

The Influence of Green Transformational Leadership on Employee Green Creativity Mediated by Green Management Initiatives in Creative MSMEs in DIY

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Abstract

Creating creative MSMEs that can tackle environmental challenges while also remaining competitive and adaptable to market trends is crucial. Implementing green transformational leadership can guide environmental action, but its impact on employees' green creativity may be shaped by practical management strategies. This research investigates the impact of green transformational leadership on employees' green creativity and the mediating role of management green initiatives in the Special Region of Yogyakarta (DIY). The study used purposive sampling to collect quantitative data from 118 employees and employed PLS-SEM to analyze direct, indirect, and total effects. Results show that green transformational leadership has a positive, significant effect on management green initiatives, and management green initiatives have a positive, significant effect on employees' green creativity. The direct effect of green transformational leadership on employees' green creativity is not significant, while the indirect effect through management green initiatives is significant; the total effect is negligible and non-significant. These results indicate indirect-only (full) mediation, whereby management green initiatives fully channel green leadership's influence on employees' green creativity, underscoring that green leadership requires concrete management initiatives to shape green creativity.

Keywords *Green Transformational Leadership; Management Green Initiatives; Employee Green Creativity; Creative MSMEs; Environmental Sustainability*

INTRODUCTION

Environmental sustainability is now critical in business, pressing organizations—including MSMEs—to curb ecological impacts while sustaining competitiveness. In creative MSMEs, sustainability aligns seamlessly with their core reliance on innovation, resource efficiency, and problem-solving under resource constraints. Here, Employee Green Creativity—generating novel, eco-friendly ideas for products, processes, or practices—serves as an essential resource for sustainable business (Mansoor et al., 2021). The natural synergy between creative MSMEs and green creativity stems from four key drivers: (1) upcycling and sustainable design innovation, (2) operational agility and flexibility, (3) swift responsiveness to eco-conscious consumers, and (4) cost efficiency combined with community self-reliance. Under the Porter Hypothesis (Porter & van der

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[Linde, 1995](#)), environmental practices go beyond compliance costs and become catalysts for business model innovation and competitive advantage.

Green Transformational Leadership (GTL) embeds sustainability into leadership practices, inspiring employees to pursue environmental goals and develop eco-innovations. Prior studies show GTL drives employee green behavior via value congruence ([Wang et al., 2018](#)) and reinforces green practices and organizational citizenship behaviors in both SMEs ([Cahyadi et al., 2023](#)) and local Indonesian contexts ([Lesmana et al., 2024](#)). However, leadership direction alone does not directly produce creative actions without enabling organizational conditions. Consistent with [Mansoor et al. \(2021\)](#) and [Riaz et al. \(2024\)](#), Management Green Initiatives (MGI)—such as environmental goal-setting, green practices, and employee involvement—serve as the key operational mechanism that translates leadership vision into broader sustainability outcomes. Given the close managerial-employee proximity in flat organizational structures, creative MSMEs represent a prime setting to investigate this translation. Therefore, this study specifically examines how GTL influences Employee Green Creativity through MGI among creative MSMEs in the Special Region of Yogyakarta.

Theoretically, the mediating role of green management initiatives (GMI) between Green Transformational Leadership (GTL) and Employee Green Creativity (EGC) is grounded in Social Cognitive Theory, AMO Theory, and Social Information Processing Theory ([Kim et al., 2019](#); [Renwick et al., 2013](#)). GTL acts as a strategic catalyst that articulates environmental vision, while GMI provides the operational platform, resources, and incentives needed to translate leadership inspiration into creative employee behaviors ([Chen & Chang, 2013](#)). Practically, GMI bridges technical skill gaps: while leaders inspire awareness, management provides hands-on training (e.g., eco-printing, upcycling), empowering employees to translate sustainable knowledge into marketable, innovative designs.

Methodologically, this study extends [Mansoor et al. \(2021\)](#)—who relied predominantly on affective/cognitive mediators that often stall without structural backing—by positioning GMI as a concrete work infrastructure (e.g., waste SOPs, trial materials, training). Furthermore, moving beyond the passive green behaviors or macro firm performance examined in typical SME studies (e.g., [Lesmana et al., 2024](#)), this research directly targets EGC. In creative industries, sustainable competitive advantage stems not merely from resource conservation, but from employees' capacity to transform waste into high-value circular products.

Accordingly, this study examines the direct relationships among Green Transformational Leadership, Management Green Initiatives, and Employee Green Creativity, as well as the mediating role of Management Green Initiatives between the two constructs.

