Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 7 (July) (2025)

The Impact of Green Training on Environmental Performance: The Mediating Role of Employee Performance

Sajjad Ahmed
Faculty of Management and Social Sciences, Lasbela University of Agriculture,Water and Marine Sciences, Uthal, Baluchistan
Email: sajjad.ahmed@luawms.edu.pk

Sikandar Ali Malookhani
Assistant Professor (Commerce Department) Govt. New Ali Garh Degree Boys College, Tando Adam

Prof. Dr. Seema N. Mumtaz
Chair Dept. of Community Medicine -Karachi Institute of Medical Sciences, National University of Medical Sciences, Malir Cantt. Karachi

Naveed Ali Qureshi
Department of Management Sciences, COMSATS University Islamabad, Attock Campus, Attock. https://orcid.org/0000-0001-7737-0120
Email: naveedali0188@gmail.com

Dr. Qasim Mansoor Jalali
Department of Management Sciences, Islamia College Peshawar
Email: qasim.mansoor@icp.edu.pk

ABSTRACT
Companies are encouraged to adopt greener practices to reduce their environmental impact. However, this study examines the role of green training in enhancing environmental performance and its indirect impact on employee performance (EP). As corporations face mounting pressure to implement environmentally responsible practices, this research provides empirical evidence on how strategic human resource investments can promote sustainable outcomes. The study employs a robust methodological approach, collecting primary data from 314 employees across various manufacturing sectors through a structured questionnaire that utilizes validated 5-point Likert scales (GT α = 0.89, EP α = 0.94, ENP α = 0.91). The findings indicate that green training enhances environmental performance. Furthermore, employee performance was found to partially mediate this relationship, implying that green training boosts employee skills and environmental awareness, which in turn improve organizational environmental results. The findings offer empirical support for green training and environmental performance strategies. This study advances the green HRM literature and provides policymakers and HR practitioners with practical guidance on promoting sustainability through employee development.

Keywords: Employee Training, Environmental Performance, Employee Performance, SEM, University

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 7 (July) (2025)

Introduction

Management scholars interested in environmental preservation and sustainable development have grown in recent years. Environmental issues are widely considered the world's most pressing socioeconomic challenges (Barakat et al., 2023). Mostly, schools and construction projects have been affected by environmental degradation. This study aims to provide preliminary data on how environmental issues may affect education (Al Doghan et al., 2022). Moreover, Green training is eco-friendly and cost-effective (Barakat et al., 2023). Businesses utilize green training (GT) to become more environmentally conscious. Green training, which combines on-the-job and post-secondary education with environmental management aims, is popular (Barakat et al., 2023). Green HRM includes green training. Additionally, green training is necessary to overcome independent environmental barriers and foster workplace acceptance of these challenges. This benefits organizations and their employees. This topic is strategically important (Shoaib et al., 2021) since it involves building a sustainable organization. As a result, several research initiatives are being conducted across various management disciplines to achieve this goal. Thus, management academics are working hard to create a sustainable atmosphere. However, HRM researchers and professionals have shown much less interest in this effort. GHRM-related human resources issues were challenging to highlight (Ahmad et al., 2025). Academic staff members can contribute to campus sustainability by leveraging their technical expertise, engaging in direct interactions with managers, and utilizing their specialized knowledge. This is because they interact directly with authorities. To achieve long-term success in the university setting, academic staff must have their ethics supported and encouraged.

To maintain university success, GHRM considers a powerful tool that can help build an effective development strategy based on sustainable goals (Zaidi et al., 2025). Recently, scholars worldwide have begun to recognize the importance of GHRM. It improves organizations and enterprises by improving environmentally sustainable performance (Malokani et al., 2024; Mousa et al., 2025). It also encourages employee performance in some aspects. Sustainable performance boosts employee dedication. Environmental consciousness permeates human resource management. This includes employing, training, and rewarding green staff, as well as developing green employees to value environmental ideas, practices, and activities. Modern academics who value human resources in ecologically responsible employment emphasize environmentally responsible behaviour as a key to enhancing employee performance in the workplace (Ercantan & Eyupoglu, 2022). There are several reasons. This study empirically examines the impact of green training on environmental performance. The study will examine how employee behavior mediates this relationship. The company's resource-based view (RBV) theoretical lenses were employed to examine how green training impacts environmental performance of education (Ercantan & Eyupoglu, 2022). Green training is linked to ENP in the education sector (Wu & Ying, 2024). This study intends to help researchers identify the conditions associated with GT and ENP in Pakistan's educational sector. Through this research, adding knowledge of educational green training. This initiative is a response to stakeholder pressure to consider the environment and the built environment.

