

Organizational Resilience Through Green Human Resource Management: An Integrated Perspective

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ABSTRACT

Purpose – This study examines the relationships between Green Human Resource Management (GHRM), Green Transformational Leadership (GTL), and Organizational Resilience (OR) through Green Organizational Culture (GOC), while testing Environmental Values (EV) as a boundary condition. The study integrates the Resource-Based View (RBV) and Ability–Motivation–Opportunity (AMO) framework.

Design/methodology/approach – A quantitative explanatory cross-sectional design was employed using data from 270 full-time employees in Indonesian textile manufacturing organizations. Respondents were selected through purposive sampling, and the data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with 5,000 bootstrap subsamples.

Findings – GHRM has no significant direct effect on OR but significantly influences OR indirectly through GOC. GTL strongly predicts GOC and also has a significant indirect effect on OR through GOC, while its direct effect on OR is not significant at the conventional two-tailed 5% level. EV has the strongest positive direct effect on OR, whereas the EV × GOC interaction is significantly negative, indicating that higher environmental values weaken the positive relationship between GOC and OR.

Originality/Value – This study integrates RBV and AMO by positioning GHRM and GTL as resource- and motivation-enhancing practices, GOC as the organizational conversion mechanism, and OR as the resulting adaptive capability. The findings highlight the central role of GOC in translating green management practices into organizational resilience in Indonesian textile manufacturing.

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1. Introduction

The global textile manufacturing industry faces growing uncertainty driven by stringent sustainability requirements, volatile market demand, and persistent supply chain disruptions. These pressures are particularly consequential for labor-intensive manufacturing settings such as Indonesia's textile sector, which must balance competitiveness, employment, and rising environmental expectations. Intensifying competition and sustainability standards therefore require firms to move beyond isolated environmental initiatives by aligning Green Human Resource Management (GHRM), Green Transformational Leadership (GTL), and Green Organizational Culture (GOC) with the broader objective of organizational resilience. This transformation is further accelerated by ecological pressures, regulatory requirements, and stakeholder expectations. According to the United Nations Environment Programme (2025), the textile industry is highly resource intensive and contributes materially to global greenhouse-gas emissions and water consumption. Consequently, Indonesian textile manufacturers require organizational capabilities that allow sustainability-oriented practices to support adaptation, continuity, and recovery under environmental and market uncertainty. In the specific context of Indonesia, this pressing demand for resilience is heavily underscored by severe operational contractions and systemic industry distress. the past few years, Indonesian textile manufacturing sector has worrying downward trajectory in production growth. Table I presents the empirical reality of this contraction, highlighting the quarterly decline in textile production growth (KBLI 13) throughout 2025.

Table 1. Production Growth in Indonesia's Textile Manufacturing Sector in 2025

KBLI Description	Annual Production Growth of Y in 2025				
	QI	QII	QIII	QIV	Annual
13 textile	3	2.37	-3.72	-3.51	-0.46
14 apparel	0.77	3.45	1.22	6.93	3.05

Source: (BPS, 2025)

Based on Table I, the sector's performance exhibits a volatile growth trajectory, ending with a negative annual growth rate of -0.46% . This declining production performance indicates that Indonesia's textile industry continues to face significant operational and competitive challenges, resulting in substantial social and economic consequences for its labor-intensive workforce. As production contracted, many textile manufacturers reduced their workforce, leading to significant layoffs across the industry.

To further illustrate this trend, Table II presents the number of layoffs recorded in Indonesia's textile industry between 2022 and 2024.

Table 2. Workforce Layoffs in Indonesia's Textile Industry (2022–2024)

Layoffs in 2022-2024	
Layoffs in Indonesia's textile industry	
Years	Amount
2022	25.114
2023	64.855

Source: (BPKP, 2024)

Based on Table II reveals a devastating peak in 2023, where 64,855 workers were laid off amid worsening global market conditions. Although the number decreased in 2024, the cumulative effect of these layoffs highlights a persistent state of vulnerability within the industry. These compounding operational and social shocks clearly signal that traditional survival strategies are no longer sufficient for Indonesian manufacturers. Consequently, building robust organizational resilience is no longer merely an optional initiative, but instead represents a strategic imperative for ensuring survival, adapt, and sustain long-term operations in a volatile global market.

Although GHRM and GTL are increasingly more acknowledged as critical drivers of sustainable organizational development, their contribution to organizational resilience stays insufficiently hooked up in the present literature. Previous studies show GHRM complements organizational resilience through integrating environmental concepts into human useful resource practices, such as recruitment, education, overall performance evaluation, and worker participation, thereby strengthening personnel' green competencies and improving organizational adaptability (Elshaer et al., 2024; Munziar & Hodijah, 2025). however, most empirical studies have concentrated on outcomes inclusive of environmental performance, inexperienced innovation, sustainable organizational overall performance, and employees' pro-environmental behavior, whilst comparatively little attention has been given to organizational resilience. Likewise, research on Green Transformational Leadership has predominantly emphasised its have an effect on on employees' environmental behavior, inexperienced innovation, and sustainability performance, with confined investigation into its position in growing resilience as a strategic organizational functionality (Haider et al., 2026; Niazi et al., 2023; Singh et al., 2020). therefore, the modern Green HRM literature affords most effective a partial expertise of the techniques through which sustainability-orientated management practices toughen organizational resilience.

A comparable hindrance is clear in research examining the organizational mechanisms that join sustainability-oriented management practices with organizational resilience. Green Organizational culture is more and more seemed as an essential organizational capability because it embeds environmental values into shared norms, ideals, and ordinary organizational practices. even though preceding studies have established that inexperienced Organizational way of life contributes to environmental overall performance, employee commitment, and organizational sustainability (Ahmad et al., 2023; Legese et al., 2026), empirical evidence helping its mediating role in linking GHRM and GTL to organizational resilience remains confined and fragmented (Elshaer et al., 2024) moreover, while Environmental Values were extensively recognized as antecedents of personnel pro-environmental attitudes and behaviors (Hooi et al., 2021; Lahbar et al., 2025), their ability function in strengthening the connection among Green Organizational Culture and Organizational Resilience has received exceedingly little empirical interest. As a end result,

each the organizational mechanisms and the contextual conditions through which sustainability-oriented practices foster resilient companies continue to be insufficiently understood.

