

Advancing Environmental Performance through Green HRM: The Mediating Mechanism of Green Organisational Citizenship Behaviour in Higher Education

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Abstract

With a focus on the mediating function of "Green Organisational Citizenship Behaviour" (GOCB) among academics, this study scans the influence of "Green Human Resource Management" (GHRM) on "Environmental performance" (EP) at "Higher Education Institutions" (HEIs). HEIs are under growing pressure to embrace green projects into their organisational frameworks in the modern era of sustainability and environmental concern. A structured survey instrument was used to gather data from academics utilising a quantitative research approach, and mediation analysis techniques were used for analysis. The results show a statistically significant positive correlation between GHRM practices and EP, indicating that environmentally conscious hiring, training, evaluation, and compensation policies significantly improve institutional sustainability outcomes. Furthermore, the findings show that GOCB partially mediates this association, suggesting that academicians' voluntary pro-environmental actions enhance the efficacy of GHRM activities. By providing actual data from the HEIs and highlighting the strategic significance of developing green behavioural competences among academicians to achieve long-term environmental sustainability, the study adds to the body of knowledge already available on sustainability and HRM.

Keywords: "Green human resource management" (GHRM), "Environmental performance" (EP), "Green Organisational Citizenship Behaviour" (GOCB), "Social exchange theory" (SET), Higher education institutions (HEIs).

1. Introduction:

Organisations all over the globe now consider sustainability to be a strategic priority, which has led to innovative methods of managing human resources to promote environmental goals (Efranto et al., 2026). Nowadays, adopting strategies that lessen the impact on the environment is necessary since sustainability is a crucial part of organisational operations (Pricopoaia et al., 2025). Consequently, for global policymakers and academics, environmental excellence and its effects on people's lives are becoming increasingly important (Jabeen et al., 2025). By teaching and adopting green practices, highlighting their importance, and demonstrating to staff how their activities impact the environment, the company may attain sustainability (Ahmad et al., 2025). In order to promote sustainable development, sustainability in higher education includes an emphasis on research, instruction, university operations, and the external community (Liu & Kitamura, 2019).

"Human Resource Management" (HRM) and the multifaceted concept of sustainability, as well as the United Nations' (UN) "Sustainable development goals" (SDGs), have become inextricably linked over time. The pair entails adapting the complex concept of sustainability and the SDGs of the UN to individuals and workplaces (Anshima et al., 2025). One important field that combines conventional HRM with environmental management techniques is "Green human resource management" (GHRM). It entails coordinating performance management, hiring, training, and other HR tasks with the company's sustainability goals (Mousa & Othman, 2020). GHRM is the term for incorporating environmental management concepts into HR procedures with the purpose of producing an environmentally conscious workforce that actively supports businesses' sustainability objectives (Song et al.,

2021). Organisations may accomplish both immediate financial targets and enduring strategic objectives by combining GHRM practices with sustainability concepts. Green hiring and training are examples of environmental measures that improve employees' skills and knowledge, which in turn improves the organization's EP (Javed et al. 2024). The basic idea is that employees should be naturally motivated to work toward preserving the environment and effectively carrying out a company's environmental objectives (Agarwal et al., 2024).

In order to lay the groundwork for sustainable development, "higher education institutions" (HEI) play a pivotal role. Students, who are seen as future leaders, are shaped by academicians and institutional leaders, considered as the primary educators. The promotion of environmental values among stakeholders is greatly aided by university leadership and sustainable practices (Aggarwal & Agarwala, 2026). Environmental cognizance among HEIs has increased due to stakeholder demand and environmental regulations (Bautista-Puig and Sanz-Casado, 2021). HEIs are working to embrace and promote sustainable performance at both a strategic and operational level in light of the "Sustainable Development Goals" (SDGs) (Kisahwan et al., 2025). Green conduct is important at HEIs because it identifies people who actively participate in eco-friendly activities (Vanisri and Padhy, 2024). Numerous green efforts are implemented in the education sector to limit environmental harm by reducing pollution and safeguarding natural resources. In order to increase employee knowledge, universities and other comparable service organisations set environmental norms (Muflihah et al., 2026). In order to address environmental issues and promote sustainable development efforts, HEI leaders—including promoters and academicians—play a critical role in putting sustainable policies and plans into practice (Leal Filho et al., 2020). However, the area of green HRM may seem to have advanced significantly, employees' experiences seem to show that employers are reluctant to take environmental issues seriously (Ren & Chowdhury, 2026). According to Sugiharto and Ardiansyah (2025), many universities, particularly those in developing nations, have not completely comprehended the concept or advantages of Green HRM, which results in cynicism or fragmented execution. In order to meet the SDG targets and combat climate change, HEIs in developing nations are also under pressure to implement green policies. However, they face obstacles that prevent these policies from being implemented effectively, such as a lack of finance, adequate infrastructure, and policy gaps (Hinduja et al., 2023).

GHRM fosters a culture of cooperation among staff members, encouraging them to take actions that are advantageous to the company—a practice known as "Green organisational citizenship behaviour" (GOCB) (Amrutha and Geetha, 2021). GOCB refers to individual voluntary actions that support efficient organisational environmental management but are not officially recognised (Boiral & Paillé, 2012). According to Raineri and Paillé (2016), these green behaviours are additional environmental protection-related services offered by employees as their own initiative that go above and beyond what is expected of them at work. For an organization to thrive holistically and contribute to sustainability, green HRM practices and green corporate citizenship behaviour are essential (Gupta et al., 2026). However, the field is still conceptually dispersed despite growing interest in GHRM and its relationship to GOCB (Algethami & Campbell, 2026).