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 7 (July) (2025)

Literature Review

GT & ENP

Positive employees' behavioral traits, attitudes, talents, and knowledge slow environmental collaboration (Ababneh, 2021). An earlier study found that green training helped prepare personnel with diverse talents and abilities. By improving employees' innovation-related knowledge, skills, and capacities, the business's performance improved (Sarwar & Mustafa, 2024). The level of training an organization's employees receive significantly impacts its operational success (Veerasamy et al., 2024). Training personnel helps achieve organizational goals, including performance improvement, by transferring information and skills. Employee training imparts information and skills. A cross-sectional study Suleman et al. (2024) on employee training found a positive association with the organization's effectiveness. Performance in this area can be assessed by examining the company's present conduct, particularly in terms of efficiency and effectiveness. RBV of the organization's recommendations state that strategic resources (both human and physical) drive competitive improvement and benefits. Since these resources are rare, valuable, and hard to replicate, market competitors struggle to copy them (El Nemar et al., 2022; Malokani et al., 2023). Moreover, ENP is linked to environmentally responsible GHRM, according to RBV theory (El Nemar et al., 2022). In this context, GHRM's primary goal is to provide employees with training opportunities and to encourage and offer new opportunities for improved workplace behavior. This activity helps organizations maintain a competitive edge and outperform their competitors (Aboramadan et al., 2022). Combining the organization's tangible and intangible resources creates higher-order resources. This phrase describes high-level methods that provide corporations with a competitive edge. Moreover, research has also shown the influence of GT on ENP (Barakat et al., 2023; Gopang et al., 2021). A quantitative analysis found that green training is crucial to combating climate change (Dimitropoulos et al., 2023). Therefore, it was proposed that

H1: Green training boosts environmental performance Green Training (GT), Employee Performance, and Environmental Performance

HR management methods promote sustainable resource utilization to achieve strategic objectives (Ribeiro et al., 2022). GHRM implements these strategies. According to the RBV, the survival of an organization is contingent upon resources (Ployhart, 2021). Therefore, the employees must be highly skilled and capable of making decisions that benefit both the business and the environment (Hernita et al., 2021). In numerous studies, the green human resource management (GHRM) components, i.e. green skills, green training, green behaviors, green knowledge, and abilities, have been identified as essential for environmental awareness (Shahzad et al., 2023). Shoaib et al. (2021) described that green training improves employees' performance. The resource-based theory also suggests that specialized and non-replicable resources create numerous heterogeneity opportunities, which enhance an organization's competitiveness (Barney et al., 2021). This creates many heterogeneity opportunities. GT promotes green environmental performance, which is crucial to an organization's

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 7 (July) (2025)

environmental strategy. Eco-performance refers to an organization's efforts to minimize its environmental impact (Sarkis, 2025). It has been shown that GT is strongly correlated with environmental initiatives. Several empirical studies have found this. If employees learn green skills, the firm's environmental impact may be enhanced. However, corporations can achieve environmental performance by participating in various actions that benefit the environment (Al Doghan et al., 2022). The employee's green training ability is closely related to improving green environmental performance. A study found that firms must actively participate in customized and tailored green employee training to improve employee performance (Alam et al., 2023). These employees' performance boosts environmental performance (Qasim et al., 2024). Likewise, employee training enhances both organizational sustainability and employee performance. Hence, it is proposed that.

H2: GT and ENP are mediated by employee performance.

