

GREEN INCLUSIVE LEADERSHIP AND GREEN FIRM PERFORMANCE: EMPIRICAL EVIDENCE FROM HOSPITALITY INDUSTRY

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ABSTRACT

Purpose: The research investigated that Green Inclusive Leadership (GIL) influenced Green Firm Performance (GFP) in the hospitality sector. The study investigates how Employee Green Creativity (EGC) serves as a mediator while Environmental Knowledge (EK) role as a moderator within the framework of moderation and mediation.

Methodology/approach: The researchers used a quantitative cross-sectional research design to conduct the study. Data were collected via a structured questionnaire from 374 managerial and supervisors of four- and five-star hotels and premium resorts in Khyber Pakhtunkhwa. The study tested hypotheses through regression analysis and moderation and mediation analysis which conducted using SPSS and the PROCESS macro.

Findings: This finding confirmed that GIL has a significant positive direct effect on GFP. Furthermore, Employee Green Creativity partially mediates this relationship. Environmental knowledge moderates this relationship, strengthening the positive impact of GIL on GFP. Thus, the proposed mediation and moderation model is empirically supported.

Limitations and implications: The study's cross-sectional design and its use of self-reported data from one country create limitations for making causal conclusions and for applying research findings to other settings. Future research should use longitudinal research methods together with actual performance assessment methods.

Practical implications: Hospitality industries managers need to develop specific leadership skills which include green leadership capabilities while creating systems that will recognize and support employee environmental innovation. They need to develop complete environmental education programs which will help their personnel build environmental expertise to achieve maximum sustainability results.

Original/value: This research creates a new contribution to existing knowledge by merging inclusive leadership theory with environmental management studies. The study established GIL as a predictor for GFP through empirical evidence while showing how EGC operates as a mediating factor and EK

serves as a boundary condition, which reveals the complete human-centered sustainability pathways used in service-based organizations.

Keywords: *Green inclusive leadership, employee green creativity, green firm performance, environmental knowledge, hospitality industries*

INTRODUCTION

The global hospitality industry, including hotels, resorts, restaurants, and tourism-related services, is currently at an essential crossroads. Generally associated with considerable resource consumption, waste generation, and ecological footprints (Ahmad et al., 2022; Murava & Korobeinykova, 2016), the sector is facing unique pressure from a meeting of stakeholders including regulators, investors, and a new generation of environmentally conscious consumers (Kim et al., 2019). The pressure has caused organizations to shift their understanding of environmental responsibility from a minor "green washing" practice to an essential business requirement that supports their operational efficiency and their ability to compete in the market (Ghani et al., 2022; Pham et al., 2019). The hospitality industry has started to make green firm performance (GFP) their main goal which includes multiple elements that measure environmental progress through reduced energy and water use and waste production and their financial gains through efficiency cost reductions and green best income and their business reputation advantages (Ma et al., 2023; Jang et al., 2017). The process of developing superior green fluorescent protein performance requires various complex obstacles which need to be solved before successful results can be obtained. Many hospitality firms have invested in green technologies and certification programs (e.g., LEED, Green Key), yet the returns on these investments are inconsistent (Khan et al., 2022; Rahman et al., 2015). The current situation indicates that technical solutions together with operational solutions do not provide complete answers. The research field now focused on human factors discovers that organizational leadership combined with employee actions serves as the main element which makes green strategy execution succeed through measurable results (Roscoe et al., 2019).

The concept of green inclusive leadership serves as a dynamic yet insufficiently studied component which exists at this point. Green inclusive leadership extends the principles of inclusive leadership characterized by openness, availability, and accessibility to employees (Manzoor et al., 2023; Nembhard & Edmondson, 2006) by explicitly integrating an environmental ethos. A green inclusive leader not only empowers and values employees' contributions but also actively fosters a shared vision of sustainability, encourages green initiatives, and creates psychological safety for employees to voice eco-innovative ideas (Zada et al., 2024; Javed et al., 2020). The hospitality industry requires leadership which can bring about fundamental changes because its workers use resources and engage with guests in their daily responsibilities. The mechanisms through which green inclusive leadership brings about its various effects on green firm performance need to undergo research-based testing because their operation remains unknown. The direct relationship between leadership and performance is occasionally straightforward; it is typically mediated by the attitudes, behaviors, and creative outputs of the workforce (Manzoor et al., 2024; Afsar et al., 2016). The basic requirement for employee compliance with green rules established by organizations which pursue sustainability needs to be fulfilled while employee green creativity drives the continuous improvement and innovation needed to achieve superior GFP. Hospitality service environments provide daily engagements between guests and workers who solve problems, which lead to creativity that emerges through staff development of techniques to save water and chefs creation of menus without waste.