Environmental stakeholders have come to the conclusion that human behaviour is the primary cause of environmental problems (Alreahi et al., 2022). In order to address these issues, managers need to take greater responsibility for developing and putting into practice environmentally friendly policies that reduce the negative effects of business on the environment and enhance environmental performance (EP) (Nagy, 2023). According to Gill et al. (2021), EP is a measure of how organisations use resources and is used to keep an eye on and stop detrimental environmental practices. Businesses that consistently strive to go green and place a strong emphasis on environmental maintenance and preservation are successful because these kinds of green strategies keep employees motivated to care about environmental preservation, which ultimately improves EP (Winston, 2009). Employee skills, motivation, and competences are crucial elements that impact EP and serve as the cornerstone of an organization's environmental management initiatives (Kim et al., 2019). GHRM has also been demonstrated to be a favourable predictor of EP in HEIs (Saeed et al., 2019).

1.2 Research Gap

According to Aryee et al. (2026), there lies many unexplored interrogations about how GHRM and OCB either jointly or partially affect EP in developing nations. The relationship between GHRM, GOCB, and EP has been investigated in earlier researches (Jabeen et al., 2025; Miah et al., 2026; Gupta et al., 2026). Nevertheless, little study has particularly looked at how these factors interact inside HEIs. There is a void in the educational setting because the majority of current research focuses on large corporate organisations. Thus, by examining the relationships between GHRM, GOCB, and EP within HEIs, this study seeks to close that gap. Because the features of the two sectors differ and may affect environmental management techniques, findings from manufacturing companies cannot be easily applicable to educational settings like universities (Sobaih et al., 2020).

This study examines GOCB at HEIs in the Indian region of Uttarakhand to reconnoiter the direct affiliation concerning GHRM and EP. There are two prime goals for the study. It first evaluates how much GHRM affects EP in universities. Second, it looks into whether GOCB mediates the affiliation concerning GHRM and EP in HEIs. Current study makes significant contributions for academics and practitioners, guided by the Social Exchange Theory (SET) and GHRM principles. It emphasises how HEIs may improve sustainability and attain better environmental results by promoting GOCB among academicians and bolstering GHRM practices.

To achieve the study's objectives, we have identified the following research questions.:

RQ1: How can GHRM and GOCB improve EP in HEIs, both directly and indirectly?

RQ2: What connections exist between the suggested variables in the study model for the EP of HEIs using "Social Exchange Theory" (SET)?

2. Guiding Theory and “Hypothesis Formulation”:

2.1 Guiding Theory:

The “Social Exchange Theory” (SET) (Cropanzano & Mitchell, 2005) bolts the foundation for our study, which posits that employees recompense supportive organisational practices by demonstrating positive willful actions. In response to Green HRM practices initiated by employer, employees feel psychologically obliged towards sustainability and respond through voluntary eco-friendly behaviours stated here as Green Organisational Citizenship Behaviour (GOCB). The organization's EP is consequently improved by employee's extra-role green practices. Therefore, SET provides compelling evidence for GOCB's mediating function. This theory offers a sophisticated viewpoint on how GHRM may be used to enhance environmental results, especially in the context of the knowledge sector.

2.2 Green HRM

Renwick et al. (2008) coined the term "Green human resource management" (GHRM), which is generally understood to include environmental management issues and HRM-related concerns (Renwick et al., 2013). In order to promote sustainability and environmental responsibility within organisational contexts, GHRM involves integrating eco-friendly concepts and practices into HR initiatives (Agarwal et al., 2024). Green HRM contains various important practices and has been shown to be an antecedent of employee green behaviours in the education sector (Akram et al., 2024).

2.3 GHRM and EP

According to Trumpp et al. (2015), EP refers to the quantifiable results attained by organisations in reducing their adverse effects on the environment through efficient environmental managing procedures, resource preservation, pollution lessening, and sustainable actions. Effective EP has been found to have a favourable impact on both financial and non-financial organisational outcomes, such as customer happiness, innovation capacity, and business sustainability (Liu et al., 2023). According to Kuo et al. (2022), GHRM practices encouraged sustainable employee behaviour and green innovation, which had a beneficial impact on EP. According to Chaudhary (2020),

GHRM enhances employee behaviour about involvement in environmental activities, which is correlated with the organization's EP. Employees are encouraged to actively participate in environmental activities through green recruiting, green training, and green incentive schemes, which improves EP (Renwick et al., 2013). Employee commitment to the environment and green behaviours are positively impacted by GHRM, which eventually enhances organisational EP (Dumont et al., 2017).

GHRM methods enhance EP through the mediating function of green intellectual capital and pro-environmental behaviour, according to empirical data from Malaysian green hotels (Nisar et al., 2021). After conducting a thorough bibliometric review of 242 prestigious works on the EP of firms, Tahir et al. (2024) recommended that management must adopt GHRM practices in order to improve EP. The most crucial elements of an organization's EP are GHRM procedures including green planning, hiring, selection, learning, training and development, job design, green induction, and performance evaluation (Opatha & Arulrajah, 2014). Additionally, recent studies have demonstrated that GHRM indirectly improves EP through mediating processes such pro-environmental behaviour, environmental enthusiasm, and green employee empowerment (Perano et al., 2025). From the aforementioned literature, the following hypothesis is put forth-

H1: “GHRM positively influences EP”

2.4 GHRM and GOCB

GOCB refers to Individuals' voluntary actions that support efficient organisational management to attain collective environmental well-being. These actions are not officially rewarded (Luu, 2019). The espousal of green policies in daily accomplishments is made easier by these voluntary initiatives. Because preventative actions to decrease pollution at the source make environmentally friendly working practices essential, GOCB is advantageous to companies (Hanna et al., 2000).