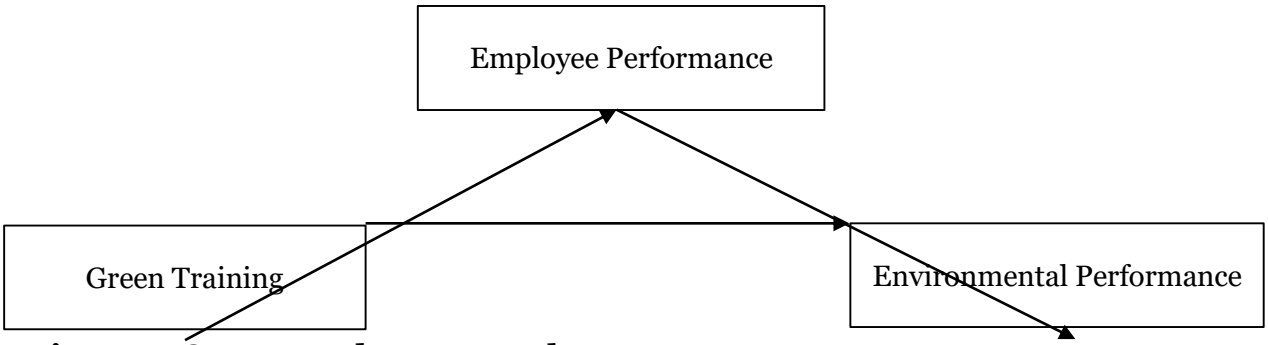

Figure 1: Conceptual Framework

Methodology

The research design employed was cross-sectional, commonly used in survey-based research and previously utilized in various research studies (Dalati & Marx Gómez, 2018). Hence, the design of the research is appropriate for investigating the green training effect on ENP. Furthermore, the target population consisted of teaching staff from academic institutions, and prior to data collection, formal administrative permission was obtained. However, the sample size was estimated according to the predetermined standards (Suleman et al., 2024), which were also used by other researchers (Memon et al., 2022). The number of questionnaires issued was 420, and out of all the questionnaires issued, 330 were returned, while the remaining 90 were incomplete. Therefore, 314 were retained and analyzed. It was based on the fact that Smart-PLS software is effective when dealing with smaller sample sizes (Evina et al., 2024). To address the common method bias that often occurs in cross-sectional study designs, the arrangement of scale items in the questionnaire was randomized to reduce biases caused by response patterns, following the recommended procedures (O'brien, 2007).

Measurement Scale

Five items were adopted from (Paillé et al., 2014), for measuring GT. Scale items include: "My organization's delivers environmental sustainability training programs." Moreover, seven items were adopted via (Correia et al., 2024) to measure ENP via a 5-point Likert scale (1-Strongly Disagree & 5-Strongly Agree).

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 7 (July) (2025)

Sample items include: "Our organization effectively reduces waste and pollution". The EP scale was measured via 7-item measurement scale via a previous study (Koopmans, 2014), through a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), incorporating items such as "Employees in this organization actively contribute to environmental sustainability initiatives". CR, AVE, and alpha values are shown in Table 1.

Table 1: CR, AVE & Cronbach Alpha

Construct	Items	F. L	α	CR	AVE
Environmental Performance	ENP-1	0.78	0.91	0.93	0.68
	ENP-2	0.82			
	ENP-3	0.75			
	ENP-4	0.8			
	ENP-5	0.77			
	ENP-6	0.73			
Employee Performance	EP-1	0.85	0.94	0.95	0.72
	EP-2	0.82			
	EP-3	0.79			
	EP-4	0.81			
	EP-5	0.76			
	EP-6	0.83			
	EP-7	0.78			
Green Training	GT-1	0.88	0.89	0.91	0.65
	GT-2	0.85			
	GT-3	0.82			
	GT-4	0.84			
	GT-5	0.8			

Common Bias Method

CMB identifies a threat to survey-based research validity, particularly studies that utilize self-reported single-source data (Podsakoff et al., 2003). To minimize potential for CMB, this study deliberately selected highly knowledgeable respondents, specifically, information technology (IT) professionals, who are most qualified to provide accurate and informed responses to the questionnaire. Furthermore, the study employed the collinearity VIF approach to statistically detect any bias (Thompson et al., 2017). A VIF value more than the threshold of 5 indicates that multicollinearity is problematic. However, calculated VIF values for the constructs fall below the five-point cutoffs, indicating the proposed model is free from CMV.