Theoretical research demonstrates that green inclusive leadership has the potential to assist as an efficient driving force which supports

employee green creativity. The leaders establish a safe environment which encourages all team members to share their innovative concepts without fear of making mistakes. Organizations that recognize their employee's special viewpoints can access various mental abilities which work together to solve challenges. The organization establishes a vital space for innovative solutions through their support of an environmentally sustainable mission (Chen & Chang, 2013). The relationship between green inclusive leadership and green firm performance development operates through environmental goals because green inclusive leadership initiates employee development of their creative abilities. The identification of this mediating pathway will deliver essential explanations which demonstrate how leadership affects organizational performance through its impact on employee behavior.

The study shows that organizational frameworks determine how leadership effectiveness and employee creativity function in their work environment (Liao et al., 2021). The level of environmental knowledge which represents how employees understand ecological principles and environmental issues and organizational activities identifies a key factor that affects green management practices (Mittal & Dhar, 2016). In the hospitality industry, environmental knowledge demonstrates high variability because some staff members possess advanced environmental management system knowledge while others have limited formal sustainability training. This knowledge base likely serves as a critical moderator. A green inclusive leader who empowers employees through encouragement will create few creative green solutions because employees need basic knowledge to create their ideas. The green inclusive leadership system creates a supportive environment which helps employees who possess high environmental knowledge to convert their knowledge into creative green initiatives that produce significant environmental benefits (Huang et al., 2022).

The relationship between green inclusive leadership and its results will produce stronger outcomes in environments which provide complete environmental knowledge. The research

of this boundary condition will show how environmental knowledge affects the association between green inclusive leadership and green firm performance. Collectively, these findings point to a critical gap in the current hospitality management research landscape. The existing research has individually investigated green leadership (e.g., Ahmad et al., 2022) and employee green behavior (e.g., Paillé et al., 2014) and the role of knowledge (e.g., Tuan, 2020), but no study exists which integrates these three components to assess how green inclusive leadership and employee green creativity and environmental knowledge drive green firm performance outcomes. This study aims to address this gap by developing and testing mediating and moderating effect. The study investigates whether employee green creativity serves as the main factor explaining this connection. The study examines whether the combined Environmental knowledge of employees enhances the complete process. The research results will deliver significant theoretical benefits through integration of leadership and creative practices with knowledge-based theories into hospitality sustainability research. The research will provide practitioners with practical solutions to implement. The process will assist hospitality executives in creating leadership training programs which need to focus on both organizational inclusivity and environmental protection goals while they implement green creativity initiatives at every organizational level and design ongoing environmental education programs for all employees.

Review of Literature

Green inclusive leadership

Green inclusive leadership defines itself as a leadership model which establishes direct leadership connections through its commitment to work with employees in environmental protection efforts. This leadership approach establishes open dialogue between workers and their leaders because it allows workers to actively participate in environmental protection activities while sharing their environmental knowledge with others (Bhutto et al., 2021; Aboramadan et al., 2022). Green inclusive leaders who work in

hospitality environments help their organizations by developing an organizational environment which enables sustainable innovation practices and environmentally friendly activities. Research conducted in hotel environments shows that when leaders demonstrate inclusive behavior towards environmental objectives, their employees increase their participation in green work activities and they develop new green services while adopting environmentally responsible methods (Bhutto et al., 2021; Aboramadan et al., 2022). Recent literature demonstrates that green inclusive leadership benefits organizations through its direct employee impact which creates sustainable results for the entire institution. Research demonstrates that the program increases employees' green organizational citizenship behavior through its creation of collective environmental responsibility which connects employees with organizational green values (Abdou et al., 2025; Aboramadan et al., 2022). Green inclusive leadership establishes a relationship between basic psychological need fulfillment and increased green service innovative behavior within hospitality settings which confirms self-determination theory as a sustainable performance motivation framework (Bhutto et al., 2021).