According to current empirical research, the association between GHRM and GOCB is strengthened by “green transformational leadership and environmental enthusiasm”, which improves organisational sustainability performance (Afsar et al., 2020). Hooi et al. (2022) found a substantial correlation between GHRM and GOCB in an empirical investigation including 240 employees across 120 Taiwanese businesses. GHRM methods have a favourable and substantial influence on green lifestyle and GOCB, according to another empirical study from 347 hotel sector employees in China (Meng et al., 2022). In a study done in the hotel industry, Pham et al. (2019) discovered that GHRM practices greatly improve workers' GOCB, supporting organisational sustainability initiatives. Algethami & Campbell (2026) conducted a systematic mapping and synthesis of the existing empirical literature on the relationship between GHRM practices and GOCB. They looked at 12 empirical studies that were conducted in a variety of organisational sectors, geographical contexts, and with varying degrees of statistical significance and magnitude. According to the findings, GHRM practices and GOCB have statistically significant beneficial associations. Thus, this hypothesis is proposed-

H2: GHRM positively influences GOCB

2.5 GOCB and EP

Higher GOCB levels appear to improve EP and support official sustainability initiatives, according to existing research (Alkhozaim et al., 2024). When supervisory support is present, employees who exhibit GOCB are more likely to take the initiative to improve the organization's EP, encourage coworkers to adopt eco-friendly behaviours, and participate in the organization's environmental programs or events (Paillé et al., 2022). Kim et al. (2019) empirically showed that by promoting energy saving and sustainable operational procedures, employees' eco-friendly behaviours greatly increase hotels' EP. Additionally, new research shows that environmental commitment and green leadership boost workers' GOCB, which enhances organisational EP (Afsar & Umrani, 2020). According to a meta-analysis by Wiernik et al. (2016), pro-environmental behaviours and age had a positive correlations, indicating that older people were somewhat more likely to engage in green behaviours at work. It has a affirmative consequence on EP as workers have a strong sense of green behaviour in a company. An

empirical research conducted at an Indonesian university found that workers' eco-friendly behaviour will eventually improve the organization's EP (Muflihah et al., 2026). Thus, this hypothesis is proposed-

H3: “GOCB positively influences EP”

2.6 Mediating role of GOCB between GHRM and EP

According to a research on 228 workers from industrial companies in the Kathua area of India, GOCB has a major impact on the adoption of environmentally friendly methods, particularly in India. GOCB offers an ideal setting for investigating GHRM and its influence on attaining green outcomes in organisations, resulting in successful EP (Gupta et al., 2026). According to the findings of a research done on 509 workers in Bangladeshi healthcare institutions to investigate the impact of GOCB on the relationship between GHRM and EP, GHRM does not directly affect EP. Additionally, GOCB acts as a partial and sequential mediator between EP and GHRM. The study adds to the body of knowledge on sustainability by examining the roles that GOCB play both individually and collectively in enhancing EP through the use of GHRM (Miah et al., 2026). According to Elshaer et al. (2023), using GHRM methods enhances organisational performance, which includes better environmental results. This beneficial link can also be strengthened by employee eco-behavior. GOCB significantly mediates the relationship between GHRM and sustainable performance, according to empirical data presented by Malik et al. (2021). This implies that one important way that HR procedures influence environmental results is through employees' voluntary green actions. Anwar et al. (2020) discovered that GHRM has a beneficial impact on GOCB, which in turn improves EP in HEIs. Green employee involvement and environmental participation are important drivers of organisational sustainability outcomes, according to research by Rehman et al. (2025), which also indicated that OCBE strongly mediates the link between GHRM practices and EP. Thus, this hypothesis is proposed-

H4: “GOCB positively mediates the relationship between GHRM and EP”.

2.7 Postulated Model:

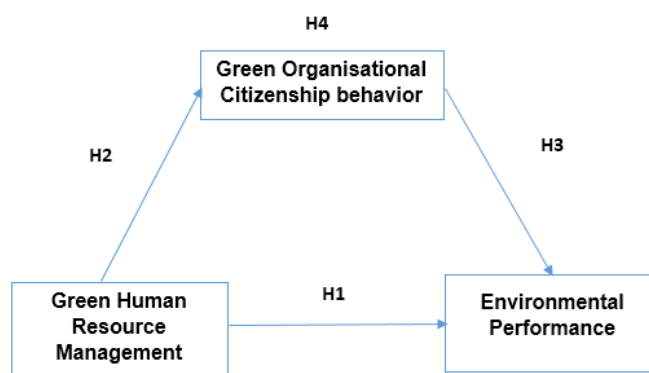


Figure 1: Postulated Model

3. Methodology

3.1 Research Design

The study looks at how GHRM and EP are related. Additionally, it attempts to comprehend how GHRM affects EP through GOCB in Indian HEIs. While considering the research topics, the study uses a single cross-sectional descriptive research design.

3.2 Respondents and instrument design

Respondents embrace acaemicians working in HEIs from Kumaun province of Uttarakhand state, India which make up the target demographic. “Non-probability convenience sampling” technique was employed to choose the responders. Convenience sampling is commonly used in social science and management studies, as participants

are those who are easy to access, available and willing to participate in the study (Etikan et al., 2016). The technique was found to be appropriate for the present study as it allowed for the collection of data from employees who were knowledgeable about the practices they undertook within their organisation and willing to respond within the required time frame. A survey questionnaire served as the primary instrument for data collection. It embraces four sections (i) Demographic profile (ii) GHRM (iii) EP and (iv) GOCB. The 14 item scale for measuring GHRM has been adapted from Tang et al. (2018). EP was measured with 9 items adapted from Larrán Jorge et al. (2016). GOCB was measured with seven items adapted from Pham et al. (2019).

3.3 Data Acquisition

The data set was compiled from acaemicians working in HEIs from Kumaun province of Uttarakhand state, India. Sample collection tenure is from October 2025 to January 2026. 348 personnels partaken in study. The response rate meets the required cut-off criteria (Baruch, 1999).