These gaps are especially important in Indonesia's textile manufacturing industry, where firms operate under simultaneous pressures from sustainability requirements, environmental regulation, volatile global demand, and recurring supply-chain disruption. Responding to such pressures requires more than the presence of green HR practices or a sustainability-oriented leader. Organizations must convert these inputs into shared routines, coordinated behaviors, and adaptive responses. This study therefore distinguishes between resource-mobilizing processes (GHRM and GTL), an institutional conversion mechanism (GOC), an individual motivational boundary condition (EV), and the adaptive capability outcome (OR). This architecture is intended to explain not only whether green-management variables are associated with resilience, but also how their effects become embedded in organizational functioning.

The model accordingly positions GOC as the central conversion mechanism through which GHRM and GTL can become relevant to resilience. GHRM provides coordinated HR practices that can develop environmental competence, motivation, and participation opportunities, while GTL reinforces meaning, motivation, role modeling, and employee involvement. When these inputs are institutionalized in shared environmental norms and routines, GOC can transform dispersed individual-level responses into a more stable organizational pattern that supports anticipation, adaptation, recovery, and renewal. EV is modeled separately as an employee-level motivational condition that may alter the extent to which employees rely on organizational culture when responding to environmental challenges. This structure provides a more precise explanation of the proposed mechanisms in the Indonesian textile context.

This study makes three contributions. First, it clarifies the complementarity of RBV and AMO rather than treating them as parallel labels: AMO explains the employee-level micro-foundations through which HR and leadership practices build ability, motivation, and opportunities to contribute, whereas RBV explains how repeated and socially embedded patterns can become organizational capabilities. Second, it conceptualizes GOC as the institutionalizing mechanism that converts resource-mobilizing practices into coordinated adaptive behavior, with OR treated as the capability outcome. Third, it tests these mechanisms among employees of participating Indonesian textile manufacturing organizations, a context characterized by labor intensity and sustainability pressure. The empirical claims are therefore limited to this study context rather than generalized to the entire Global South.

2. Literature Review & Hypothesis Development

2.1 Grand Theory Framework

2.1.1 Resource-Based-View (RBV)

This study uses the Resource-Based View (RBV) to explain how internally developed, socially embedded, and difficult-to-replicate organizational arrangements can support sustained

adaptation (Barney, 1991; Gupta et al., 2025). In the present model, GHRM and GTL are not treated as resilience outcomes in themselves. Instead, they are resource-mobilizing managerial processes that shape how human and social resources are developed and coordinated. GOC represents a more institutionalized, socially complex organizational capability because environmental priorities become embedded in shared norms, routines, and expectations. Organizational Resilience is positioned as the adaptive capability outcome reflected in anticipation, response, adaptation, recovery, and renewal. This resource–process–capability distinction provides the RBV logic for why green-oriented management may contribute to resilience in Indonesia's textile manufacturing sector.

2.1.2 Ability–Motivation–Opportunity (AMO)

The Ability–Motivation–Opportunity (AMO) framework complements RBV by specifying the employee-level mechanisms through which management practices can be enacted (Appelbaum et al., 2000; Bos-Nehles et al., 2023; Faisal, 2023). This study does not assign GHRM, GTL, and GOC to one AMO component each. Instead, GHRM is understood as a bundle of practices that can jointly develop environmental ability through recruitment and training, strengthen motivation through appraisal and rewards, and create opportunities through participation and empowerment. GTL can amplify motivation, meaning, role modeling, and opportunities for voice, while GOC provides an organizational context in which these abilities and motivations can be expressed consistently. Environmental Values add an individual source of intrinsic motivation that may strengthen or substitute for cultural cues. AMO therefore explains the micro-foundations of behavior, whereas RBV explains how repeated collective behavior can become an organizational capability.

Taken together, the two theories operate at different but complementary explanatory levels. AMO explains how green-oriented practices and leadership influence what employees are able, willing, and permitted to do, while RBV explains how these distributed responses become valuable only when they are coordinated and institutionalized. GOC is therefore central to the model because it converts dispersed HR and leadership inputs into shared routines and collective expectations. Organizational Resilience is the downstream capability that may emerge when these routines enable employees to anticipate and adapt to disruption. This integrated architecture provides the theoretical basis for the mediation hypotheses and avoids reducing AMO to a one-construct–one-component mapping.

2.1.3 Organizational Resilience

Organizational Resilience embodies an organization's strategic capacity for anticipation, absorption, adaption, learn to navigate internal and external disruptions while maintaining operational continuity and sustaining a competitive advantage amidst an environment of uncertainty (Georgescu et al., 2024; Gul et al., 2025; Napier et al., 2024). From perspective of the Resource-Based View (RBV), resilience is not merely a reaction to unexpected events but represents an organizational capability that is derived from the effective utilization of valuable internal resources. Human capital, sustainability-oriented leadership, and organizational culture constitute strategic resources that enable firms to absorb environmental shocks, reconfigure existing capabilities, and maintain long-term organizational performance (Faisal, 2023). Although previous studies have highlighted importance of organizational learning,

strategic flexibility, and adaptive decision-making in enhancing resilience (Liu & Zhang, 2024; You et al., 2023), limited empirical evidence explains how en GHRM , GTL , and GOC collectively contribute to strengthening Organizational Resilience, particularly within Indonesia's labor-intensive textile manufacturing industry.