Employee green creativity

Employee green creativity refers to the generation of novel and practical ideas that enhance environmental practices, products, or processes within an organization. Employees who follow eco-centric work methods can develop new solutions to their work difficulties which enable them to achieve environmental innovation and operational enhancements according to green creativity research (Chen & Chang, 2013). The hospitality sector needs green creativity because its frontline staff members interact with guests while they operate their daily tasks to develop innovative waste reduction methods and energy-saving programs and environmentally friendly service improvements that enhance environmental results (Arici & Uysal, 2022). Although general creativity research is mature, empirical studies specifically examining

antecedents and mechanisms of green creativity remain limited particularly those linking leadership styles to employees' environmental idea generation. The latest studies show that leadership and organizational support mechanisms play a vital role in developing employee green creativity. Research shows that green inclusive leadership leads to increased green creativity because it establishes a work environment where employees can suggest new eco-friendly ideas without fear of judgement (Sürücü, 2024). The leadership styles of organizations interact with their psychological green climate and green human resource practices to produce environmentally sustainable creative work in the hospitality industry (Sürücü, 2024; Arici & Uysal, 2022). The componential theory of creativity explains that creative outcomes depend on individual competencies and contextual support yet this theory applies to sustainability tasks which require both ecological knowledge and motivation.

Green firm performance

Green firm performance measures how well an organization achieves its environmental goals through both waste and emission and resource use reduction and eco-efficiency enhancement and sustainability standard compliance. The hospitality industry connects environmental performance to ecological stewardship and economic outcomes and reputation management, because customers increasingly choose eco-certified hotels and sustainable service providers (Elshaer et al., 2025; Shin, 2026). Hotel firms that implement active greening initiatives through resource optimization and environmental strategy integration and eco-certification adoption will achieve better operational results and stronger competitive market position. Financial performance now increasingly depends on environmental stewardship because studies show that investing in environmental initiatives enables companies to reduce costs while creating distinct market advantages. The study demonstrates that multiple organizational factors drive green firm performance which extends beyond single operational practices. The research identifies

three factors which include green human resource management and environmental strategy and green innovation as essential elements which drive environmental results in hospitality businesses (Arsawan et al., 2025). The research shows that green behavior and initiative taking function as employee-level variables which mediate performance results by combining organizational practices with employee sustainability activities (Arsawan et al., 2025). The research results demonstrate that green firm performance functions as a complex measurement system which requires organizations to connect their leadership and cultural elements with their operational methods and employee performance.

Environmental knowledge

Individuals who study environmental knowledge need to learn about ecological problems and sustainable methods and environmental laws. The capability to solve environmental issues requires both mental understanding and hands-on skills to deal with environmental challenges. The study across organizational contexts shows that employees who possess environmental knowledge will display green behaviors through resource conservation and waste reduction and their active environmental efforts (Zhang et al. 2021; Bangwal 2025). The hospitality industry depends on this knowledge because staff members who use their environmental expertise to provide services and manage operations will determine their organization environmental performance. Environmental knowledge increases environmental commitment which leads people to perform environmentally friendly activities that go beyond their required job duties according to prior research. Environmental knowledge serves as an essential boundary condition because it determines how leadership and organizational practices impact sustainability results. Research demonstrates that workers who possess greater environmental knowledge display increased acceptance of eco-friendly programs while they demonstrate better capacity to implement organizational environmental policies, which leads to improved sustainability results for the organization (Bangwal, 2025; Neruja &

Arulrajah, 2025). The presence of environmental knowledge shapes employee understanding of green organizational practices according to the research, which explains that this knowledge becomes vital when businesses need to create new ecological solutions and integrate sustainability into their everyday operations. The research results demonstrate that environmental knowledge acts as a moderating factor which connects leadership practices with business results; environmental knowledge should be treated as an essential research element for sustainability leadership frameworks.