Table 1: “Demographic Outline”

“Demographic Outline of Respondent”			
		Frequency	Percent
Gender	Male	202	58
	Female	146	42
Age	Up to 25	104	29.9
	25-35	146	42
	35-45	71	20.4
	Above 45 years	27	7.7
Qualification	Graduate	121	34.8
	Post Graduate	174	50
	Doctorate	53	15.2
Work Experience in years	Less than 1 year	63	18.1
	1-5	157	45.1
	6-10	87	25
	Above 10 years	41	11.8
	TOTAL	348	100

4. Results

4.1 “Data Analysis”:

For “Descriptive Statistics”, refer **Table 2**. Appropriate statistics are used to investigate the measurement model's "convergent and divergent validity." A description of the model fit of the suggested structure and hypothesis testing concludes the investigation (Bentler and Bonett, 1980; Scott and Bruce, 1994). The “Statistical Package for the Social Sciences” (SPSS) & “Confirmatory Factor Analysis” (CFA) was the analytical method used.

4.2 Descriptive Analysis:

As shown in **Table 2**, “Descriptive Statistics” and “Pearson correlation coefficients” for GHRM, GOCB and EP are provided. GHRM has a “Mean” of 3.71 and a “Standard deviation” of 0.68. GOCB has a “Mean” of 3.64 and a “Standard deviation” of 0.71. EP has a “Mean” of 3.76 and a “Standard deviation” of 0.66. The “Mean” values of all constructs are greater than 3.00, which mean that the respondents have mostly positive perceptions about GHRM practices, GOCB and EP within the organization.

Table 2: “Descriptive Analysis”

Variable	“Descriptive Statistics”		GHRM	GOCB	EP
	Mean	Std. Deviation			
GHRM	3.71	0.68	1		
GOCB	3.64	0.71	.589**	1	
EP	3.76	0.66	.386**	.463**	1

** “Correlation is significant at the 0.01 level” (2-tailed).

The positive, statistically noteworthy ($p < 0.01$) intercorrelations among all variables (See **Table 2**) provide preliminary evidence for the posited relationships in the research framework. Pearson correlation coefficients also confirm strong positive relationships among the variables.

There was no multicollinearity problem since the VIF value for GOCB and GHRM was less than 5 (Hair et al., 2010). Since the “Skewness and Kurtosis” values fall between -1 and +1 (Demir, 2022), it is presumed that the data is normally distributed and appropriate for parametric testing (Hair et al., 2010). As mentioned in **Table 3**, Cronbach's Alpha value is above 0.7 which indicate good reliability, and suggest excellent internal consistency (Nunnally and Bernstein, 1967).

Table 3: “Reliability Analysis” of constructs

Variable N=348	Cronbach's alpha	Reliability Status
GHRM	0.975	Excellent
EP	0.958	Excellent
GOCB	0.941	Excellent

The “Kaiser–Meyer–Olkin” (KMO) measure of the appropriateness of the sample and “Bartlett's Test of Sphericity” in SPSS were used in the current study to assess construct validity. The current study's total KMO score is 0.982 (Table 4), which is excellent and indicates that the data is sufficient for factor analysis (Kaiser 1974). To determine whether there are any notable changes between the “Correlation Matrix” and the “Identity Matrix”, a “Bartlett's Test of Sphericity” was used. The data is appropriate for validity testing and multivariate analysis, according to the Bartlett's Test findings (Table 4), which revealed a statistically significant chi-square value (Hair et al., 2019).

Table 4: KMO and Bartlett's Test

"KMO and Bartlett's Test"		
"Kaiser-Meyer-Olkin" Measure of Sampling Adequacy		0.982
"Bartlett's Test of Sphericity"	Approx. Chi-Square	10462.96
	df	435
	Sig.	0

4.3 "Confirmatory Factor Analysis" (CFA)

CFA was performed to analyze the validity of the measurement of the constructs and to test the adequacy of the observed variables to represent the respective latent constructs (Hair et al., 2019) i.e., GHRM, GOCB and EP.