Demographic Characteristics

A well-rounded but professionally experienced sample is revealed by the

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 7 (July) (2025)

demographic profile of the 314 responders. Males comprised 57.01% of the population, while females accounted for 42.99%. The majority of respondents fall in age ranges 35 to 44 years (33.44%) and 45 to 54 years (29.94%), indicating a predominance of mid-to-late career professionals. In education, most individuals have a Bachelor's degree (43.95%) or a Master's degree (38.22%), while only a minor fraction had intermediate or below degrees (9.55%) or advanced degrees such as MPhil/PhD (8.28%). The majority of job positions were held by mid-level managers (43.95%), followed by entry-level personnel (22.93%), senior management (21.02%), and executive/top management (12.10%). The highest percentage of individuals with 4–6 years of experience (31.21%) was followed by those with 1–3 years (26.75%), less than 1 year (22.93%), and 7–10 years (19.11%) of work experience. Table 2 indicates that the sample is suitable for examining organizational and workplace-related dynamics, as it represents a diverse and educated workforce.

Table 2: Demographics Analysis

Category	Sub-category	(n)	(%)
Gender	Male	179	57.01%
	Female	135	42.99%
Age (Years)	< 25	30	9.55%
	25–34	30	9.55%
	35–44	105	33.44%
	45–54	94	29.94%
	<55	55	17.52%
Qualification	Intermediate or below	30	9.55%
	Bachelor's Degree	138	43.95%
	Master's Degree	120	38.22%
	MPhil/PhD	26	8.28%
Job Position	Entry-level Staff	72	22.93%
	Mid-level Management	138	43.95%
	Senior Management	66	21.02%
	Executive/Top Management	38	12.10%
Experience	Less than 1 year	72	22.93%
	1–3 years	84	26.75%
	4–6 years	98	31.21%
	7–10 years	60	19.11%

Data Analysis

PLS-SEM Approach

The data were analyzed via SmartPLS V4. PLS-SEM is particularly suitable for complex models, aiding in theoretical development and explaining variance among constructs (Henseler et al., 2015). It is also widely recognized in

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 7 (July) (2025)

management investigations (Hair et al., 2021; Jha & Sachdeva, 2024) and is frequently applied in management studies (Hair Jr et al., 2021). Mediation analysis was subsequently conducted following the guidelines proposed by (Rm, 1986) and (Hair et al., 2020).

Measurement-Model

Internal Consistency

Internal consistency was assessed using Cronbach's alpha (α). Table 1 shows that α is greater than 0.7, which is a recommended internal consistency (Hair et al., 2020).

Convergent Validity

Convergent validity has been examined through outer loading and AVE (Joseph F Hair Jr et al., 2021). However, convergent validity has been achieved, as all outer loadings were at least 0.7 and the value of AVEs exceeded 0.5 (Table 1).

Discriminant Validity

Fornell-Larcker criterion adopted to check discriminant validity (Table 3) (Henseler et al., 2015).

Table 3 Discriminate validity (Fornell-Larker criteria)

Constructs	1	2	3
1. Green Training (GT)	0.812		
2. Employee Performance	0.514	0.844	
3. Environmental Performance	0.486	0.602	0.856

Data Analysis

PLS-SEM Approach

The study employed PLS-SEM V4 software, chosen for its robustness in analyzing complex models with latent variables (Hair et al., 2021). This approach was particularly suitable given the study's focus on predictive accuracy and theoretical development (Henseler et al., 2016). Following established guidelines (Sarstedt et al., 2022), the analysis proceeded in two stages: first, evaluating the measurement model, then examining the structural relationships. The mediation analysis followed contemporary recommendations (Hair Jr et al., 2021) rather than the traditional Baron & Kenny approach, utilizing bootstrapping with 5,000 subsamples to test indirect effects.