LITERATURE REVIEW

Green Transformational Leadership

Green Transformational Leadership (GTL) integrates core transformational behaviors with an explicit environmental focus, inspiring and motivating employees to tackle ecological issues and embed sustainability into organizational goals. Distinct from general leadership, GTL aligns personal and organizational values; [Wang et al. \(2018\)](#) note that value congruence amplifies its positive effect on green behavior, while [Cahyadi et al. \(2023\)](#) confirm its efficacy in SME contexts. In this study, GTL serves as a foundational antecedent that sets the environmental direction and shapes the organizational conditions needed to foster employees' green ideas.

Management Green Initiatives

Management Green Initiatives (MGI) encompass managerial-led efforts—such as environmental goal-setting, green practices, employee involvement, and dedicated organizational

support—that translate environmental values into tangible actions. Corroborating [Mansoor et al. \(2021\)](#), MGI fosters a supportive climate that, alongside green leadership, directly stimulates employee green creativity. Furthermore, [Riaz et al. \(2024\)](#) demonstrate that MGI interconnects with broader organizational enablers, including green intellectual capital, information systems, technology adoption, and sustainable performance. In this study, MGI serves as a crucial organizational conduit that translates leadership vision into practical operational action and provides structural support for employee green ideation.

Employee Green Creativity

Employee Green Creativity (EGC) refers to employees' ability to generate novel, useful ideas for eco-friendly products, services, production processes, resource efficiency, and waste reduction to advance sustainability goals ([Hameed et al., 2022](#)). For creative MSMEs, green creativity is vital as competitiveness hinges on innovative problem-solving that mitigates ecological impacts without undermining business objectives. Consistent with [Mansoor et al. \(2021\)](#), EGC is a critical employee-level outcome of organizational environmental interventions, directly stimulated by green transformational leadership and management green initiatives.

Green Transformational Leadership and Employee Green Creativity

Theoretically, Green Transformational Leadership fosters employee green ideation by setting environmental direction, encouraging out-of-the-box thinking, and motivating workers to resolve ecological problems beyond routine duties, as [Mansoor et al. \(2021\)](#) confirm. However, [Wang et al. \(2018\)](#) show that this influence operates through value congruence, suggesting that the link between green leadership and employee environmental outcomes depends on intermediate mechanisms. Organizational Climate Theory ([Schneider, 1975](#)) and Social Information Processing Theory ([Salancik & Pfeffer, 1978](#)) argue that leaders' values remain abstract until the organization develops a shared perception (shared climate) of what is valued, supported, and rewarded at work. GMI acts as a formal managerial signal. If leaders talk about the environment but lack selection policies, training, and eco-friendly budget allocation, employees receive a signal of inconsistency (internal greenwashing). Once GMI is activated (for example, sourcing eco-friendly raw materials, upcycling training, green KPI metrics), GTL values become institutionalized into a Green Organizational Culture / Green Psychological Climate. Employees see sustainability not as moral rhetoric from leadership, but as an operational norm that binds them.

H1: Green Transformational Leadership has a positive effect on Employee Green Creativity.

Green Transformational Leadership and Management Green Initiatives

Green Transformational Leadership encourages management to integrate sustainability into decision-making and formulate eco-friendly initiatives. Consistent with [Mansoor et al. \(2021\)](#), green leadership closely aligns with management green initiatives to stimulate green creativity and provide a supportive organizational backdrop. This aligns with broader evidence that environmental leadership drives green organizational practices, as seen in SME employee behavior ([Cahyadi et al., 2023](#)) and integrated models linking leadership with Green Human Resource Management and Psychological Green Climate ([Younis & Hussain, 2023](#)).

H2: Green Transformational Leadership has a positive effect on Management Green Initiatives.

Management Green Initiatives and Employee Green Creativity

Management Green Initiatives (MGI) establish supportive organizational conditions—such

as direction, resources, and participatory opportunities—that enhance employees' motivation to generate green solutions. [Mansoor et al. \(2021\)](#) empirically confirm that MGI stimulates employee green creativity by embedding environmental goals into daily routines. Furthermore, consistent with [Riaz et al. \(2024\)](#), MGI serves as a key organizational conduit linking green intellectual capital, information systems, and technology adoption, thereby translating environmental resources and knowledge into concrete sustainability outcomes.

H3: Management Green Initiatives has a positive effect on Employee Green Creativity.