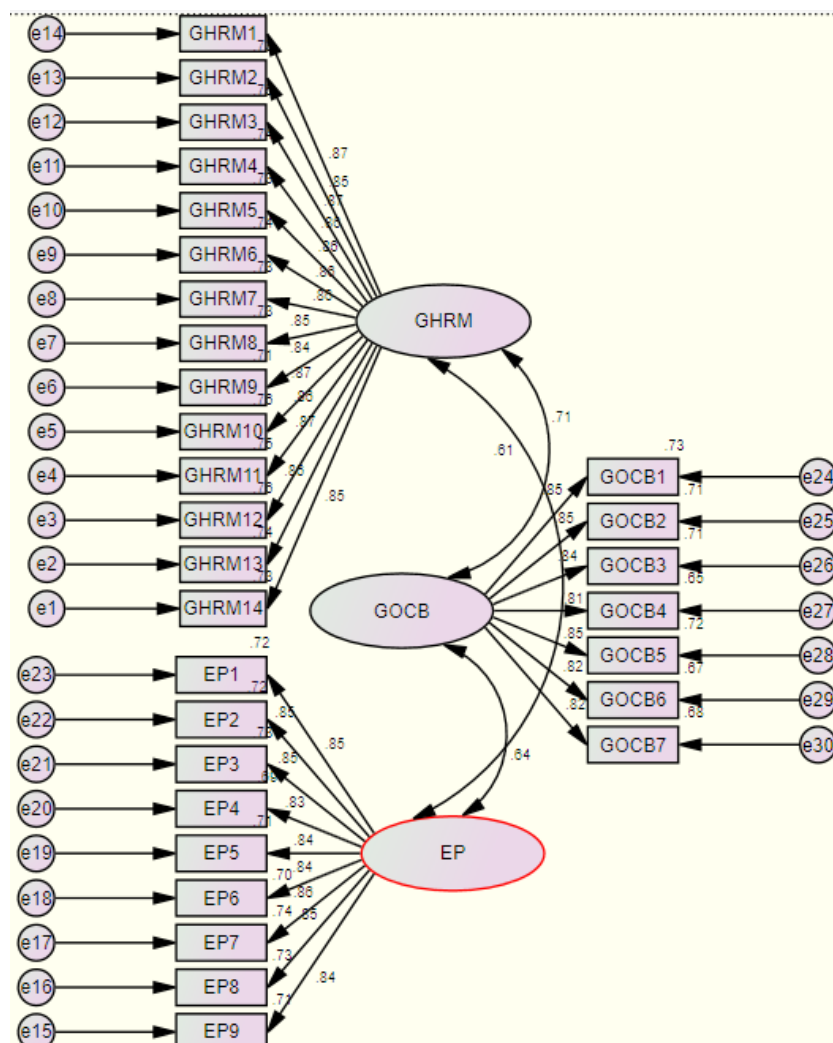


Figure 2 Measurement Model

Table 5: Confirmatory Factor Analysis Results

Construct	“Cronbach's alpha”	Factor Loading Range	“Composite Reliability” (CR)	“Average Variance Extracted” (AVE)
GHRM	0.975	0.741 – 0.912	0.978	0.756
EP	0.958	0.728 – 0.901	0.963	0.742
GOCB	0.941	0.715 – 0.894	0.947	0.719

According to the CFA results, every concept showed adequate “Construct reliability” and “Convergent validity”. The measurement items' proper depiction of the associated constructs was validated by the factor loading values, and the measurement model's “Validity and Reliability” were further reinforced by the AVE and CR values. The “Reliability and validity” of the three latent constructs, GHRM, EP and GOCB, were gauged grounded on “Cronbach’s Alpha” (α), “Composite Reliability” (CR) and “Average Variance Extracted” (AVE) in this study. These indices show internal consistency, convergent validity, and discriminant validity (Hair et al., 2022; Fornell & Larcker, 1981). Table 5 empirically countersigns the model endorsing convergent and discriminant validity midst the constructs (Hair et al., 2010).

Table 6: Model Fit Indices

Fit Index	Recommended Value	Obtained Value
Chi-Square/df (CMIN/df)	< 3.00	.983
Comparative Fit Index (CFI)	> 0.90	0.951
Tucker–Lewis Index (TLI)	> 0.90	0.944
Goodness-of-Fit Index (GFI)	> 0.90	0.931
Root Mean Square Error of Approximation (RMSEA)	< 0.08	0.058
Standardized Root Mean Square Residual (SRMR)	< 0.08	0.049

The suggested measurement model attained a satisfactory “Degree of Fit” with the observed data (See Table 6). The appropriateness, validity, and reliability of the measuring model employed in the study were therefore validated by the CFA findings (Hu & Bentler, 1999; Bentler & Bonett, 1980).

4.5 “Hypothesis Testing”:

Table 7: Structural Model Results

Hypothesis	Path Relationship	Standardized Beta (β)	t-value	p-value	Result
H1	GHRM $\rightarrow$ EP	0.421	7.864	0.02	Supported
H2	GHRM $\rightarrow$ GOCB	0.684	14.275	0.01	Supported
H3	GOCB $\rightarrow$ EP	0.472	8.913	0.02	Supported

Path coefficients, standardised regression estimates, t-values, and significance level were used to test the proposed correlations. According to Hair et al. (2019), the p-value assesses the statistical significance of the suggested hypotheses, while the standardised path coefficients show the strength and direction of the interactions between constructs. The findings demonstrated that, at the 0.001 significance level, every direct association between the constructs was statistically significant (**See Table 7**). The strongest correlation was found between GHRM and GOCB, indicating that implementing GHRM practices strongly encourages employees in organisations to engross in pro-environmental GOCB. The reading's theoretical model was therefore empirically supported by the structural model, and the importance of GOCB and GHRM in enhancing organisational EP was validated. The structural model's findings showed that companies having strong HRM procedures are more likely to promote environmentally friendly employee behaviour, which ultimately results in improved EP results.

Mediation Analysis

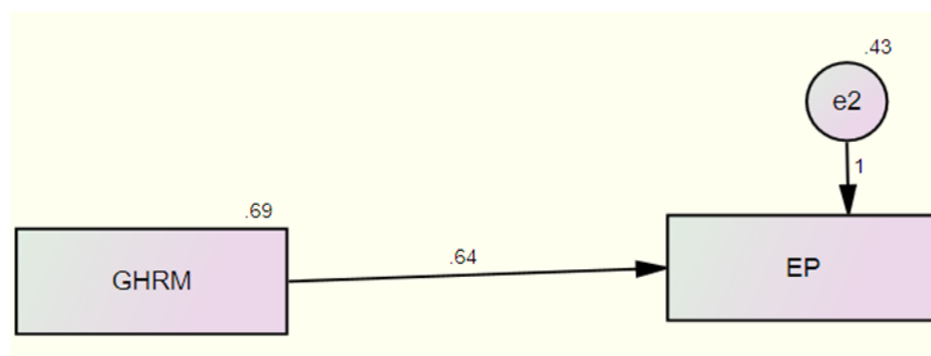


Figure 3: “Direct Effect of GHRM on Environmental Performance” (Without Mediator)

According to this approach, EP is positively impacted by GHRM (see Figure 3). The arrow's value of 0.64 designates a noteworthy correlation, entailing that an organization's EP increases with the quality of its green HR policies. The remaining EP is still impacted by factors other than those included in this model, as designated by the value of 0.43, that is near the error term. Overall, the model's findings demonstrate that GHRM significantly contributes to improving EP.