Hypotheses development

Green inclusive Leadership and Green Firm Performance

The practice of green inclusive leadership requires leaders to demonstrate their commitment to environmental sustainability by treating all employees with equal access and respect while they value each employee's unique viewpoint. According to social exchange theory, inclusive leaders build strong employee relationships through trust and respect and support which leads employees to display positive work behaviors that support organizational objectives (Blau, 1964; Randel et al., 2018). When leaders implement sustainable practices within an environmentally friendly framework employees tend to adopt green beliefs and engage in sustainability programs established by their company. The environmental performance of hospitality businesses relies primarily on the sustainable choices made by their staff members when they provide service to customers through electricity consumption and waste disposal and promoting green behavior among clients. Green inclusive leaders involve their employees in making environmental choices while they promote staff participation in sustainability programs and they establish credibility for employee contributions about eco-friendly methods. Through this inclusive method employees develop a feeling of ownership which leads them to take responsibility for environmental results (Carmeli et al., 2010; Kim et al., 2022). Leaders who practice inclusivity become ecological role models because their consistent actions strengthen green behavior

standards and expectations according to social learning theory (Bandura, 1986). Research studies show that leadership styles which include all people and focus on environmental sustainability lead to better organizational environmental results because they create employee dedication to environmental goals and support their work and team efforts (Afsar et al., 2020; Elkhwesky et al., 2022). In hospitality firms, where operational processes are complex and service interactions are frequent, such leadership is particularly effective in translating sustainability strategies into tangible performance outcomes. The implementation of green inclusive leadership will directly lead to positive effects on the environmentally sustainable performance of companies.

H1: There is positive and significant relationship between Green inclusive Leadership and Green Firm Performance.

Mediating effect of employee green creativity

Employee green creativity refers to employees' ability to generate novel and useful ideas aimed at improving environmental performance through developing eco-friendly service processes and waste reduction methods and energy efficiency improvement techniques, which employees use to create environmentally friendly service processes and waste reduction methods and energy efficiency improvement techniques. The componential theory of creativity claims that creative abilities develop through three factors which include intrinsic motivation together with domain-specific expertise and a social environment that provides help (Amabile et al., 2018). Green inclusive leadership establishes an experimental atmosphere through two main methods, which include developing open communication channels together with recognizing employee contributions and creating conditions that enable psychological safety for testing new ideas.

Inclusive leaders promote employee involvement and idea sharing, which are critical antecedents of creativity. Employees in a green-inclusive climate feel protected to present their nontraditional environmental solutions, which differ from standard practices because they deal

with environmental issues that need innovative solutions (Carmeli et al., 2010; Javed et al., 2019). This information holds exceptional value for hospitality organizations because their frontline workers possess special knowledge about operational problems and guest behavior patterns that impact environmental results. The primary way that green inclusive leadership affects green firm performance depends on employee eco-friendly creativity which serves as its main mechanism. Creative green ideas contribute to improved environmental practices, operational efficiency, and service innovation, which collectively enhance firm-level green performance (Liu et al., 2021). Green inclusive leaders let employees develop environmental solutions instead of enforcing direct solutions because they consider employee creativity as their main way to achieve sustainable development. The green performance of the organization improves because employee innovations contribute to both leadership effects and environmental performance.

H2: Employee Green Creativity mediates the relationship between Green inclusive Leadership and Green Firm Performance

Moderating effect of environmental knowledge

Environmental knowledge refers to employees' understanding of environmental issues and sustainability principles and regulations and green practices which apply to their job responsibilities (Frick et al. 2021). According to the ability motivation–opportunity (AMO) framework, employees' performance outcomes depend on their capabilities (ability) and their willingness (motivation) and the availability of work support (opportunity). Employees need environmental knowledge as a vital skill which enables them to change leadership support into green performance results while green inclusive leadership provides both motivation and opportunity to employees.

Conversely, when environmental knowledge is low, employees may struggle to operationalize green leadership directives, limiting their ability to contribute meaningfully to environmental performance despite inclusive leadership support. Prior research indicates that environmental

knowledge strengthens employees' responsiveness to green leadership and enhances the effectiveness of sustainability initiatives (Afsar et al., 2020; Yusoff et al., 2021). Therefore, environmental knowledge is expected to act as a boundary condition that amplifies the relationship between green inclusive leadership and green firm performance. In hospitality organizations, environmental challenges exist as complex problems which require employees to use their technical skills for waste management and energy conservation and sustainable service delivery. Employees who possess advanced environmental knowledge can better

comprehend their leaders' green initiatives while identifying environmental issues and developing suitable solutions. The beneficial effects of green inclusive leadership on green firm performance will increase when employees have deep environmental understanding.

H3: Environmental knowledge moderates the relationship between green inclusive leadership and green firm performance; such that the relationship is stronger when environmental knowledge is high.