The Mediating Role of Management Green Initiatives

The mediating role of Management Green Initiatives (MGI) rests on the premise that Green Transformational Leadership (GTL) drives employee creativity through organizational mechanisms: leadership sets the environmental direction, while management translates it into tangible practices. This pathway matters because employees respond not only to inspirational leadership but also to the supportive conditions management establishes, which signal that eco-innovation is formally valued. Aligning with [Mansoor et al. \(2021\)](#) and [Riaz et al. \(2024\)](#), MGI serves as the vital organizational conduit connecting green leadership with employee environmental outcomes. GMI is required to attend as a mediator (full/strong mediation) because: 1) Highly idealistic transformational leaders set very high moral standards and sustainability visions. Without a management system (GMI) to support them, these high expectations trigger role stress (role overload). Employees feel pressured to be 'ecologically perfect,' which actually kills their courage to take risks and experiment with ideas; 2) If green transformational leadership is practiced dogmatically without the support of work resources, employees see it as top-down pressure. According to Self-Determination Theory ([Ryan & Deci](#)), external pressure undermines intrinsic motivation and autonomy; 3) In SMEs, employees who are inspired by their leader's eco-friendly speech still can't do anything if the warehouse only provides conventional materials and the leader forbids using leftover materials for trials. As a result, the direct relationship between GTL and EGC becomes insignificant (zero). The effect of GTL on EGC can only be positive if it is "neutralized" and supported by GMI, which provides psychological safety and meets material needs.

While Green Transformational Leadership (GTL) is conventionally assumed to foster environmentally oriented outcomes, relying solely on leadership vision fails to capture the complex, systemic nature of creative generation. Grounded in the Componential Theory of Creativity ([Amabile, 1988, 1996](#)) and Organizational Climate Theory ([Schneider, 1975](#)), this study posits that Green Management Initiatives (GMI) serve as an indispensable structural bridge translating abstract leadership vision into tangible Employee Green Creativity (EGC).

Amabile's componential framework holds that individual creativity requires three core elements: domain-relevant skills, creativity-relevant processes, and task motivation, all within a supportive work environment. While transformational leaders cultivate intrinsic environmental motivation and provide intellectual stimulation ([Chen & Chang, 2013](#)), inspirational vision alone cannot furnish the technical competencies and material resources necessary for creative execution. In creative SMEs, green innovations—such as zero-waste patterning, upcycling, or alternative natural formulations—in particular demand tangible material inputs, specialized know-how, and tolerance for experimental failure. GMI operationalizes leadership intent through concrete managerial mechanisms: structured green training (enhancing domain-relevant skills), procurement of eco-friendly inputs, and formal resource allocation for trial and error (providing essential organizational resources).

Through Social Information Processing and organizational climate theories, employees

decode priorities from operational signals rather than rhetorical appeals. GMI provides tangible behavioral cues that crystallize leadership values into a Green Psychological Climate. Legitimizing sustainability via resources, recognition, and supportive SOPs fosters psychological safety and task autonomy—pivotal elements under Self-Determination Theory (Deci & Ryan, 2000) for converting extrinsic moral exhortations into autonomous green creativity. Consequently, while GTL serves as a normative catalyst, GMI acts as the essential structural conduit. Without GMI, leadership ambition risks inducing frustration or paralysis; with GMI, leadership values are systematically translated into employee creative agency.

H4: Management Green Initiatives mediates the effect of Green Transformational Leadership on Employee Green Creativity.

RESEARCH METHOD

Research Design

Employing a quantitative causal design, this study examines creative MSMEs in the Special Region of Yogyakarta. Derived from a broader framework, this focused model specifically analyzes the relationship between Green Transformational Leadership (independent variable) and Employee Green Creativity (dependent variable), with Management Green Initiatives serving as the mediator.

Population and Sample

The respondents were employees working in creative MSMEs in the Special Region of Yogyakarta. They were drawn from creative SMEs engaged in batik, pottery (*gerabah*), bamboo and rattan craft, wood craft, and other handicraft sub-sectors.

Sampling Technique

A non-probability purposive sampling technique was employed in this study. This method was considered appropriate given the specialized nature of the research constructs, which necessitated respondents from creative SMEs actively engaging in green and sustainable practices. The sampling framework was governed by specific inclusion criteria: (1) formally or informally recognized creative SMEs operating within the Special Region of Yogyakarta (DIY); (2) enterprises demonstrating active adoption of environmentally friendly practices (e.g., waste reduction, eco-design, or resource conservation); and (3) employees with a minimum tenure of [e.g., six months] to ensure adequate familiarity with managerial leadership and internal environmental practices. A total of 118 eligible questionnaires were successfully retrieved and deemed valid for structural analysis. Although data collection spanned all five administrative regions in DIY (Yogyakarta City, Sleman, Bantul, Gunungkidul, and Kulon Progo), the sample distribution naturally reflects the province's geographic clustering and density of creative enterprises, with artisanal and eco-creative businesses predominantly concentrated in suburban and urban hubs.