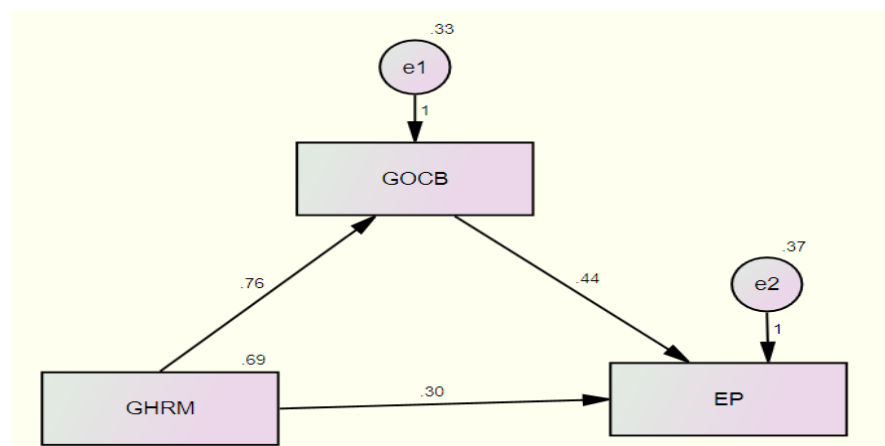


Figure 4: Indirect Effect of GHRM on EP (Without GOCB as Mediator)

The Baron and Kenny's approach was used to test the outcome of GOCB as a mediator concerning GHRM and EP. The mediation study to examine the mediating function of GOCB was conducted using Hayes (2022)

PROCESS Macro. In particular, GHRM's indirect effect on EP via GOCB was assessed using PROCESS Model 4. Since bootstrapping is one of the most dependable mediation testing techniques in behavioural research and has been demonstrated to produce more accurate confidence intervals for indirect effects, it was employed to examine the significance of mediation effects (Hayes, 2022).

Table 8 “Hypothesis testing summary”

Path	Direct Effect	Indirect Effect	Conclusion
GHRM→ EP	.30***	NA	Hypothesis H1 Accepted
GHRM→ GOCB	.76***	NA	Hypothesis H2 Accepted
GOCB→ EP	.44***	NA	Hypothesis H3 Accepted
GHRM→ GOCB→ EP	.30***	.33***	Hypothesis H4 Accepted (Partial Mediation)

***Denotes $p < 0.001$

Table 9 Bootstrapping Results for Indirect Effect

Effect	Boot SE	Boot LLCI	Boot ULCI
Indirect Effect	0.041	0.245	0.406

Because the bootstrapped 95% CI for the indirect impact did not include zero, it was determined that the indirect effect was significant. Given that both the direct and indirect paths are statistically significant, the findings suggest a partial mediation effect between GHRM and EP. With $\beta = 0.76$, $t = 14.275$, and $p = 0.02$, the mediation analysis result indicates that GHRM significantly improves GOCB. It indicates that businesses that are successful in their green HRM efforts are more inclined to promote green voluntary behaviors of employees that go beyond their official duties. Moreover, EP ($\beta = 0.44$, $t = 8.913$, $p = 0.03$) was significantly positively influenced by GOCB. That means employee Green actions and behaviours make a significant difference to the environmental performance of the organisation. The direct impact of GHRM on EP was also substantial ($\beta = 0.30$, $t = 7.864$, $p = 0.03$), which means that green HR practices directly contribute to the environmental outcomes by promoting sustainable organizational policies and practices. Additionally, there was a notable indirect impact of GHRM on EP through GOCB ($\beta = 0.33$, $p = 0.03$) which supports the mediation role of GOCB between GHRM and EP. Results reveal partial mediation, with both the direct and indirect effects being significant. This shows that GHRM has an indirect impact on EP via the presence of GOCB of employees. The results overall supported all the proposed hypotheses, which emphasised the need for bringing together GHRM practices and employee-led environmental initiatives to triumph better EP and organizational sustainability.

5. Discussion

The existing probe has three precarious variables: GHRM, EP and GOCB. Creating a layered relationship is our aim, between GHRM, EP and GOCB among academicians employed in HEIs of India. While GHRM is an independent variable, EP is dependent in the union of GHRM and EP. When it comes to the union of GHRM and GOCB, GHRM is an independent variable whereas GOCB is dependent. When it comes to the union between GOCB and EP, GOCB is an independent variable whereas EP is dependent. Additionally, the study tried to control how GHRM affected EP both directly and through GOCB mediation. The study's conclusions support the proposed connections between GHRM, EP, and GOCB, providing insightful information on employee dynamics

and organisational behaviour. First, GHRM has a major direct impact on EP, demonstrating that employee commitment towards environment and green behaviours are positively impacted by GHRM, which eventually enhances organisational EP. This confirms by Winston (2009) who says that businesses that consistently strive to go green and place a strong emphasis on environmental maintenance and preservation are successful because these kinds of green strategies keep employees motivated to care about environmental preservation, which ultimately improves EP. Moreover, According to Kuo et al. (2022), GHRM practices encouraged sustainable employee behaviour and green innovation, which had a beneficial impact on EP.

Second, this study demonstrates a positive linkage between GHRM and GOCB, which shows that GHRM fosters a culture of cooperation among staff members, encouraging them to act in ways that benefit the company towards sustainability, referred to as GOCB (Amrutha and Geetha, 2021).

According to Meng et al. (2023), GHRM practices directly and significantly improve employees' GOCB. According to Pham et al. (2019), green HRM practices also motivate workers to participate in eco-friendly initiatives outside of their official job responsibilities. Additionally, the research's conclusions offer compelling proof that GOCB and EP in Indian HEIs have a substantial and favourable association. Higher GOCB levels appear to improve EP and support official sustainability initiatives, according to existing research (Alkhozaim et al., 2024). When supervisory support is present, employees who exhibit GOCB are more likely to take the initiative to improve the organization's EP, encourage coworkers to adopt eco-friendly behaviours, and participate in the organization's environmental programs or events (Paillé et al., 2022).