Measurement Model Evaluation

The measurement model assessment confirmed the reliability and validity of all constructs. Internal consistency was verified through Cronbach's alpha and composite reliability scores, all exceeding the 0.7 threshold (Cohen et al., 2017). Convergent validity was established with average variance extracted (AVE) values above 0.5 and factor loadings greater than 0.7 for all indicators. Discriminant validity was confirmed using both the Fornell-Larcker criterion and

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 7 (July) (2025)

the heterotrait-monotrait ratio (HTMT) approaches (Henseler et al., 2015), with all HTMT values below the conservative threshold of 0.85. These results collectively demonstrated that the measurement model was psychometrically sound for testing the hypothesized relationships.

Hypothesis Testing

The structural model analysis revealed significant relationships supporting all hypotheses. Green training showed a substantial positive effect on ENP ($\beta = 0.42$, $p < 0.01$). The mediation analysis confirmed that employee performance mediated approximately 39% of green training's effect on ENP ($\beta = 0.16$, 95% CI [0.08, 0.24]). The model demonstrated good explanatory power with R^2 values of 0.31 for employee performance, exceeding the recommended thresholds for behavioral research (Hair et al., 2021)

Additional Analyses and Model Fit

Further analyses enhanced the study's robustness. The model showed strong predictive relevance ($Q^2 > 0$) as assessed through the Stone-Geisser test (Hair et al., 2020), and good overall fit (SRMR = 0.06). Multi-group analysis revealed industry-specific effects: the green training-employee performance relationship was stronger ($\Delta\beta = 0.12$, $p < 0.05$), while the performance-sustainability link was more pronounced ($\Delta\beta = 0.09$, $p < 0.10$). These findings suggest contextual differences in how green initiatives translate to sustainability outcomes across industries, providing valuable practical insights for organizational leaders implementing environmental training programs.

Discussion

The study's results provide compelling evidence that green training initiatives significantly enhance employee performance and EP. The first hypothesis suggests a positive relationship between green training and employee performance ($\beta = 0.42$, $p < 0.01$), particularly supporting the notion that environmental education fosters both task-specific skills and broader cognitive engagement with sustainability issues (Barakat et al., 2023). This finding aligns with recent extensions of affective events theory in green HRM contexts, which emphasize how training builds employees' self-efficacy in implementing sustainable practices (Trirahayu, 2023).

The significant but weaker direct effect of green training on organizational sustainability ($\beta = 0.25$, $p < 0.05$) suggests that while training provides essential knowledge, its organizational impact is partially mediated through employee performance. This mediation effect ($\beta = 0.16$, 95% CI [0.08, 0.24]) accounts for approximately 39% of the total effect, indicating that improved employee performance is a crucial but not exclusive pathway through which training influences sustainability outcomes. These results complement recent work on the affective event framework (Lu, 2024), demonstrating how green training simultaneously enhances employees' abilities, motivations, and opportunities to contribute to sustainability.

Theoretical Contributions

Based on above, numerous recommendations can be drawn. First, it provides empirical validation for the emerging green model by demonstrating how

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 7 (July) (2025)

environmental training affects both individual and organizational outcomes (Galvão et al., 2020). The findings suggest that green training operates through multiple psychological and behavioral mechanisms, supporting recent calls for more nuanced models of sustainable HRM. Second, the identification of partial mediation challenges simplistic causal chains in green HRM research. The results imply that while employee performance is an important mediator, other pathways (such as cultural change or stakeholder influence) likely contribute to sustainability outcomes. This finding aligns with recent work on the multidimensional nature of organizational sustainability (Law et al., 2017). Third, the industry-specific effects contribute to contingency perspectives in sustainable HRM. The stronger training-performance relationship in service sectors ($\Delta\beta = 0.12$, $p < 0.05$) may reflect the interpersonal nature of service work. In contrast, the stronger performance-sustainability link in manufacturing ($\Delta\beta = 0.09$, $p < 0.10$) likely stems from more direct operational impacts (Wu & Ying, 2024).