Theoretical framework

There are four variables are used in this study. The variables of this study are Green inclusive Leadership (GSL), Employee Green Creativity (EGC), Green Firm Performance (GFP), and environmental knowledge.

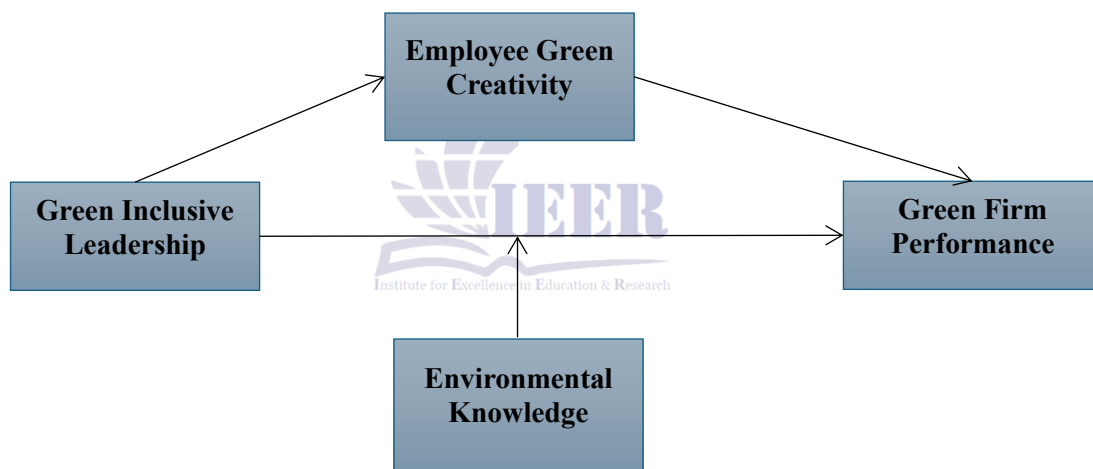


Figure: This study theoretical framework

Hypotheses of the study

H1: There is positive and significant relationship between Green inclusive Leadership and Green Firm Performance.

H2: Employee Green Creativity mediates the relationship between Green inclusive Leadership and Green Firm Performance

H3: Environmental knowledge moderates the relationship between Green inclusive Leadership and Green Firm Performance

Methods

Sample and procedure

Current study used a quantitative cross-sectional research design to test their hypotheses. The research team selected hotel managers and supervisors from four-star and five-star hotels and high-end resort chains in Khyber Pakhtunkhwa. The researchers chose these establishments because they probably have established environmental policies and leadership methods. The researchers used purposive sampling to select participants who had sufficient knowledge about their unit's environmental programs and their leadership methods. The research team collected

data during an eight-week period through a structured questionnaire which they delivered electronically to participants through professional networking platforms and industry associations. The research team received 398 responses from the 520 surveys which they distributed. The researchers obtained 374 valid responses after they conducted a thorough screening process

which eliminated incomplete responses and responses that did not pass attention-check items. The sample size provides sufficient power for statistical analyses which the research team plans to conduct using SPSS, for hypotheses testing, mediation, and moderation analysis.

Table 1: Participants information

Variable	Category	(n)	(%)
Age	20-30 years	142	37.9
	31-40 years	128	34.2
	41-50 years	72	19.3
	Above 50 years	32	8.6
Gender	Male	226	60.4
	Female	148	39.6
Qualification	Bachelor's degree	198	52.9
	Master's degree	124	33.2
	Diploma/Certification	52	13.9
Experience	< 5 years	106	28.3
	6-10 years	144	38.5
	11-15 years	82	21.9
	> 15 years	42	11.3
Total (n)		374	100

The demographic profile of the study sample (N = 374) shows that the respondents consists of young individuals who have completed their education and gained some experience because that is how the hospitality industry currently operates. The majority of respondents belonged to the 20 to 40 age range which accounted for 72.1 percent of the total population while the gender distribution showed 60.4 percent male and 39.6 percent female which demonstrated sector wide inclusion. The majority of participants possessed a Bachelor's degree which made up 52.9 percent of the sample while Master's degrees accounted for 33.2 percent and Diploma/Certification holders showed practical experience through their 13.9 percent representation. The work experience distribution

showed balanced results because the biggest group which accounted for 38.5 percent of the population had 6 to 10 years of experience while 28.3 percent had under 5 years of experience and 21.9 percent possessed 11 to 15 years of work experience and 11.3 percent had more than 15 years of experience.