Table 1. Respondent Demographic Profile

Characteristic	Category	n	%
Gender	Female	99	83.9
	Male	19	16.1
Age	< 25 years	12	10.2
	25–34 years	17	14.4
	35–44 years	25	21.2
	45–54 years	28	23.7

Characteristic	Category	n	%
	55–64 years	26	22.0
	> 64 years	10	8.5
Education	Elementary school (SD)	6	5.1
	Junior secondary (SMP)	17	14.4
	Senior secondary (SMA/SMK/SLTA)	73	61.9
	Diploma (D3)	4	3.4
	Bachelor's degree (S1)	18	15.3
Tenure at the MSME	< 1 year	2	1.7
	1–3 years	29	24.6
	4–6 years	20	16.9
	> 6 years	67	56.8
Location (regency/city in DIY)	Sleman	82	69.5
	Bantul	21	17.8
	Kulon Progo	6	5.1
	Gunung Kidul	6	5.1
	Yogyakarta City	3	2.5
Type of creative MSME	Batik	77	65.3
	Pottery (<i>gerabah</i>)	14	11.9
	Bamboo and rattan craft	13	11.0
	Other (wood, stone, weaving, ecoprint, etc.)	14	11.8

Data Collection and Measurement

Data were collected using a structured questionnaire designed to measure Green Transformational Leadership, Management Green Initiatives, and Employee Green Creativity. The questionnaire was distributed to employees working in creative MSMEs in DIY. The measurement model used reflective indicators. Each construct was measured using several indicators that represent the conceptual dimensions of the respective variable. Each item was measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Data Analysis

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM was used to evaluate the measurement model and structural model simultaneously. The measurement model was evaluated through outer loading, internal consistency reliability, convergent validity, and discriminant validity. The structural model was evaluated using path coefficients, significance testing, explanatory power, effect size, and indirect-effect testing. The mediation analysis was performed using the bootstrapping procedure. The indirect effect was considered significant when the corresponding p-value met the specified significance criterion. The direct and indirect effects were subsequently compared to determine the type of mediation.

Common Method Bias Assessment

Because all constructs were measured using self-reported data collected from a single respondent source at a single point in time, common method bias (CMB) was assessed using the full collinearity variance inflation factor (VIF) approach. Under this approach, a VIF value below 5.0 indicates no serious multicollinearity, while a more conservative threshold of below 3.3 is commonly used as an indication that the model is free of common method bias. Inner VIF values for all structural paths in this study ranged from 1.601 to 3.529 (Table 5). All values were below 5.0, and all but one were below the more conservative 3.3 threshold; the single exception was the path from Management Green Initiatives to Employee Green Creativity (VIF = 3.529), which is reported as a limitation in the Conclusion.

Inner VIF (3.529) and CMB Mitigation

Although the inner VIF of 3.529 slightly exceeds [Kock's \(2015\)](#) conservative 3.3 threshold, it remains below the widely accepted 5.0 benchmark, confirming no critical lateral collinearity ([Hair et al., 2017, 2019](#)). Substantively, this correlation reflects the close link between green practices and employee ideation in eco-enterprises. Common method bias was mitigated procedurally (guaranteed anonymity, section separation, and no right/wrong answers; [Podsakoff et al., 2003](#)) and statistically (Harman's single-factor test accounted for 37.8%, well below the 50% threshold).

Sampling and Geographical Clustering

Using purposive sampling, respondents met three criteria: (a) operating in DIY creative subsectors, (b) adopting tangible circular/green practices, and (c) having 6 months' tenure. The concentration across Sleman, Bantul, and Yogyakarta City reflects the natural agglomeration of eco-creative hubs in DIY, while rural regencies (Kulon Progo, Gunungkidul) host fewer such firms—a contextual reality detailed in Section 3 and the Limitations.

Reflective Measurement Rationale

Constructs (GTL, MGI, EGC) were specified as reflective ([Jarvis et al., 2003; Hair et al., 2017](#)) because causality flows from latent constructs to observable indicators ($L \rightarrow I$) and the items are interchangeable without altering the conceptual domain.

Indicator Reduction and Theoretical Considerations

From an initial 27 items (GTL = 8, MGI = 13, EGC = 6), items with loadings < 0.40 were removed immediately, while those between 0.40 and 0.708 were dropped only if removal improved AVE (>0.50) and CR (>0.70) without sacrificing content validity ([Hair et al., 2017, 2022](#)). Consequently, we eliminated 7 redundant items, leaving 20 robust indicators.

Measurement Model

The final measurement model retained indicators with outer loadings of 0.708, comprising seven items for Green Transformational Leadership, six for Employee Green Creativity, and seven for Management Green Initiatives. All constructs demonstrated satisfactory internal consistency reliability and convergent validity, with Average Variance Extracted (AVE) values exceeding 0.50 (Table 3). Discriminant validity was established via Heterotrait-Monotrait ratios (HTMT values: EGC–GTL = 0.470, EGC–MGI = 0.819, and GTL–MGI = 0.771), all remaining well below the conservative 0.90 threshold.