Finally, GOCB partially mediates the link between GHRM and EP. Green training, green awards, and employee participation are examples of GHRM strategies that encourage employees to partake in voluntary eco-friendly actions outside of one's formal position requirements, improving both individual and organisational performance. Employees that actively use GOCB have been linked to increased productivity, better environmental results, and increased organisational performance, according to studies. As a result, GHRM increases employee performance indirectly through GOCB in addition to directly improving it. The mediation function of GOCB between GHRM and employee performance outcomes is supported by research by Dumont et al. (2017) and Pham et al. (2019).

6. Implications of the study

6.1 “Theoretical Implications”

In terms of theoretical angle, the fallouts of this investigation bolster the premise that GHRM is positively allied with EP. It offers empirical evidence in the context of Indian academicians which implies that voluntary eco-friendly actions by employees serve as an essential behavioural and psychological tie between HR procedures and company sustainability objectives. Since the literature on this relation in context to HEIs is limited, may perhaps be well thought-out as a root for further studies. Additionally, by showing that employees reciprocate organisational green activities by ecologically responsible discretionary behaviours, the research validates and expands the application of “Social Exchange Theory”.

6.2 Practical Implications

For academics, HR professionals, and promoters in the HEI sector looking to improve sustainability through employee behaviour, the findings have a number of useful implications. According to the study outcomes, companies should include environmental sustainability into their primary HR operations, such as “Hiring, training, performance reviews, pay, and employee engagement” initiatives. The findings advise organisations to develop green HR policies that focus behavioural and psychological issues and include GHRM and GOCB activities into company strategy in order to promote environmental sustainability. Promoters should also put in place a green recruiting policy to assess candidates' ecological conduct and the necessary expertise before they join the company. For both new and current workers, environmental orientation and training should be essential to ensuring comprehension of behavioural concerns and corporate environmental policy. Further, in developing

nations like India, where tackling environmental issues is crucial, this study also makes it possible to gain a greater knowledge of GHRM practices in the academic sector. This implies that companies should prioritise investing money in order to improve outcomes and that financing for green projects in underdeveloped countries is essential.

7. Limits & upcoming research advices

Even while the literature examining the connection between GHRM and EP is expanding, there are still a number of gaps. Future studies might examine the following topics, such as how sectors and cultural differences may affect the link between VL and EP. Academicians perceptions of GHRM initiatives and whether or not they result in higher EP may vary depending on cultural norms. Since most research is cross-sectional, it is challenging to determine causality. Further information on the long-term effects of GHRM advancements on EP may be obtained through longitudinal research. Furthermore, the statistics were compiled solely from academicians of Kumaun province of Uttarakhand, India only. A diversified sample from several provinces and nations may help generalise the consequences. All-inclusive accessible literature may not have been attained. The current study used "self-administered" GHRM, EP, and GOCB questionnaires to gauge employee perceptions. Employees may report socially acceptable responses, which might result in self-serving bias. Additionally, the sample magnitude & procedure may disturb interpretation. Hence, impending probes must substantiate the consequences. This probe studied the mediating effect of GOCB only, amid GHRM besides EP. Future research might consider further mediating and moderating variables such as green competencies, green organization culture etc. This study relied only on primary data obtained through close ended questions, future research must follow mix method approach having qualitative data as well. The respondents in this study were academicians employed in various HEIs. Future studies may incorporate response from other stakeholders as well as policy makers.

8. Conclusion

In the modern corporate context, “Sustainable business practices” and organisational performance now depend heavily on EP. According to the study's findings, GHRM significantly and favourably improves organisational EP. The results show that HEIs that use GHRM practices—such as “Green hiring, environmental training, green performance evaluation, and incentive programs”—have a higher chance of achieving sustainability goals and better environmental results. These procedures motivate academicians to actively support ecological conservation efforts and match their actions with the company's environmental ideals. Additionally, the data validates GOCB's partial mediation function in the connection amid GHRM and EP. This entails that whereas GHRM directly enhances EP, it also has an indirect impact on organisational sustainability through academicians volunteer environmental initiatives that go above and beyond what is required of them at work. Academicians who participate in GOCB contribute to improving environmental management procedures, cutting waste, conserving resources, and cultivating an environmentally conscious culture within the company. Therefore, the study emphasises how strategically important it is to incorporate environmental issues into organisational culture and HR policy. Understanding how GHRM affects workforce in the contemporary business climate might enhance by considering this study.

Declarations

Each author affirms that they have no competing interests. We used human subjects in our study. While answering questions from the questionnaire, participants orally gave their informed consent.