2.2 Green Human Resource Management and Organizational Resilience

GHRM combines environmental sustainability with human resource practices, including green recruitment, green training, green performance appraisal, reward systems, employee participation, with objective of strengthening employees' environmental competencies and promoting sustainable workplace behavior (Doghan, 2024; K. Khan et al., 2025). Consistent with the RBV and AMO perspectives, these practices develop employees' knowledge, enhance their motivation to support sustainability initiatives, and create opportunities to engage in environmentally responsible activities, thereby improving organizational adaptability (Ali et al., 2024; Bos-Nehles et al., 2023).

Empirical evidence suggest GHRM strengthens environmental capabilities and enhances organizations' capacity to respond to environmental and operational disruptions (Elshaer et al., 2024; Munziar & Hodijah, 2025). Nevertheless, prior research has predominantly examined outcomes includes green innovation and environmental performance, whereas its contribution to Organizational Resilience remains insufficiently explored. This limitation is particularly relevant in Indonesia's textile manufacturing industry, where organizations face increasing sustainability requirements, volatile market conditions, and persistent supply chain uncertainty. Under these circumstances, integrating sustainability into HRM is expected to reinforce organizational resilience.

H1: *"Green Human Resource Management positively affects Organizational Resilience."*

2.3 Green Transformational Leadership and Organizational Resilience

GTL describes leadership approach that encourages employees to embrace environmental sustainability by communicating a compelling green vision, stimulating innovative thinking, and promoting environmentally responsible organizational change (Priatna et al., 2025). Consistent with the RBV and AMO perspectives, green leaders enhance employees' motivation while creating opportunities to actively participate in sustainability initiatives, thereby strengthening organizational adaptability. Previous studies has consistently demonstrated that GTL promotes pro-environmental behavior, environmental, and sustainability (Haider et al., 2026; Niazi et al., 2023; Singh et al., 2020). However, empirical evidence regarding its contribution to Organizational Resilience remains limited, particularly in labor-intensive manufacturing industries. In Indonesia's textile sector, where organizations operate under increasing environmental regulations and market uncertainty, environmentally responsible leadership is expected to strengthen adaptive capability and improve.

H2: *"Green Transformational Leadership positively affects Organizational Resilience."*

2.4 Green Human Resource Management and Green Organizational Culture

GHRM contributes to development of GOC by integrating environmental sustainability into recruitment, green training, green performance management, reward systems, employee involvement (Haider et al., 2026; Raza et al., 2025). Through these practices, employees acquire environmental competencies, become more motivated to engage in sustainable behavior, and

receive opportunities to participate in organizational environmental initiatives, consistent with the AMO framework. From the RBV perspective, these collective practices gradually evolve into an intangible organizational capability that supports long-term competitiveness (Legese et al., 2026). Empirical evidence indicates that GHRM institutionalizes environmental values by embedding sustainability into employees' shared beliefs and routine organizational practices (Ahmad et al., 2023; Elshaer et al., 2024). Nevertheless, this relationship has received relatively limited attention within labor-intensive manufacturing industries. Given the growing sustainability challenges confronting Indonesia's textile manufacturing sector, GHRM is expected to playing a central role in building a strong, environmentally friendly organizational culture.

H3: *"Green Human Resource Management positively affects Green Organizational Culture."*

2.5 Green Transformational Leadership and Green Organizational Culture

GTL also serves as an important driver GOC by uniting common environment goals, encouraging employee participation, and reinforcing environmentally responsible behaviors throughout the organization (Ismail, 2025; Raza et al., 2025). This leadership approach strengthens employees' commitment to sustainability while creating organizational conditions that facilitate environmental collaboration and continuous improvement. Previous studies have consistently reported that GTL promotes the institutionalization of environmental values by reinforcing employees' commitment and establishing sustainability-oriented organizational norms (Haider et al., 2026; Niazi et al., 2023; Singh et al., 2020). As sustainability expectations continue to intensify within Indonesia textile manufacturing industry, environmentally responsible leadership is expected to accelerate develop to strong GOC.

H4: *"Green Transformational Leadership positively affects Green Organizational Culture."*

2.6 Green Organizational Culture and Organizational Resilience

GOC refers to environmental values are embedded within organizational norms, shared beliefs, and everyday practices, thereby guiding employees toward environmentally responsible behavior (Baltacı & Büyükbeşe, 2025; Sattar et al., 2025). As an intangible strategic resource, GOC enhances organizational adaptability by encouraging knowledge sharing, continuous learning, and collaborative responses to environmental challenges. Previous research suggests that Green Organizational Culture improves environmental commitment, organizational adaptability, and sustainability performance (Ahmad et al., 2023; M. H. Khan et al., 2026; Legese et al., 2026). Despite these findings, relatively few studies have examined its direct contribution to Organizational Resilience, especially in labor-intensive manufacturing settings. For Indonesian textile manufacturers operating under continuous environmental and market pressures, embedding sustainability into organizational culture is expected to strengthen resilience and long-term adaptability.

H5: *"Green Organizational Culture positively affects Organizational Resilience."*

2.7 The Mediating Role of Green Organizational Culture

The integrated RBV–AMO architecture implies that GHRM and GTL should not be expected to create resilience automatically. At the employee level, GHRM can develop environmental ability, motivation, and opportunities to contribute, while GTL can reinforce motivation, shared meaning, and participation. From an RBV perspective, however, these inputs become

strategically consequential only when they are institutionalized in a coordinated organizational pattern. GOC is proposed as that conversion mechanism because it embeds environmental priorities in shared norms, collaboration, decision routines, and expectations. Through this institutionalization process, separate HR practices and leadership signals can be translated into collective adaptive behaviors that support anticipation, response, adaptation, recovery, and renewal.