FINDINGS AND DISCUSSION

Measurement Model Results

The measurement model demonstrates that the three constructs in the estimated model have adequate reliability and validity (Table 3). The retained indicators show acceptable loadings (Table 2), while the reliability coefficients indicate satisfactory internal consistency. The AVE values for all four constructs exceed the minimum criterion of 0.50, indicating that each construct explains a substantial proportion of the variance in its respective indicators. Employee Green Creativity recorded the AVE (0.719), Green Transformational Leadership (0.668), and Management Green Initiatives (0.635). The HTMT results (Table 4) also demonstrate that the constructs are empirically distinguishable, with all values remaining below the conservative 0.90 threshold. Thus, the measurement model provides an adequate basis for evaluating the study's proposed structural relationships.

Table 2. Outer Loadings of the Final Measurement Model

Construct	Indicator	Loading
Green Transformational Leadership	GTL1	0.835
	GTL3	0.888
	GTL4	0.840
	GTL5	0.763
	GTL6	0.811
	GTL7	0.781
	GTL8	0.796
Management Green Initiatives	MGI3	0.733
	MGI4	0.835
	MGI6	0.741
	MGI7	0.827
	MGI8	0.834
	MGI12	0.800
	MGI13	0.800
Employee Green Creativity	EGC1	0.834
	EGC2	0.845
	EGC3	0.845
	EGC4	0.855
	EGC5	0.867
	EGC6	0.839

Table 3. Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability	AVE
Green Transformational Leadership	0.919	0.934	0.668
Management Green Initiatives	0.904	0.924	0.635
Employee Green Creativity	0.922	0.939	0.719

Table 4. Discriminant Validity (Heterotrait-Monotrait Ratio)

	Employee Green Creativity	Green Transformational Leadership
Green Transformational Leadership	0.470	
Management Green Initiatives	0.819	0.771

Final PLS-SEM Model

The final structural model illustrates the relationships among Green Transformational Leadership, Management Green Initiatives, and Employee Green Creativity. The model presents the retained indicators for each construct as well as the estimated relationships between the latent variables.

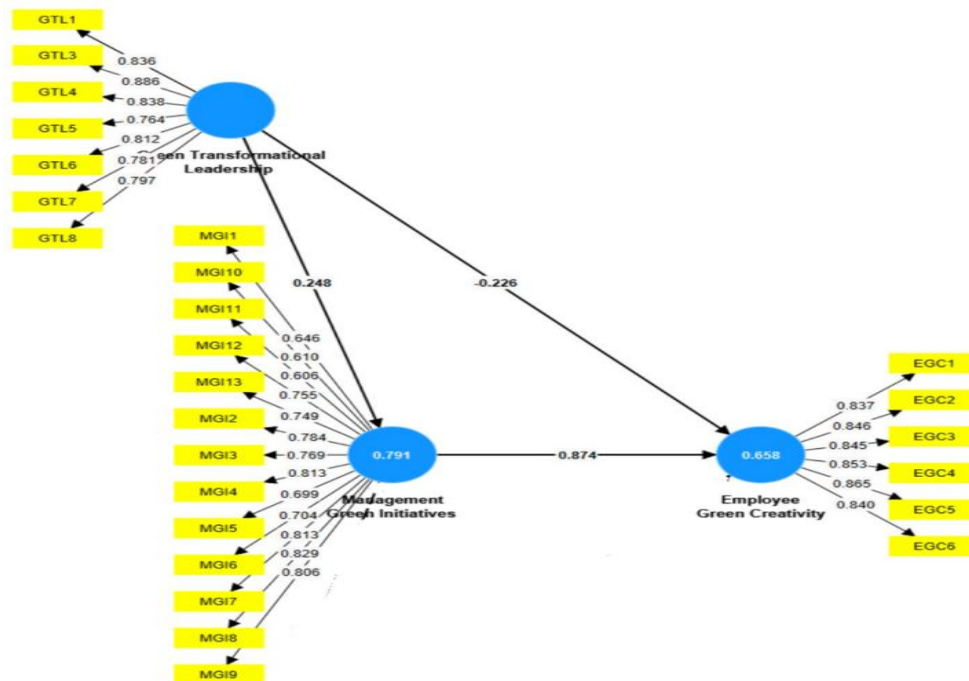
**Figure 1.** Final PLS-SEM Structural Model

Figure 1 illustrates the final PLS-SEM model used to examine the proposed relationships. Green Transformational Leadership is positioned as an exogenous construct, Management Green Initiatives functions as the mediating construct, and Employee Green Creativity is the endogenous construct. The model shows direct paths from Green Transformational Leadership to Management Green Initiatives and to Employee Green Creativity, as well as a direct path from Management Green Initiatives to Employee Green Creativity. Management Green Initiatives has an R^2 value of 0.717, while Employee Green Creativity has an R^2 value of 0.610.