Survey measurement

All constructs were measured using established, multi-item scales which researchers adopted for hospitality research purposes. The study used a five-point Likert scale which participants used to express their view with statements that ranged from 1 (Strongly Disagree) to 5 (Strongly Agree).

Table 2: Scale items and sources

Variable name	Items	Source
Green Inclusive Leadership	09	Carmeli et al. (2010)
Green Firm Performance	04	Paillé et al. (2014)
Employee Green Creativity	06	Chen & Chang, (2013)
Environmental Knowledge	03	Gatersleben et al. (2002)

In this research, green inclusive leadership was measured using 9 items taken from Carmeli et al. (2010). A 4-item scale was used that created by Paillé et al. (2014) to measure the Green firm performance. A six-item scale was used

established by Chen and Chang (2013) to evaluate the employees green creativity. To examine environmental knowledge, this study 3 items scale adopted from the past study of Gatersleben et al. (2002).

Results and Data analysis

Reliability test

Table 3: Summary of reliability statistics

Construct	Survey questions	(α)	Threshold	Decision
GIL	09	0.89	≥ 0.70	Reliable
GFP	04	0.85	≥ 0.70	Reliable
EGC	06	0.87	≥ 0.70	Reliable
EK	03	0.82	≥ 0.70	Reliable

The reliability analysis established that all constructs maintain strong internal consistency. The green inclusive leadership (GIL) scale which consists of nine items demonstrates excellent reliability through an alpha coefficient of 0.89, thus showing that the scale accurately measures leaders who display inclusive behavior and environmental stewardship. The green firm performance (GFP) assessment which includes four items achieves good reliability, as per threshold value because the assessment items effectively measure GFP. The Employee Green

Creativity (EGC) scale has six items that attained high reliability through its measurement system which succeeds in assessing employees' capacity to produce sustainable innovative concepts. The Environmental Knowledge scale which uses three items shows good reliability through its measurement system which evaluates employees' understanding of environmental issues. All Cronbach's Alpha values greater than established threshold of 0.70 with scores ranging from 0.82 to 0.89 which demonstrates that the assessment tools used in study have a good reliability.

KMO and BTS test

Table 4: Summary of KMO and BTS

Test	Value	Threshold
KMO Measure	0.891	≥ 0.70
BTS (χ^2)	3248.76	p < .001
n	374	≥ 200

The researchers applied KMO and BTS test for conducting multivariate and factor analysis. The value of KMO is 0.891 which above than threshold of 0.70. The KMO statistic of 0.891 confirms both excellent sampling adequacy and highly compact partial correlations which prove that the data meets requirements for factor extraction (Hair et al., 2019). The null hypothesis

which states that the correlation matrix is identical between all variables was rejected by BTS because it produced a highly significant result ($\chi^2 = 3248.76$, p < .001). The analysis results indicate that the variables hold sufficient common variance to enable researchers to use multivariate methods which include factor analysis.

Correlation test

Table 5: Summary of Correlation analysis

Variable	Mean	SD	1	2	3	4
1. GIL	5.21	0.87	1			
2. EGC	5.08	0.91	.58**	1		
3. EK	4.95	0.94	.49**	.52**	1	
4. GFP	4.87	0.96	.53**	.61**	.55**	1

Note: ** Correlation is significant at the 0.01 level (2-tailed). GIL=Green Inclusive Leadership; EGC=Employee Green Creativity; EK=Environmental Knowledge; GFP=Green Firm Performance.

Table 5 shows the basic statistics and Pearson correlation coefficients which describe the research variables. The mean scores for all constructs were above the average of the scale which indicates that respondents held positive perceptions about the constructs. The correlation matrix shows all critical variables in the study need to be evaluated because it shows all variables in the study create strong positive influences which follow the expected patterns. Green Inclusive Leadership (GIL) shows a strong positive relationship with Employee Green

Creativity (EGC) because the correlation coefficient equals .58 at a significance level below .01. EGC shows a strong relationship with GFP because the correlation coefficient equals .61 at a significance level below .01. Environmental Knowledge (EK) shows a positive relationship with all other variables. The initial bivariate relationships provide key evidence which supports the proposed model while they establish that no multicollinearity issues exist because all correlations fall below the 0.80 threshold.