Previous studies indicate that GOC can transmit the effects of GHRM to sustainability-related outcomes by strengthening environmental commitment, organizational learning, and routine pro-environmental behavior (Ahmad et al., 2023; Elshaer et al., 2024). GTL likewise contributes to organizational outcomes by shaping a culture that reinforces sustainability and continuous improvement (Niazi et al., 2023). These arguments suggest two potentially different pathways: GHRM may depend more strongly on cultural institutionalization before it becomes relevant to resilience, whereas leadership may influence resilience both through culture and, potentially, through more immediate motivational and sense-making processes.

H6: *“Green Organizational Culture mediates the relationship between Green Human Resource Management and Organizational Resilience.”*

H7: *“Green Organizational Culture mediates the relationship between Green Transformational Leadership and Organizational Resilience.”*

2.8 The Moderating Role of Environmental Values

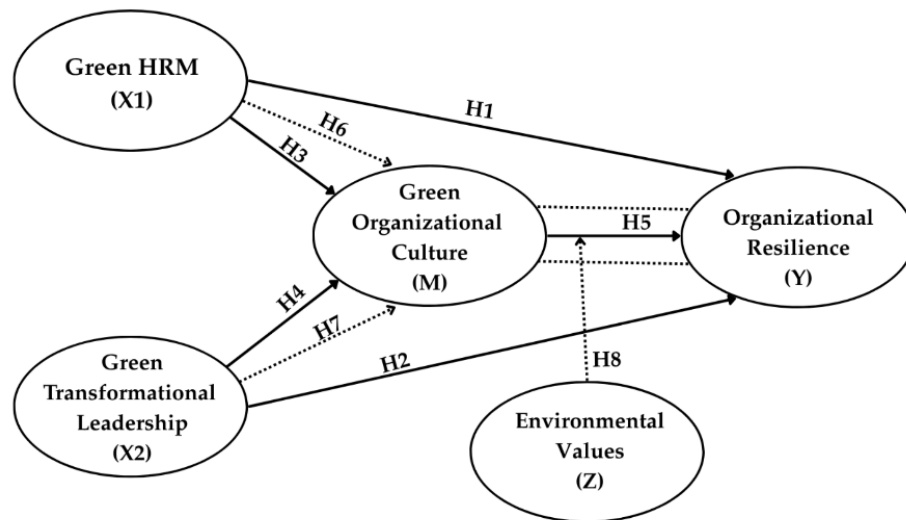
Environmental Values (EV) represent employees' beliefs and personal principles regarding environmental protection and sustainable development, that influence behavioral intention regarding sustainability (Alherimi et al., 2024; Katz et al., 2022). Employees with stronger environmental values are generally more willing to Promote organization's sustainability activities and act in an environmentally responsible manner. Within AMO framework, Environmental Values strengthen employees' intrinsic motivation to align their behavior with organizational sustainability goals. Consequently, these values are expected to influence how effectively Green Organizational Culture contributes to Organizational Resilience.

Although previous studies have linked Environmental Values to environmental commitment, pro-environmental behavior, and employee engagement (Hooi et al., 2021; Katz et al., 2022; Lahbar et al., 2025), their moderating role in correlation GOC and Organizational Resilience remains underexplored, particularly in labor-intensive manufacturing industries. Given the sustainability challenges faced by Indonesia's textile manufacturing sector, stronger environmental values are expected to reinforce for contribution of GOC to Organizational Resilience.

H8: *“Environmental Values positively moderate the relationship between Green Organizational Culture and Organizational Resilience.”*

Figure 1 presents theoretical model developed from formulated hypotheses:

Figure 1. Formulated Hypotheses Framework



Source: Authors ,2026.

3. Methodology

3.1 Data Collection Procedures

A quantitative explanatory approach was adopted to examine the relationships among Green Human Resource Management (GHRM), Green Transformational Leadership (GTL), Green Organizational Culture (GOC), Environmental Values (EV), and Organizational Resilience (OR) in Indonesia's textile manufacturing industry. Drawing on the integrated RBV–AMO framework, the model distinguishes resource-mobilizing management processes, cultural institutionalization, an individual motivational boundary condition, and resilience as an adaptive capability outcome. The analysis tests direct, indirect, and moderating relationships among employees' perceptions of these constructs.

The target population consisted of full-time employees working in textile manufacturing companies in Indonesia. To ensure adequate organizational experience, only employees with a minimum tenure of six months were included. Purposive sampling was used because respondents had to satisfy these eligibility criteria and be able to evaluate organizational practices. Primary data were collected through a structured questionnaire adapted from previously validated scales, and a pilot study was conducted to assess clarity, readability, and contextual relevance. All items used a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). A total of 270 valid responses were analyzed (Cepeda-Carrión et al., 2022; Hair et al., 2021). The unit of analysis in the current model is the individual employee perception. Although GOC and OR refer to organizational phenomena, the ratings were not aggregated to the firm level; consequently, the coefficients should be interpreted as associations among employees' perceptions rather than as direct estimates of between-firm organizational effects.

This level-of-analysis distinction is important because employees working in the same company may share exposure to HR systems, leadership, culture, and disruption. The present study does not estimate within-firm agreement, intraclass correlations, design effects, cluster-

robust standard errors, or a multilevel SEM. Therefore, no claim is made that individual ratings are statistically interchangeable with firm-level culture or resilience. Future data collection should retain firm identifiers and respondent counts per firm so that rwg, ICC(1)/ICC(2), aggregation decisions, or multilevel models can be evaluated explicitly.

3.2 Measurement Scale

GHRM was measured through green recruitment, green training, green performance appraisal, green rewards, green participation, and green empowerment. GTL captured leaders' ability to communicate a green vision, inspire employees, stimulate environmentally oriented thinking, and act as green role models. GOC represented the institutionalization of environmental values through shared norms, collaboration, and sustainability commitment. EV reflected employees' personal commitment to environmental protection and long-term sustainability, whereas OR captured perceived organizational capability to anticipate, prepare for, respond to, adapt to, recover from, and learn from disruption. The operational definitions and indicator domains are presented in Table 3.