Practical Implications

For HR practitioners, these findings offer several actionable insights. First, the demonstrated return on investment ($R^2 = 0.40$ for sustainability) provides strong justification for expanding green training budgets. Organizations should move beyond compliance-focused training to develop comprehensive programs that build both technical skills and behavioral competencies (Saeed et al., 2024). Second, Industry-specific approaches are recommended. Service firms should emphasize customer-facing sustainability practices and environmentally friendly service delivery. Third, the education sector should focus on operational efficiencies and waste reduction techniques (Jabbour, 2023). Lastly, mediation findings suggest organizations should align performance management systems with sustainability goals, potentially through green KPIs or sustainability-linked rewards (De Souza et al., 2024; Yong et al., 2023).

Limitations & Future Research

Several limitations suggest productive avenues for future research. First, the cross-sectional design prevents causal inferences, whereas longitudinal studies are more suitable (Wagner, 2024). Second, the single-country sample limits generalizability, indicating the need for cross-cultural comparisons (Ababneh, 2021). Lastly, utilized only the mediator relationship among ET and ENP.

Future studies should explore additional mediators (e.g., green leadership) (Saleem et al., 2024) and innovative training methods (e.g., digital platforms) (Rawashdeh & Tamimi, 2020). Qualitative research could illuminate the industry-specific effects observed (Saunders, 2014). There is also a need to examine how organizational size and regulatory environments moderate these relationships (Lahbar et al., 2025).

References

Ababneh, O. M. A. (2021). How do green HRM practices affect employees' green behaviors? The role of employee engagement and personality attributes. *Journal of Environmental Planning and Management, 64*(7), 1204-1226.

Aboramadan, M., Kundi, Y. M., & Becker, A. (2022). Green human resource management in nonprofit organizations: effects on employee green

ISSN Online: 3007-3154
ISSN Print: 3007-3146

behavior and the role of perceived green organizational support. *Personnel Review, 51*(7), 1788-1806.

Ahmad, S., Javed, U., Sharma, C., & Siddiqui, M. S. (2025). Green human resource management: Analyzing sustainable practices and organizational impact through a Word2Vec approach. *Green Technologies and Sustainability*, 100224.

Al Doghan, M. A., Abdelwahed, N. A. A., Soomro, B. A., & Ali Alayis, M. M. H. (2022). Organizational environmental culture, environmental sustainability and performance: the mediating role of green HRM and green innovation. *Sustainability, 14*(12), 7510.

Alam, M. N., Campbell, N., Das, S., Hashim, F., ur Rehman, I. H., & Iqbal, J. (2023). Green training and development revolutionizing organizational performance: the moderating role of green employee involvement in the Bangladeshi pharmaceutical industry. *International Business Research, 16*(9), 1-36.

Barakat, B., Milhem, M., Naji, G. M. A., Alzoraiki, M., Muda, H. B., Ateeq, A., & Abro, Z. (2023). Assessing the impact of green training on sustainable business advantage: exploring the mediating role of green supply chain practices. *Sustainability, 15*(19), 14144.

Barney, J. B., Ketchen Jr, D. J., & Wright, M. (2021). Resource-based theory and the value creation framework. *Journal of management, 47*(7), 1936-1955.

Cohen, L., Manion, L., & Morrison, K. (2017). Questionnaires *Research methods in education* (pp. 471-505): Routledge.

Correia, A. B., Farrukh Shahzad, M., Moleiro Martins, J., & Baheer, R. (2024). Impact of green human resource management towards sustainable performance in the healthcare sector: role of green innovation and risk management. *Cogent Business & Management, 11*(1), 2374625.

Dalati, S., & Marx Gómez, J. (2018). Surveys and questionnaires. *Modernizing the Academic Teaching and Research Environment: Methodologies and Cases in Business Research*, 175-186.

Dimitropoulos, N., Sarmas, E., Lampkowski, M., & Marinakis, V. (2023). *A quantitative methodology to support local governments in climate change adaptation and mitigation actions*. Paper presented at the International Symposium on Distributed Computing and Artificial Intelligence.