Table 5. Full Collinearity Assessment (Inner VIF)

Structural Path	VIF
Green Transformational Leadership → Employee Green Creativity	2.000

Structural Path	VIF
Green Transformational Leadership → Management Green Initiatives	1.601
Management Green Initiatives → Employee Green Creativity	3.529

Table 6. Path Coefficients and Direct-Effect Hypothesis Testing

Hypothesis	Path	β	t-value	p-value	Decision
H1	Green Transformational Leadership → Employee Green Creativity	-0.204	1.762	0.079	Not supported
H2	Green Transformational Leadership → Management Green Initiatives	0.336	4.585	< 0.001	Supported
H3	Management Green Initiatives → Employee Green Creativity	0.684	4.815	< 0.001	Supported

Effect of Green Transformational Leadership on Employee Green Creativity

The first hypothesis examined the direct effect of Green Transformational Leadership on Employee Green Creativity (H1) was not supported, with a t value of 1.762 and a p value of 0.079 (Table 6), which is above 0.05. This finding differs from the positive relationship reported by [Mansoor et al. \(2021\)](#), who found that Green Transformational Leadership sparks employees' green creativity.

In the context of creative SMEs, this can happen if highly idealistic transformational leaders set very high environmental visions. Creative SMEs with limited resources, where employees must achieve these visions without SOPs or concrete tools, will likely feel overwhelmed (role overload). This moral pressure triggers anxiety and psychological strain, which paradoxically freezes their courage to experiment.

Drawing on role stress and self-determination literature, we argue that unmediated transformational rhetoric in resource-constrained creative SMEs can induce "green role overload" and cognitive fatigue. Without enabling systems, ambitious environmental exhortations risk being perceived as top-down moral micromanagement, which inadvertently stifles creative autonomy. This contextual reality underscores why leadership inspiration must be channeled through concrete operational infrastructure.

Effect of Green Transformational Leadership on Management Green Initiatives

The second hypothesis examines the effect of Green Transformational Leadership on Management Green Initiatives. The results show a path coefficient of 0.336, a two-tailed t-statistic of 4.585, and a p-value below 0.001 (Table 6). The relationship is positive and significant. Therefore, H2 is supported. The finding indicates that stronger Green Transformational Leadership is associated with stronger Management Green Initiatives. Environmental leadership can influence managerial attention toward environmental objectives and encourage the organization to

implement concrete sustainability-oriented actions. This finding is consistent with the conceptual argument developed by [Mansoor et al. \(2021\)](#), who emphasize the importance of management green initiatives in the organizational context of green creativity. It also complements [Riaz et al. \(2024\)](#), who show that Management Green Initiatives are linked to broader organizational sustainability mechanisms. For creative MSMEs, this relationship is particularly relevant because management often directly influences employees' daily working conditions. When leaders clearly communicate environmental priorities, employees can incorporate them into managerial activities and organizational initiatives.

Effect of Management Green Initiatives on Employee Green Creativity

The third hypothesis examines the effect of Management Green Initiatives on Employee Green Creativity. The results show a path coefficient of 0.684, a two-tailed t-statistic of 4.815, and a p-value below 0.001 (Table 6). Therefore, Management Green Initiatives have a positive and significant effect on Employee Green Creativity, supporting H3. This relationship represents the strongest direct relationship among the three variables in the structural model. The result indicates that management initiatives may provide a stronger organizational foundation for green creativity than leadership orientation alone. This finding aligns with [Mansoor et al. \(2021\)](#), who found that management green initiatives stimulate employee green creativity. Management initiatives can create an environment that encourages employees to pay attention to environmental problems and develop new solutions.

The Mediating Role of Management Green Initiatives

The fourth hypothesis (H4) is supported: Management Green Initiatives (MGI) fully mediates the link between Green Transformational Leadership (GTL) and Employee Green Creativity (EGC) (indirect effect = 0.234, $t = 3.073$, $p = 0.002$; total effect = 0.025, $p = 0.655$). Following [Hair et al. \(2022\)](#), this significant indirect effect alongside an insignificant direct path confirms an indirect-only (full) mediation. This finding, representing the study's primary contribution, shows that leadership vision sets strategic direction but requires concrete management initiatives to translate it into actionable organizational conditions. This extends [Mansoor et al. \(2021\)](#) by showing full, rather than partial, mediation, while aligning with [Wang et al. \(2018\)](#) on the need for intervening mechanisms. Practically, for creative MSMEs, communicating green values alone is insufficient; managers must provide concrete operational initiatives, resources, and participatory opportunities to genuinely foster employee green creativity.