Hypotheses testing

Table 6: Summary of Hypothesis H1 (GIL>EFP)

Model	Variable	B	β	t	p	95% CI	Tolerance	VIF
1	Constant	1.807		8.889	0.000	1.407- 2.207		
	GIL	0.587	0.557	12.936	0.001	0.498 - 0.676	0.998	1.001

Note: $R^2 = .310$, Adjusted $R^2 = .308$, $F(1, 372) = 167.34$, $*p < .001$.

The first hypothesis assumed that Green Inclusive Leadership (GIL) would establish an

essential direct link between Green Firm Performance (GFP). The study used a simple

linear regression to evaluate their estimate. The results show a statistically significant model which can be seen in Table 2 with $F(1, 372) = 167.34$ and $*p* < .001$. Green Inclusive Leadership accounted for approximately 31% of the variance in Green Firm Performance ($R^2 = .310$, Adjusted $R^2 = .308$). The unstandardized coefficient ($B = 0.587$, $*p* < .001$) and

standardized beta coefficient ($\beta = 0.557$, $*p* < .001$) both show positive effects which present study found significant. The tolerance value (0.999) and VIF (1.001) confirm the absence of multicollinearity. The results confirm Hypothesis 1 because GIL is fundamental direct predictor of GFP in hospitality organizations.

Mediation analysis

Table 7: Summary of Hypothesis H2 (GIL→EGC→EFP)

Path / Effect	Coeff.	t	p	LLCI	ULCI
DE & TE					
(c): GIL → GFP	0.587	12.936	0.000	0.498	0.676
(c'): GIL → GFP	0.301	5.902	0.001	0.201	0.401
IE					
	Effect			BootLLCI	
Total Indirect Effect					
Via EGC (GIL→EGC→GFP)	0.286			0.212	0.368
Path Coefficients					
a: GIL → EGC	0.604	15.140	0.000	0.526	0.682
b: EGC → GFP	0.474	10.718	0.001	0.387	0.561

The mediation analysis for Hypothesis H2 was conducted to examine whether Employee Green Creativity EGC mediates the relationship between Green Inclusive Leadership GIL and Green Firm Performance GFP. The results show a partial mediation effect because both direct and indirect paths provide evidence for this finding. The total effect c of GIL on GFP showed statistical significance with β value of 0.587 and t value of 12.936 and p value below .001 which indicates a strong relationship. The introduction of EGC as a mediator reduced the direct effect c of GIL on GFP to β value of 0.301 with t value of 5.902 and p value of .001 which indicates partial mediation. The indirect effect through EGC showed a value of β 0.286 which had a bootstrapped 95 confidence interval between 0.212 and 0.368 and this range does not include zero which confirms the significance of the

mediation. The path coefficients establish GIL as a significant predictor of EGC with a coefficient value of β 0.604 and a t value of 15.140 and a p value below .001 while EGC shows a significant prediction relationship with GFP through a coefficient of β 0.474 and a t value of 10.718 and a p value of .001. The results show that Green inclusive leadership directly improves green firm performance while also creating a positive effect through employee green creativity. The mediation model demonstrates agreement with recent green inclusive leadership which shows that inclusive leadership creates a work environment that encourages employees to develop innovative eco-friendly solutions which lead to better organizational results as per Asghar et al. (2023) and Chen and Chang, (2013).

Table 8: Summary of Hypothesis H3 (GIL*EK→EFP)

Predictor	B	t	p	LLCI	ULCI
Constant	4.872	97.655	0.000	4.774	4.970
GIL (Centered)	0.529	11.511	0.000	0.439	0.619
EK (Centered)	0.454	9.841	0.000	0.363	0.545
GIL x EK	0.112	2.666	0.008	0.029	0.195

Note: $R^2 = .398$, $F(3, 370) = 81.54$, $*p* < .001$. Interaction $\Delta R^2 = .012$, $*p* = .008$.