Construct specification was reconsidered in response to the breadth of GHRM and OR. Both constructs can plausibly be conceptualized as multidimensional bundles or higher-order composites because their component practices or resilience capabilities are not necessarily interchangeable. For comparability with the validated scales and the original PLS-SEM specification, the current analysis retains a reflective first-order operationalization, but this is treated as an empirical approximation rather than as proof that the constructs are inherently reflective. The substantive interpretation therefore concerns an integrated perception of GHRM and resilience, and future research should compare this specification with higher-order or composite alternatives before making strong ontological claims about the constructs.

Table 3. Measurement of Variables

Variable	Indicators	Description	#Of Item	Source
Green Human Resource Management	Green Recruitment,	GHRM were selected to represent the core green HR practices, including green recruitment, training, performance management, employee involvement, and reward systems.	12 Item	(Elshaer et al., 2024; Munziar & Hodijah, 2025)
	Green Training,			
	Green Performance Appraisal,			
	Green Rewards,			
	Green Participation,			
	Green Empowerment			
Green Transformational Leadership	Green Vision,	GTL were chosen to reflect leaders' ability to communicate a green vision, inspire employees, encourage environmental innovation, and support	10 Item	(Haider et al., 2026; Niazi et al., 2023)
	Inspirational Motivation,			
	Intellectual Stimulation,			
	Green Role Model			

		sustainability-oriented behaviors.	
Green Organizational Culture	Green Values, Green Norms, Green Collaboration, Sustainability Commitment	GOC were selected to capture the institutionalization of environmental values through shared norms, organizational commitment, collaborative practices, and sustainability-oriented behaviors.	(Ahmad et al., 2023; Legese et al., 2026)
		10 Item	
Environmental Values	Environmental Responsibility, Resource Conservation, Long-term Environmental Orientation	Environmental Values were chosen to represent employees' personal commitment to environmental protection, resource conservation, and sustainable development.	(Hooi et al., 2021; Lahbar et al., 2025)
		6 Item	
Organizational Resilience	Anticipation, Preparedness, Response Capability, Adaptation, Recovery Capability, Organizational Renewal	Organizational Resilience were selected to represent the organization's capability to anticipate, respond, adaption, recover , and learn from disruptions.	(Liu & Zhang, 2024; Napier et al., 2024; You et al., 2023)
		12 Item	

Source: Author,2026.

3.3 Data Analysis

PLS-SEM was implemented in SmartPLS 4.1.1.8 to examine the measurement and structural models because the framework contains mediation and moderation relationships (Bin Amatan et al., 2025; Hair et al., 2021). Measurement assessment considered indicator loadings, Cronbach's alpha, Composite Reliability (CR), Average Variance Extracted (AVE), the Fornell–Larcker criterion, and the Heterotrait–Monotrait ratio (HTMT). Structural assessment considered path coefficients and R^2 , with 5,000 bootstrap subsamples used for direct and indirect effects. In the revised interpretation, a conventional two-tailed 5% criterion is used for robustness (approximately $|t| > 1.96$). Because percentile bootstrap confidence limits for the structural paths were not retained in the reported output, two-tailed sensitivity intervals are calculated from the reported bootstrap standard errors as $\beta \pm 1.96SE$ and are explicitly treated

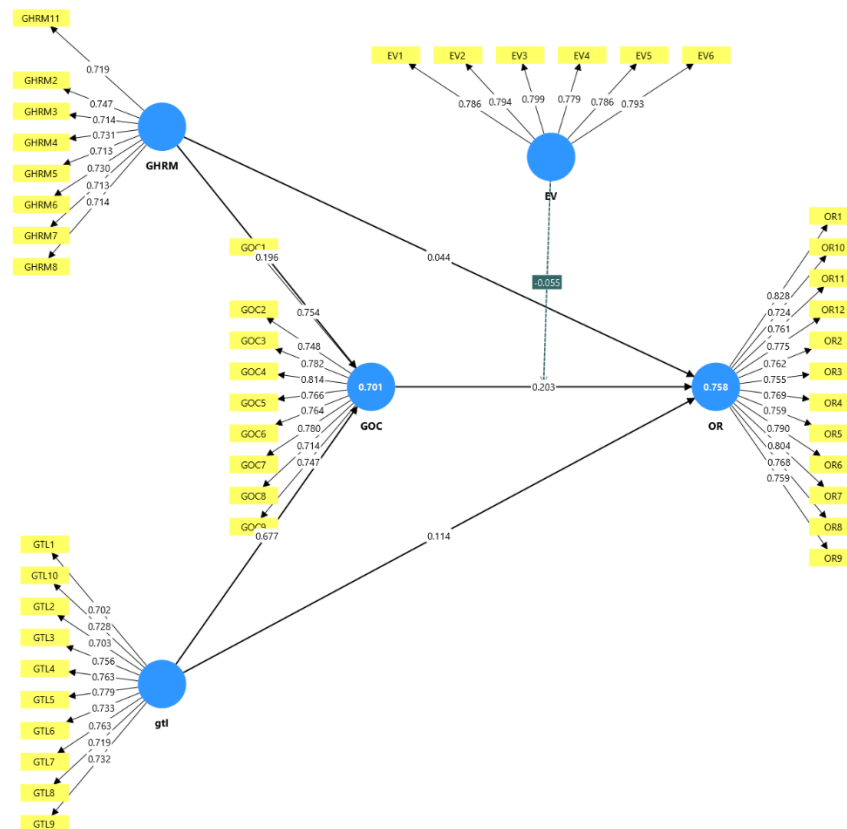
as normal-approximation intervals rather than percentile-bootstrap intervals. R^2 is interpreted as in-sample explanatory power; Q^2 and PLSpredict evidence are not reported, so no claim of out-of-sample predictive validity is made.