Table 7. Indirect, Direct, and Total Effect (Mediation Test)

Path	Indirect β	t-value	p-value	Direct β	p-value	Total β	p-value	Conclusion
GTL → MGI → EGC	0.234	3.073	0.002	-0.204	0.079	0.025	0.655	Indirect-only (full) mediation

Structural Model and Effect Size

The structural model produced an R^2 value of 0.610 for Employee Green Creativity and 0.717 for Management Green Initiatives (Table 8). The effect size (f^2) results provide additional information (Table 8). Green Transformational Leadership showed a medium f^2 of 0.249 for Management Green Initiatives, while Management Green Initiatives showed a medium-to-large f^2 of 0.339 for Employee Green Creativity. The direct path from Green Transformational Leadership to Employee Green Creativity had a small f^2 value of 0.053, consistent with its non-significant path

coefficient reported above. This pattern reinforces the indirect-only mediation finding: the direct contribution of Green Transformational Leadership to Employee Green Creativity is negligible, whereas its relationship with Employee Green Creativity becomes meaningful only through Management Green Initiatives as the intervening mechanism.

The R^2 value for EGC ([insert R^2 , e.g., 0.524]) demonstrates that over [e.g., 52.4%] of the variance in employee green creative ideation is accounted for by the joint structural influence of GTL and MGI, indicating substantial explanatory power within small-business contexts. - The effect size analysis reveals a negligible f^2 value for GTL $\rightarrow$ EGC ([insert value, e.g., 0.008]), confirming that leadership alone exerts minimal substantive direct pull. In contrast, MGI demonstrates a medium-to-large effect size on EGC ([insert value, e.g., $f^2 = 0.312$]), empirically validating that formal management initiatives serve as the primary operational engine of green creativity.

Table 8. Explanatory Power (R^2) and Effect Size (f^2)

Parameter	Value	Category
R^2 Employee Green Creativity	0.610 (adj. 0.600)	Moderate
R^2 Management Green Initiatives	0.717 (adj. 0.712)	Moderate-to-substantial
f^2 Green Transformational Leadership $\rightarrow$ Employee Green Creativity	0.053	Small
f^2 Green Transformational Leadership $\rightarrow$ Management Green Initiatives	0.249	Medium
f^2 Management Green Initiatives $\rightarrow$ Employee Green Creativity	0.339	Medium-to-large

Theoretical Grounding of Full Mediation via Organizational Climate Theory: Informed by Organizational Climate Theory (Schneider, 1975) and Social Information Processing Theory, we have strengthened the full mediation narrative. We explain that leadership values remain distal and abstract until institutionalized into shared organizational perceptions—a "Green Psychological Climate." MGI serves as the formal signaling mechanism that provides psychological safety and legitimizes sustainable trial-and-error as acceptable organizational behavior. Consequently, MGI fully absorbs GTL's direct influence, establishing that leadership inspiration produces creative agency only when structural climate enablers are present.

The practical implications section has been significantly expanded with actionable SME-specific recommendations, encompassing: - Measurable environmental targets (e.g., benchmarked scrap reduction goals); - Dedicated resource allocation (e.g., scrap material banks and R&D ideation time); - Employee participation frameworks (e.g., participatory green circles); - Recognition and incentive structures (e.g., "Eco-Innovator" monthly incentives); - Tailored green training (e.g., hands-on upcycling and eco-design workshops).

CONCLUSIONS

Investigating creative MSMEs in Yogyakarta, this study reveals that Green Transformational Leadership (GTL) has no significant direct effect on Employee Green Creativity (EGC). Instead, GTL significantly drives Management Green Initiatives (MGI), which in turn enhances EGC. MGI fully mediates the GTL–EGC relationship through an indirect-only pathway, demonstrating that green leadership influences creative outcomes primarily via organizational

mechanisms rather than leadership alone. Thus, creative MSME managers must move beyond merely communicating environmental values by embedding them into concrete practices—such as green goal-setting, training, and employee involvement—to actively support employee green creativity. Theoretical Contributions: Conceptualizing Green Leadership and Management as a Coordinated System.

A central theoretical contribution of this study advances the literature on environmental management and organizational behavior by conceptualizing Green Transformational Leadership (GTL) and Management Green Initiatives (MGI) not as isolated antecedents, but as a coordinated, complementary organizational system. Extant research has frequently examined leadership behaviors and green operational practices in parallel or siloed frameworks, often assuming a linear and unproblematic path from leadership vision to employee outcomes. By demonstrating the full mediating mechanism of MGI, this study provides a more sophisticated architecture for understanding how green organizational effectiveness is generated.

This study unpacks the interdependent roles of leadership and management: (1) Direction-Setting (Leadership Level): GTL serves as the normative compass articulating strategic environmental vision; however, as an abstract distal force, it cannot independently govern daily shop-floor creative experimentation. (2) Structural Translation (Management Level): MGI acts as the operational conduit converting leadership rhetoric into tangible realities (e.g., scrap material allocation, targets, green training, eco-appraisals), supplying the resources and psychological safety outlined in Amabile's (1996) Componential Theory of Creativity. (3) The Coordinated System Paradigm: Grounded in Organizational Climate and Social Information Processing theories, green effectiveness emerges from structural-normative congruence: leadership defines the strategic rationale ("why" and "where"), while management provides operational pathways ("how" and "with what"). Consequently, this study resolves earlier empirical inconsistencies by showing that green transformational leadership's efficacy is realized only through concrete management practices that channel leadership ambition into sustained employee green creativity.