El Nemar, S., El-Chaarani, H., Dandachi, I., & Castellano, S. (2022). Resource-based view and sustainable advantage: a framework for SMEs. *Journal of Strategic Marketing*, 1-24.

Ercantan, O., & Eyupoglu, S. (2022). How do green human resource management practices encourage employees to engage in green behavior? Perceptions of university students as prospective employees. *Sustainability, 14*(3), 1718.

Evina, E., Saputra, A. R. P., & Nuvriasari, A. (2024). Green training, green recruitment, and green transformational leadership on employee performance in retail store. *International Journal of Management, Knowledge and Learning, 13*, 13-27.

Galvão, A., Marques, C., & Ferreira, J. J. (2020). The role of entrepreneurship education and training programmes in advancing entrepreneurial skills and new ventures. *European Journal of Training and Development, 44*(6/7), 595-614.

ISSN Online: 3007-3154
ISSN Print: 3007-3146

Gopang, A. A., Saeed, S., & Malokani, D. K. A. K. (2021). Does intrinsic rewards and extrinsic reward system matter for employee performance? Evidence form IT Sector of Pakistan. *International Journal, 9*(5).

Hair Jr, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research, 109*, 101-110.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., Ray, S., . . . Sarstedt, M. (2021). An introduction to structural equation modeling. *Partial least squares structural equation modeling (PLS-SEM) using R: a workbook*, 1-29.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of marketing Science, 43*, 115-135.

Hernita, H., Surya, B., Perwira, I., Abubakar, H., & Idris, M. (2021). Economic business sustainability and strengthening human resource capacity based on increasing the productivity of small and medium enterprises (SMES) in Makassar city, Indonesia. *Sustainability, 13*(6), 3177.

Jha, S., & Sachdeva, L. (2024). A study related to the role of training and development in employee and organizational performance. *AiBi Revista de Investigación, Administración e Ingeniería, 12*(3), 24-31.

Koopmans, L. (2014). Measuring individual work performance.

Lahbar, G. M., Ullah, S., Hussain, A. K., & Marwat, A. (2025). Unpacking the Green Leadership-Environmental Performance Link: The Role of Innovation, GHRM and Environmental Values. *Journal of Social Sciences Review, 5*(1), 137-149.

Law, M. M. S., Hills, P., & Hau, B. C. H. (2017). Engaging employees in sustainable development–a case study of environmental education and awareness training in Hong Kong. *Business Strategy and the Environment*, *26*(1), 84-97.

Lyu, J. (2024). How does digital leadership improve organizational sustainability: Theory and evidence. *Journal of Cleaner Production, 434*, 140148.

Malokani, D. K. A. K., Hassan, N., Makhdoom, T. R., Lahbar, G. M., Chandio, S. P., & Zaidi, A. R. (2023). Impact of green employee involvement on organizational citizenship behavior towards the environment: Mediating role of green training. *Russian Law Journal, 11*(9S), 734-742.

Malokani, D. K. A. K., Tahal Kumar, D. G. M. L., Mumtaz, S. N., Hassan, N., & Darazi, M. A. (2024). Role Of Corporate Social Responsibility Practices On Employee Engagement: Mediating Role Of Green Training. *Migration Letters, 21*(S13), 106-114.

Memon, S. B., Rasli, A., Dahri, A. S., & Hermilinda Abas, I. (2022). Importance of top management commitment to organizational citizenship behaviour towards the environment, green training and environmental performance in Pakistani industries. *Sustainability, 14*(17), 11059.

Mousa, S. K., Fernandez-Crehuet, J. M., & Thaher, Y. A. Y. (2025). Advancing sustainable performance in healthcare: mediating roles of green HRM and green innovation under green transformational leadership. *Business Strategy and the Environment*.

O'brien, R. M. (2007). A caution regarding rules of thumb for variance inflation

ISSN Online: 3007-3154
ISSN Print: 3007-3146

factors. *Quality & quantity, 41*, 673-690.