The study also recognizes that all constructs were collected from the same respondents in a cross-sectional questionnaire. Reliability, convergent validity, and discriminant-validity statistics do not by themselves eliminate common method variance. Accordingly, the relatively high R^2 values are interpreted cautiously, especially where constructs are conceptually close. The present evidence does not include a marker-variable design or an independent-source validation, and common method variance therefore remains a methodological limitation rather than being treated as statistically ruled out.

4. Result and Discussion

4.1 Result Grapichal Output

Figure 2. Result Grapichal Output



Source: Authors,2026.

This model provides the basis for hypothesis testing. During the outer-model evaluation, five indicators were not retained because their loadings were below the adopted reliability threshold: GHRM1, GHRM9, GHRM10, GHRM12, and GOC10. The retained model therefore contains 8 of the original 12 GHRM indicators and 9 of the original 10 GOC indicators; all GTL, EV, and OR indicators listed in Table 5 were retained. These deletions are reported

transparently because improving statistical convergence must not be interpreted as evidence that the conceptual domain of a broad construct has been improved. The results should therefore be read together with the construct-specification limitation described in the Methodology section.

4.2 Respondent Profile

Table 4. Respondent Profile

Characteristic	Category	Number Of Respondent	Percentage (%)
Gender	Male	103	38.1%
	Female	167	61.9%
Age	> 45 Years	30	11.1%
	35-44 Years	63	23.3%
	20-34 Years	166	61.5%
	< 20 Years	11	4.1%
Education	Master's/Doctoral S2/S3	6	2.3%
	Bachelor's Degree (S1)	44	16.3%
	Diploma (D3)	29	10.7%
	Senior High School	191	70.7%
Work Experience	>15 Years	41	15.2%
	7-14 years	77	18.5%
	1-6 Years	121	44.8%
	<1 Years	31	11.5%

Source: Authors,2026.

Table 4 present the 270 valid respondents, 61.9% were female and 38.1% were male, indicating that female employees constituted the majority of study sample. In terms of age, most participants were 20 and 34 years old (61.5%), followed by other age groups with relatively smaller proportions. Regarding educational attainment, 70.7% of the respondents had completed senior high school, reflecting the educational profile commonly found in Indonesia's textile manufacturing workforce. Furthermore, 44.8% of the respondents reported one to six years of work experience, suggesting that the sample primarily comprised employees with sufficient organizational experience to evaluate the investigated constructs. Overall, these demographic characteristics indicate that the respondent profile is appropriate for representing employees in Indonesia's textile manufacturing industry.

4.3 Measurement Model Assessment

Table 5. Loadings, Cronbach's Alpha, CR, and AVE

Construct	Outer Loading	Cronbach's alpha	CR	AVE
Green Human Resource Management		0.869	0.870	0.522
GHRM11	0.719			
GHRM2	0.747			
GHRM3	0.714			
GHRM4	0.731			

GHRM5	0.713			
GHRM6	0.730			
GHRM7	0.713			
GHRM8	0.714			
Green Transformational Leadership		0.907	0.908	0.545
GTL1	0.702			
GTL10	0.728			
GTL2	0.703			
GTL3	0.756			
GTL4	0.763			
GTL5	0.779			
GTL6	0.733			
GTL7	0.763			
GTL8	0.719			
GTL9	0.732			
Green Organizational Culture		0.910	0.912	0.583
GOC1	0.754			
GOC2	0.748			
GOC3	0.782			
GOC4	0.814			
GOC5	0.766			
GOC6	0.764			
GOC7	0.78			
GOC8	0.714			
GOC9	0.747			
Environmental Values		0.879	0.879	0.623
EV1	0.786			
EV2	0.794			
EV3	0.799			
EV4	0.779			
EV5	0.786			
EV6	0.793			
Organizational Resilience		0.938	0.939	0.595
OR1	0.828			
OR10	0.724			
OR11	0.761			
OR12	0.775			
OR2	0.762			
OR3	0.755			
OR4	0.769			

OR5	0.759
OR6	0.790
OR7	0.804
OR8	0.768
OR9	0.759

Source: Authors,2026.

As shown in Table 5, retained indicators have outer loadings from 0.702 to 0.828, while Cronbach's alpha and CR exceed 0.70 and AVE exceeds 0.50 for all constructs. These values support internal consistency and convergent validity for the retained reflective specification. However, because GHRM and OR represent broad domains, satisfactory reliability and AVE do not by themselves establish that a first-order reflective model is the only appropriate specification. The measurement evidence therefore supports the statistical adequacy of the retained indicators within the tested model, while the possibility of higher-order or composite specifications remains open.

Discriminant validity was assessed using the Fornell–Larcker criterion and HTMT. The Fornell–Larcker comparisons are acceptable, but the HTMT results warrant caution. Three pairs exceed the commonly used 0.90 guideline: EV–GOC = 0.917, EV–OR = 0.930, and GTL–GOC = 0.907. These values indicate weak empirical separation even though the constructs are theoretically distinguishable. The overlap is substantively important because EV has the largest direct coefficient on OR and GOC functions as both a mediator and part of the interaction term. Consequently, structural coefficients involving these constructs should be interpreted conservatively rather than treating discriminant validity as unequivocally established.

Table 6. Discriminant Validity

Construct	Fornell-Larcker criterion				Heterotrait-Monotrait Ratio			
EV	0.789							
GHRM	0.651	0.723			0.742			
GOC	0.821	0.716	0.764		0.917	0.801		
OR	0.846	0.647	0.798	0.772	0.930	0.715	0.861	
GTL	0.745	0.768	0.828	0.739	0.738	0.832	0.864	0.907 0.800

Source: Authors, 2026.