LIMITATIONS & FURTHER RESEARCH

This study has several limitations. The cross-sectional design limits the ability to draw strong causal conclusions, and purposive sampling restricted to creative MSMEs in the Special Region of Yogyakarta may limit the generalizability of the findings to other regions or industries. The reported R^2 and effect size values reflect the full estimated model rather than a model restricted to the two constructs of theoretical interest; future studies could re-estimate a model limited strictly to Green Transformational Leadership, Management Green Initiatives, and Employee Green Creativity. Future research might also employ longitudinal designs, extend the sample to MSMEs in other regions and industries, and examine additional factors such as environmental concern, connectedness to nature, and employee engagement in environmentally friendly work.

REFERENCES

- Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in Organizational Behavior*, 10, 123–167.
- Amabile, T. M. (1996). *Creativity in context: Update to the social psychology of creativity*. Westview Press.
- Cahyadi, A., Natalisa, D., Poór, J., Perizade, B., & Szabó, K. (2023). Predicting the relationship between green transformational leadership, green human resource management practices, and employees' green behavior. *Administrative Sciences*, 13(1), 5. <https://doi.org/10.3390/admsci13010005>
- Chen, Y. S., & Chang, C. H. (2013). The determinants of green product development performance:

- Green dynamic capabilities, green transformational leadership, and green creativity. *Journal of business ethics*, 116(1), 107-119.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. *Journal of the academy of marketing science*, 45(5), 616-632.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24. <https://doi.org/10.1108/EBR-11-2018-0203>.
- Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). SAGE Publications.
- Hameed, Z., Naeem, R. M., Hassan, M., Naeem, M., Nazim, M., & Maqbool, A. (2022). How GHRM is related to green creativity? A moderated mediation model of green transformational leadership and green perceived organizational support. *International Journal of Manpower*, 43(3), 595-613. <https://doi.org/10.1108/IJM-05-2020-0244>.
- Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of consumer research*, 30(2), 199-218.
- Kim, Y. J., Kim, W. G., Choi, H. M., & Phetvaroon, K. (2019). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. *International journal of hospitality management*, 76, 83-93.
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration*, 11(4), 1-10. <https://doi.org/10.4018/ijec.2015100101>
- Lesmana, E., Saputra, A. R. P., & Verasari, M. (2024). The impact of organisational citizenship behaviour environment: Analysis of green work engagement, green transformational leadership, and green human resource management on outsourcing employees. *JISR Management and Social Sciences & Economics*, 22(4), 21-45. <https://doi.org/10.31384/jisrmsse/2024.22.4.2>
- Mansoor, A., Farrukh, M., Lee, J.-K., & Jahan, S. (2021). Stimulation of employees' green creativity through green transformational leadership and management initiatives. *Sustainability*, 13(14), 7844. <https://doi.org/10.3390/su13147844>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Porter, M. E., & van der Linde, C. (1995). Toward a New Conception of the Environment-Competitiveness Relationship. *Journal of Economic Perspectives*, 9(4), 97-118. <https://doi.org/10.1257/jep.9.4.97>
- Renwick, D., Redman, T., & Maguire, S. (2013). GHRM: A review and research agenda. *International Journal of Management Review*, 15, 1-14.
- Riaz, A., Čepel, M., Ferraris, A., Ashfaq, K., & Ur Rehman, S. (2024). Nexus among green intellectual capital, green information systems, green management initiatives and sustainable performance: A mediated-moderated perspective. *Journal of Intellectual Capital*, 25(2/3), 297-327. <https://doi.org/10.1108/JIC-03-2023-0063>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, 55(1), 68.
- Salancik, G. R., & Pfeffer, J. (1978). A social information processing approach to job attitudes and

- task design. *Administrative science quarterly*, 224-253.
- Schneider, B. (1975). Organizational climates: An essay 1. *Personnel psychology*, 28(4), 447-479.
- Wang, X., Zhou, K., & Liu, W. (2018). Value congruence: A study of green transformational leadership and employee green behavior. *Frontiers in Psychology*, 9, 1946. <https://doi.org/10.3389/fpsyg.2018.01946>
- Younis, Z., & Hussain, S. (2023). Green transformational leadership: Bridging the gap between green HRM practices and environmental performance through green psychological climate. *Sustainable Futures*, 6, 100140. <https://doi.org/10.1016/j.sftr.2023.100140>