predictive relevance. The results of the hypothesis testing are presented in Table 2.

Table 2. Hypothesis Testing Results

Hypothesis	Pathway	β	T-Statistic	P-Value	f^2	Conclusion
H1	GTL → EGB	0,312	3,842	0,000	0.142 (medium)	Supported
H2	GHRM → EGB	0,354	4,215	0,000	0.185 (medium)	Supported
H3	EA → EGB	0,248	3,120	0,002	0.098 (small)	Supported
H4	Simultaneous (GTL, GHRM, EA → EGB)	R^2 = 0.684	F = 62.45	0,000	High explainability	Supported

Mediation Analysis

The indirect effect analysis showed that GTL had a positive effect on the institutionalization of Green HRM, and Green HRM further increased EGB. The indirect effect

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of 0.187 was significant, while the direct effect of GTL remained significant so that the mediation was partial (Table 3). Thus H5 is supported.

Table 3. Mediation Effect Test Results

Pathway	Direct Effects (β)	Indirect Effects (β)	Total Effects (β)	T-Statistic	P-Value	Nature of Mediation
GTL → GHRM → EGB	0,312	0,187	0,499	3,411	0,001	Partial mediation

Discussion

Effect of GTL on EGB (H1)

GTL had a positive and significant effect on EGB (β = 0.312). These findings are in line with Social Learning Theory: leaders who convey environmental vision, set an example of energy saving, and encourage the idea of ecological efficiency to become role models that employees emulate. Intellectual stimulation from leaders also encourages the birth of bottom-up green initiatives.

Effect of Green HRM on EGB (H2)

Green HRM was the strongest direct predictor (β = 0.354; f^2 = 0.185). These results are consistent with the AMO framework (Alwali & Alwali, 2024): training improves skills, green incentives and evaluation increase motivation, and participatory programs open up opportunities to contribute. The dominance of the influence of Green HRM indicates that the green behavior of employees at PT Intitran Perkasa Abadi is strongly influenced by the certainty of formal systems and procedures, such as compliance with green SOPs and waste separation.

Effect of Environmental Awareness on EGB (H3)

Environmental Awareness had a positive and significant effect with a small effect size (β = 0.248; f^2 = 0.098). This supports the SDGs and VBN, namely personal norms and moral obligations to encourage voluntary pro-environmental behavior, in line with the findings of Setyawasih et al. (2026) on automotive manufacturing employees in Karawang. The relatively smaller amount of influence compared to the other two variables shows that individual awareness alone is not enough without the support of leadership and organizational systems.

Simultaneous Influence (H4)

The three antecedents simultaneously explain 68.4% of EGB variance with strong predictive relevance (Q^2 = 0.452). This confirms that leadership, HR systems, and individual psychological factors form a complementary supporting ecosystem, as presented in the RBV perspective of the organization's internal resource combination.

Green HRM Mediation (H5)

Green HRM mediates part of the influence of GTL on EGB (indirect effect = 0.187; total effect = 0.499), in line with the findings of Alwali and Alwali (2024) and Sachdeva and Singh (2024). This means that GTL works through two paths: direct influence in the form of example

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and inspiration, and indirect influence in the form of institutionalization of vision in HR policies, training, and incentives. Leaders' commitment triggers budget allocation and policy formulation of Green HRM, so that the policy does not stop as a formality document.

Interpretation of Inter-Antecedent Synergy

Conceptually, Environmental Awareness can play a role as a reinforcing effect of HR leadership and policies, because employees with high awareness tend to view green training and incentives as a means of realizing personal concern, rather than as managerial pressure (value congruence). It should be noted that this study examines Environmental Awareness as a direct predictor; its role of moderation is a theoretical interpretation that has not been statistically tested and can be the agenda of future research.

CONCLUSION

The performance of Eco-Friendly Employees at PT Intitran Perkasa Abadi is significantly influenced by GTL, Green HRM, and Environmental Awareness, both partially and simultaneously (R^2 = 0.684). Green HRM is the strongest direct predictor and partially mediates GTL's influence on EGB. GTL acts as a driver of vision and cultural change, Green HRM as an operational infrastructure and incentive system, and Environmental Awareness as an intrinsic psychological foundation.

Theoretical Implications

This research supports the simultaneous application of AMO and RBV in explaining employee green behavior, as well as expanding the empirical evidence that Green HRM serves as a linking mechanism between ecological leadership and employee behavior.

Managerial Implications

1. Green Leadership Executive Coaching Program. Managers and supervisors are trained to develop a vision of the work unit's environment, communicate ecological targets in an inspiring way, and practice eco-role modeling in daily operations.
2. Institutionalization of the Green HRM system. Recruitment: incorporating environmental concern into the competency profile of prospective employees. Training: periodic mandatory modules on industrial waste management, energy conservation, and environmental safety. Assessment and incentives: including Green KPIs in individual performance assessments as well as Green Rewards for employees or teams that create resource-efficient innovations.
3. Strengthening culture and environmental awareness. Sustainable campaigns such as the Green Innovation Award, transparent socialization of energy saving achievements, and environmental social action activities, so that green behavior is perceived as a shared moral responsibility, not a burden of work.

The synergy of the three is expected to have an impact on the ecological performance of the organization, including a decrease in electricity consumption per production unit, a reduction in waste of raw materials and paper waste, and a decrease in the carbon footprint of

operations, which ultimately improves the company's reputation and compliance with environmental regulations.

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