Table 7. HTMT Bootstrapping

Construct	HTMT	5.00%	95.00 %
GHRM <-> EV	0.742	0.682	0.797
GOC <->EV	0.917	0.884	0.946
GOC <->GHRM	0.801	0.747	0.852
OR <->EV	0.930	0.902	0.956
OR <-> GHRM	0.715	0.654	0.772
OR<-> GOC	0.861	0.825	0.894

GTL <-> EV	0.832	0.789	0.872
GTL<-> GHRM	0.864	0.82	0.904
GTL <-> GOC	0.907	0.877	0.936
GTL <-> OR	0.800	0.755	0.841

Source: Authors, 2026.

Bootstrapped HTMT confidence intervals provide an additional but not definitive check. The upper 95% limits in Table 7 remain below 1.00, ranging from 0.772 to 0.956, which supports statistical distinguishability under the less stringent HTMT-inference criterion. At the same time, the point estimates above 0.90 show that empirical separation is not strong. The revised interpretation therefore acknowledges both results: the constructs are not statistically identical, but EV–GOC, EV–OR, and GTL–GOC exhibit substantial overlap that may inflate or destabilize structural relationships. Replication with refined measures or alternative construct specifications is needed to establish stronger discriminant evidence.

4.4 Structural Model Assessment

Table 8. R Square

Construct	R-square	R-square adjusted
GOC	0.701	0.699
OR	0.758	0.754

Source: Authors,2026.

Table 9. Direct Effect

Direct Effect	Weight	SE	T	P-values
EV -> OR	0.533	0.058	9.260	<0.001
EV x GOC -> OR	-0.055	0.024	2.278	0.023
GHRM -> GOC	0.196	0.055	3.592	<0.001
GHRM -> OR	0.044	0.050	0.873	0.383
GOC -> OR	0.203	0.068	2.970	0.003
GTL -> GOC	0.677	0.048	14.026	<0.001
GTL -> OR	0.114	0.068	1.674	0.094

Source: Authors,2026.

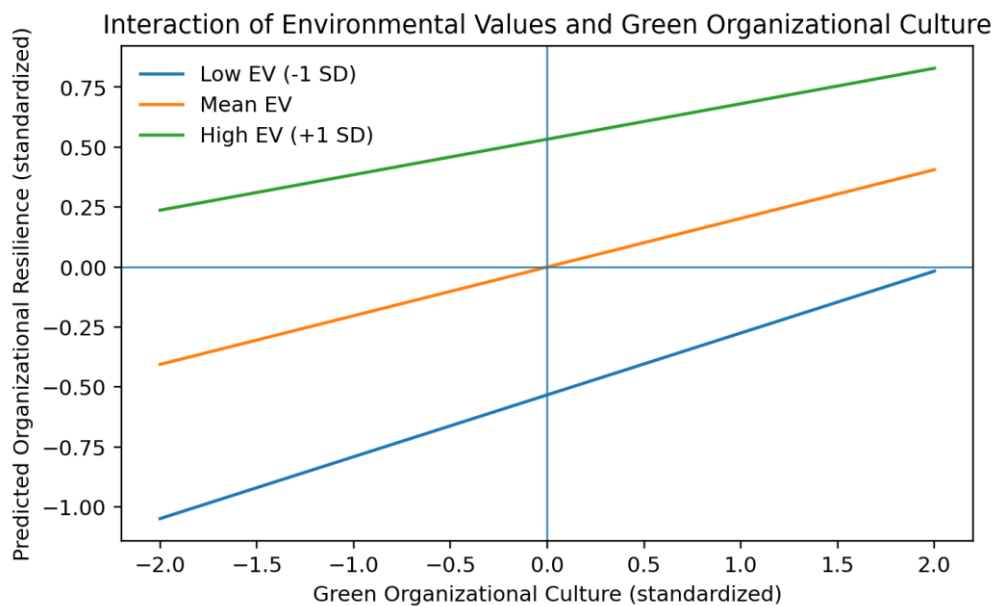
Using the revised two-tailed interpretation, EV has a strong positive association with OR ($\beta = 0.533$, $t = 9.260$, $p < 0.001$). GHRM is positively associated with GOC ($\beta = 0.196$, $t = 3.592$, $p < 0.001$), and GTL is the strongest antecedent of GOC ($\beta = 0.677$, $t = 14.026$, $p < 0.001$). GOC, in turn, is positively associated with OR ($\beta = 0.203$, $t = 2.970$, $p = 0.003$). These results support the view that sustainability-oriented HR practices and leadership are linked to resilience primarily when they become embedded in a shared green organizational context.

The direct GHRM–OR path is not statistically significant ($\beta = 0.044$, $t = 0.873$, $p = 0.383$). The GTL–OR path is positive but weak ($\beta = 0.114$, $t = 1.674$) and is not significant under the two-

tailed 5% criterion ($p = 0.094$), even though it was marginally significant under the original directional one-tailed test. The $EV \times GOC$ interaction is negative and statistically significant ($\beta = -0.055$, $t = 2.278$, $p = 0.023$), contrary to H8's predicted positive moderation. Therefore, H1 and H2 are not supported under the stricter two-tailed criterion, H3–H5 are supported, and H8 is not supported in its hypothesized direction.

Two-tailed sensitivity intervals based on the reported bootstrap standard errors further qualify the structural evidence. The approximate 95% intervals are: $EV \rightarrow OR$ [0.419, 0.647], $GHRM \rightarrow GOC$ [0.088, 0.304], $GHRM \rightarrow OR$ [-0.054, 0.142], $GOC \rightarrow OR$ [0.070, 0.336], $GTL \rightarrow GOC$ [0.583, 0.771], $GTL \rightarrow OR$ [-0.019, 0.247], and $EV \times GOC \rightarrow OR$ [-0.102, -0.008]. These intervals reinforce the conclusion that the GTL direct effect is not robust to two-tailed inference, whereas the negative interaction remains statistically distinguishable from zero. Because these are normal-approximation intervals derived from the reported bootstrap SEs, they should not be interpreted as percentile-bootstrap confidence intervals.