Paillé, P., Chen, Y., Boiral, O., & Jin, J. (2014). The impact of human resource management on environmental performance: An employee-level study. *Journal of Business Ethics, 121*, 451-466.

Ployhart, R. E. (2021). Resources for what? Understanding performance in the resource-based view and strategic human capital resource literatures. *Journal of management, 47*(7), 1771-1786.

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.

Qasim, S., Ahmed, W., & Frooghi, R. (2024). Influence of employees' beliefs and values on shaping green work culture for boosting firm's environmental performance. *International Journal of Ethics and Systems, 40*(2), 320-339.

Rawashdeh, A. M., & Tamimi, S. A. (2020). The impact of employee perceptions of training on organizational commitment and turnover intention: An empirical study of nurses in Jordanian hospitals. *European Journal of Training and Development, 44*(2/3), 191-207.

Ribeiro, N., Gomes, D. R., Ortega, E., Gomes, G. P., & Semedo, A. S. (2022). The impact of green HRM on employees' eco-friendly behavior: The mediator role of organizational identification. *Sustainability, 14*(5), 2897.

Rm, B. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *J Pers Soc Psychol, 51*, 1173-1182.

Saleem, F., Mateou, S., & Malik, M. I. (2024). How Green Transformational Leaders Trigger Environmental Performance? Unleashing the Missing Links Through Green Self-Efficacy, Green Empowerment, and Green Training of Employees. *Sustainability, 16*(22), 9982.

Sarkis, J. (2025). 23. Corporate environmental sustainability and transitions: China's evolution and practice. *Research Handbook on Corporate Governance in China*, 470.

Sarstedt, M., Hair, J. F., Pick, M., Liengaard, B. D., Radomir, L., & Ringle, C. M. (2022). Progress in partial least squares structural equation modeling use in marketing research in the last decade. Psychology & Marketing, 39(5), 1035-1064.

Sarwar, A., & Mustafa, A. (2024). Analysing the impact of green intellectual capital on environmental performance: the mediating role of green training and development. *Technology Analysis & Strategic Management, 36*(11), 3357-3370.

Saunders, M. (2014). Research Methods for Business Students (6th edn.

Shahzad, M. A., Jianguo, D., & Junaid, M. (2023). Impact of green HRM practices on sustainable performance: mediating role of green innovation, green culture, and green employees' behavior. *Environmental Science and Pollution Research, 30*(38), 88524-88547.

Shoaib, M., Abbas, Z., Yousaf, M., Zámečník, R., Ahmed, J., & Saqib, S. (2021). The role of GHRM practices towards organizational commitment: A mediation analysis of green human capital. *Cogent Business & Management, 8*(1), 1870798.

ISSN Online: 3007-3154
ISSN Print: 3007-3146

Suleman, A.-R., Amponsah-Tawiah, K., & Ametorwo, A. M. (2024). The role of employee environmental commitment in the green HRM practices, turnover intentions and environmental sustainability nexus. *Benchmarking: An International Journal, 31*(9), 3055-3078.

Thompson, C. G., Kim, R. S., Aloe, A. M., & Becker, B. J. (2017). Extracting the variance inflation factor and other multicollinearity diagnostics from typical regression results. *Basic and applied social psychology, 39*(2), 81-90.

Trirahayu, D. (2023). Effects of Employee Training and Development Programs on Corporate Financial Performance. *Atestasi: Jurnal Ilmiah Akuntansi, 6*(1), 511-527.

Veerasamy, U., Joseph, M. S., & Parayitam, S. (2024). Green human resource management and employee green behaviour: participation and involvement, and training and development as moderators. *South Asian Journal of Human Resources Management, 11*(2), 277-309.

Wu, J., & Ying, X. (2024). Development trend of green residential buildings in China under the guidance of the low-carbon concept: A policy review and analysis. *Journal of Urban Management*.

Zaidi, S. Y. A., Aslam, M. F., Mahmood, F., Ahmad, B., & Tasaddque, S. (2025). Accomplishing the SDGs Through Green HRM Practices: Insights From Industrial Sustainability Experts. *Global Business and Organizational Excellence*.