The present study tested H3 that Environmental Knowledge (EK) moderates the relationship between Green Inclusive Leadership (GIL) and Green Firm Performance (GFP). The research employed PROCESS Macro (Model 1) to test the hypothesis using mean-centered variables which helped to decrease multicollinearity issues. The results in Table 4 demonstrate that the interaction term GIL x EK shows statistical significance, its coefficient B value of 0.112 and p value of .008. The interaction term increased explained variance after it was included because it resulted in a ΔR^2 value of .012 and a p value of .008. The researchers performed a simple slope analysis to study the interaction which involved plotting GFP against GIL at high and low levels of EK. The relationship between GIL and GFP was stronger and more positive for employees with high environmental knowledge (Simple Slope = 0.643, * $p^* < .001$) compared to those with low environmental knowledge (Simple Slope = 0.415, * $p^* < .001$).

Conclusion

This study examined a model which consists of Green Inclusive Leadership (GIL) as independent, Green Firm Performance (GFP) as dependent, Employee Green Creativity (EGC) as mediating, and environmental Knowledge (EK) as moderator variable. The research study used Pakistan's hospitality industry as its operational base to collect data from 374 managerial staff members employed at four-star and five-star hotels and first-class resorts. The researchers used SPSS and the PROCESS macro (Model 1 & 4) to conduct advanced path and moderation analyses.

The current study's findings provide strong evidence to support the proposed model. First, Hypothesis 1 was confirmed, which showed that green inclusive leadership significant and positive effect on green firm performance. The finding supports recent research which demonstrates that open leadership and empowering leadership styles lead to better environmental results and shows this effect applies to inclusive leadership in environmental practices (Javed et al., 2020; Ahmad et al., 2022). Second, Hypothesis 2 received full validation because employee green creativity mediates the link between GIL-GFP. The study shows essential creative theories about

competitive advantage by showing how leadership affects performance through employee creation of new green solutions (Chen & Chang, 2013; Song & Yu, 2018). The results of Hypothesis 3 supported the hypothesis which showed environmental knowledge moderates the relationship between GIL-GFP. The study confirmed the knowledge-based perspective because it demonstrates how shared environmental knowledge among staff members enhances the effectiveness of green-inclusive leadership which recent studies identified as a contingency factor (Mittal & Dhar, 2016; Huang et al., 2022).

Theoretical and Practical Implications

The research establishes two main theoretical contributions to its field. The research combines inclusive leadership theory with green management literature by introducing and validating the GIL construct as important previous research which needs to be examined. The research demonstrates that open leadership together with accessible leadership and empowering leadership functions as critical elements which drive sustainable development initiatives. The study develops environmental strategy micro-foundations by establishing a moderation and mediation pathway that shows how environmental strategies operate. The research establishes that employee creativity functions as the main factor which links leadership with performance while environmental knowledge among employees serves as the specific condition which determines this relationship. The research presents a deeper understanding of how leadership functions during different times to create measurable green results within service-focused industries such as hospitality.

The research findings provide practical implications for managers and policymakers who work in Pakistan's hospitality sector. Organizations need to create new leadership development programs which train Green Inclusive Leadership by teaching managers to actively ask for employee input on environmental programs. Organizations need to establish systems which enable them to record Employee

Green Creativity through formal green innovation portals and ideation workshops and recognition programs that reward sustainable suggestions. Environmental Knowledge plays a critical moderating role because it demonstrates that leadership and suggestion boxes fail to function properly without a knowledgeable base about environmental issues. The hospitality industry requires businesses to provide ongoing environmental training which all employees need to succeed at their specific job responsibilities.

Limitations and future study

The study contains multiple limitations which need to be recognized. The research design establishes important relationships through its cross-sectional method.

However, the data show only one specific moment in time. The study used self-reported perceptual measurements to assess Green Firm Performance yet these measurements did not completely match actual performance standards despite the researchers controlling for common method bias. The study used a sufficient sample size yet its geographical and sectoral focus on upscale hospitality units from Pakistan limits researcher's ability to apply results to different cultural settings and budget-friendly hospitality establishments.

The research will progress through three different research paths which will solve existing study limitations. Future studies should implement their research through longitudinal or experimental designs which will allow researchers to determine causative relationships between variables. Researchers should include archival data and objective performance metrics which include utility bills and waste audit reports and green key certification scores to assess enterprise performance. The model needs further expansion through future studies which will evaluate different psychological mechanisms. Green psychological empowerment and green voice behavior both serve as dual or single mediators between green inclusive leadership and green firm performance. The study of different moderators through green HR bundles which represent combined green training and appraisal and rewards systems and perceived organizational

support for the environment will show how organizations achieve their highest benefits from green leadership spending.

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