Figure 3. Model-Implied Interaction between Environmental Values and Green Organizational Culture



Source: Authors, 2026. Plot calculated from the reported standardized coefficients.

Figure 3 visualizes the conditional GOC slope implied by the standardized coefficients. At low EV (-1 SD), the model-implied slope of GOC on OR is 0.258; at the mean of EV it is 0.203; and at high EV (+1 SD) it decreases to 0.148. The pattern is therefore consistent with attenuation rather than reinforcement. However, the reported summary output does not provide the covariance terms required for inferential simple-slope standard errors or a Johnson–Neyman region-of-significance analysis. The moderation result is thus interpreted from the significant interaction coefficient and the descriptive slope pattern, while the proposed substitution mechanism is treated as a tentative explanation rather than a demonstrated causal process.

4.5 Mediation Analysis

GOC significantly mediates the GHRM–OR relationship. The indirect effect remains positive under two-tailed inference ($\beta = 0.040$, $t = 2.304$, $p = 0.021$; approximate 95% interval [0.007, 0.073]), while the direct GHRM–OR path is non-significant. This pattern is consistent with indirect-only mediation: GHRM appears to relate to resilience when green HR practices are institutionalized through GOC rather than through an independent direct pathway. The GTL indirect effect through GOC is also significant ($\beta = 0.138$, $t = 2.878$, $p = 0.004$; approximate 95% interval [0.044, 0.232]). Under the original directional one-tailed test, the simultaneous positive direct and indirect GTL effects are consistent with complementary partial mediation. Under the stricter two-tailed sensitivity criterion, however, the direct GTL–OR path is not significant, so the evidence more strongly supports an indirect cultural mechanism and the partial-mediation classification should be treated as criterion-sensitive. H6 and H7 are supported with respect to the presence of statistically significant indirect effects.

Table 10. Indirect Effect

Indirect Effect	Weight	SE	T	P-values
GHRM -> GOC -> OR	0.040	0.017	2.304	0.021
GTL -> GOC -> OR	0.138	0.048	2.878	0.004

Source: Authors, 2026.

5. Conclusion and Suggestion

The findings show that organizational resilience, as perceived by employees in the participating Indonesian textile manufacturing organizations, is associated with the way sustainability-oriented management inputs are converted into shared organizational routines. The integrated RBV–AMO interpretation suggests that green HR practices and leadership are not equivalent to resilience-producing resources by themselves. Their relevance depends on whether employee abilities, motivations, and participation opportunities become embedded in a collective organizational context that supports coordinated adaptation.

GHRM does not have a significant direct association with OR, whereas the GHRM → GOC → OR indirect effect is significant. This indirect-only pattern supports the interpretation of GOC as an institutional conversion mechanism: formal green recruitment, training, appraisal, rewards, participation, and empowerment are more likely to contribute to resilience when they are translated into shared green norms and recurring practices. The result therefore distinguishes the existence of green HR practices from their organizational institutionalization.

GTL strongly predicts GOC and has a significant indirect association with OR through culture. Its direct coefficient on OR is positive but small and is not robust under a conventional two-tailed 5% criterion. Accordingly, the strongest evidence for leadership in this study concerns its role in shaping the cultural conditions through which employees interpret sustainability priorities and coordinate adaptive behavior. This is more cautious than treating leadership as an independently established direct driver of resilience.

EV has the largest positive direct coefficient on OR, but the $EV \times GOC$ interaction is negative and small. The descriptive interaction pattern shows that the positive GOC–OR slope becomes weaker as EV rises. This may be consistent with a substitution interpretation in which strongly internalized personal environmental values reduce employees' dependence on cultural cues, but the present cross-sectional evidence cannot establish that mechanism causally. The empirical conclusions should therefore be limited to the participating Indonesian textile organizations and should not be generalized to the entire Global South without cross-country, multi-industry, and multilevel validation.

6. Limitations and Future Research

This study has several limitations that directly qualify the interpretation of its results. First, the cross-sectional, single-source questionnaire design prevents strong causal inference and leaves open the possibility of common method variance. Second, GOC and OR are organizationally framed constructs measured through individual employee perceptions. Because the current analysis does not test within-firm agreement, intraclass correlation, or multilevel effects, the results should not be interpreted as firm-level estimates. Future studies should retain firm identifiers, report respondents per company, and test rwg, ICC(1)/ICC(2), design effects, cluster-robust inference, or multilevel SEM where the sampling structure requires it.

Third, the reflective first-order specification of GHRM and OR is only one defensible operationalization of broad multidimensional domains. The deletion of GHRM1, GHRM9, GHRM10, GHRM12, and GOC10 is reported transparently, but future research should compare reflective, higher-order, and composite specifications and ensure that indicator removal does not narrow substantive content. The elevated HTMT values for EV–GOC, EV–OR, and GTL–GOC also indicate that stronger measurement separation is desirable.

Finally, the model reports strong in-sample R^2 values but does not provide Q^2 , $PLSpredict$, or comparable out-of-sample predictive evidence, and the available summary output does not permit inferential simple-slope or Johnson–Neyman moderation analysis. Replication should therefore add predictive assessment, effect-size reporting, source or temporal separation of measurements, and direct simple-slope tests. Broader validation across textile firms, other manufacturing sectors, and multiple emerging economies is required before wider generalization is warranted.

Declaration of AI and AI-assisted technologies in the writing process

The authors used generative artificial intelligence tools to support the scientific writing process. Specifically, Quilbot AI and ChatGPT were employed to check grammar, refine the writing style, and improve the clarity of the manuscript. All interpretations, analyses, and conclusions presented in this study remain entirely the responsibility of the authors.

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