References

- [1] Afsar, B., & Umrani, W. A. (2020). Transformational leadership and innovative work behavior: The role of motivation to learn, task complexity and innovation climate. *European journal of innovation management*, 23(3), 402-428.
- [2] Afsar, B., Masood, M., & Umrani, W. A. (2019). The role of job crafting and knowledge sharing on the effect of transformational leadership on innovative work behavior. *Personnel Review*, 48(5), 1186-1208.
- [3] Agarwal, P., Upadhyay, R. K., Anuj, Ahalawat, K., Kukreti, R., & Akhtar, A. (2024). Environmental performance in higher education and green HRM: the mediating role of organisational citizenship behaviour. *International Journal of Management Practice*, 17(6), 713-734.
- [4] Aggarwal, P., & Agarwala, T. (2026). Relationship between leadership, sustainable practices and green behaviour of students in higher education institutions: the mediating role of sustainability policy. *International Journal of Sustainability in Higher Education*, 27(4), 845-863.
- [5] 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*, 3(4), 100224.
- [6] Akram, M. W., Mirza, S., & Mahar, S. (2024). Employee green behaviour in Pakistani education sector: does green perceived organisational support mediate the relation between green human resource management and employee green behaviours?. *Global Business Review*, 09721509241232195.
- [7] Algethami, M. M., & Campbell, N. (2026). Unlocking Proenvironmental Behaviour: A Scoping Review of Green Human Resource Management and Organisational Citizenship Behaviour for the Environment Through the Ability–Motivation–Opportunity Lens. *Business Strategy and the Environment*, 1-21.
- [8] Alkhozaim, S. M., Alshiha, F. A., Alnasser, E. M., & Alshiha, A. A. (2024). How green performance is affected by green talent management in tourism and hospitality businesses: A mediation model. *Sustainability*, 16(16), 7093.
- [9] Alreahi, M., Bujdosó, Z., Kabil, M., Akaak, A., Benkó, K. F., Setioningtyas, W. P., & Dávid, L. D. (2022). Green human resources management in the hotel industry: A systematic review. *Sustainability*, 15(1), 99.
- [10] Amrutha, V. N., & Geetha, S. N. (2021). Linking organizational green training and voluntary workplace green behavior: Mediating role of green supporting climate and employees' green satisfaction. *Journal of Cleaner Production*, 290, 125876.
- [11] Anshima, Bhardwaj, B., Sharma, D., & Chand, M. (2025). Ensuring sustainability through green HRM practices: a review, synthesis and research avenues. *Journal of Organizational Effectiveness: People and Performance*, 12(1), 57-90.
- [12] Anwar, N., Mahmood, N. H. N., Yusliza, M. Y., Ramayah, T., Faezah, J. N., & Khalid, W. (2020). Green Human Resource Management for organisational citizenship behaviour towards the environment and environmental performance on a university campus. *Journal of cleaner production*, 256, 120401.
- [13] Aryee, R., Adaku, E., Alfa, A. A., Quayson, S., Quartey, E., & Amoakoh, M. N. (2026). The role of organisational citizenship behaviour and green human resource management in the relationship between circular economy practices and firm performance. *International Journal of Emerging Markets*, 21(5), 1545-1564.
- [14] Baruch, Y. (1999). Response rate in academic studies-A comparative analysis. *Human relations*, 52(4), 421-438.
- [15] Bautista-Puig, N., & Sanz-Casado, E. (2021). Sustainability practices in Spanish higher education institutions: An overview of status and implementation. *Journal of cleaner production*, 295, 126320.
- [16] Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological bulletin*, 88(3), 588.
- [17] Boiral, O., & Paillé, P. (2012). Organizational citizenship behaviour for the environment: Measurement and validation. *Journal of business ethics*, 109(4), 431-445.
- [18] Chaudhary, R. (2020). Green human resource management and employee green behavior: an empirical analysis. *Corporate Social Responsibility and Environmental Management*, 27(2), 630-641.

- [19] Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of management*, 31(6), 874-900.
- [20] Demir, S. (2022). Comparison of normality tests in terms of sample sizes under different skewness and Kurtosis coefficients. *International Journal of Assessment Tools in Education*, 9(2), 397-409.
- [21] Dumont, J., Shen, J., & Deng, X. (2017). Effects of green HRM practices on employee workplace green behavior: The role of psychological green climate and employee green values. *Human resource management*, 56(4), 613-627.
- [22] Efranto, R. Y., Sipayung, S. N., & Amrulloh, A. B. Y. (2026). Green human resource management: a decade of evolution in practices, employee green behavior, and organizational sustainability. *Cogent Business & Management*, 13(1), 2598686.
- [23] Elshaer, I. A., Azazz, A. M., Kooli, C., & Fayyad, S. (2023). Green human resource management and brand citizenship behavior in the hotel industry: Mediation of organizational pride and individual green values as a moderator. *Administrative Sciences*, 13(4), 109.
- [24] Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, 5(1), 1-4.
- [25] Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50.
- [26] Gill, A., Ahmad, B., & Kazmi, S. (2021). The effect of green human resource management on environmental performance: The mediating role of employee eco-friendly behavior. *Management Science Letters*, 11(6), 1725-1736.
- [27] Gupta, R., Kaur, H., Rupčić, N., & Sanjeev, R. (2026). Aligning green HRM practices with green organisational citizenship behaviour to achieve organisational outcomes. *International Journal of Organizational Analysis*, 34(2), 632-656.
- [28] Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
- [29] Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). SAGE Publications.
- [30] Hair, J., Black, W., Babin, B., Anderson, R., & Tath, R. L. (2010). *Multivariate data analysis*, Upper Saddle River, NJ, USA: Prentice-Hall, Inc.
- [31] Hanna, M. D., Rocky Newman, W., & Johnson, P. (2000). Linking operational and environmental improvement through employee involvement. *International journal of operations & production management*, 20(2), 148-165.
- [32] Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (3rd ed.). Guilford Press.
- [33] Hinduja, P., Mohammad, R. F., Siddiqui, S., Noor, S., & Hussain, A. (2023). Sustainability in higher education institutions in Pakistan: a systematic review of progress and challenges. *Sustainability*, 15(4), 3406.
- [34] Hooi, L. W., Liu, M. S., & Lin, J. J. (2022). Green human resource management and green organizational citizenship behavior: do green culture and green values matter?. *International Journal of Manpower*, 43(3), 763-785.
- [35] Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modelling*, 6(1), 1-55.
- [36] Jabeen, R., Mehmood, S., Ahmed, M., Ghani, T., Javaid, Z. K., & Popp, J. (2025). The role of green HRM on environmental performance: Mediating role of green ambidexterity and green behavior and moderating role of responsible leadership. *Journal of Chinese Human Resources Management*, 15(2), 70-90.
- [37] Javed, S., Yingjun, Z., Kumar, N., & Meghwar, S. (2024). Green human resource management practices and organizational sustainability performance in Pakistan's healthcare sector: a descriptive analysis. *International Journal of Research in Business & Social Science*, 13(1).
- [38] Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31-36.

- [39] Kim, Y. J., Kim, W. G., Choi, H. M., & Phetvaroon, K. (2019). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. *International journal of hospitality management*, 76, 83-93.
- [40] Kisahwan, D., Priatna, D. K., Roswinna, W., Winarno, A., & Hermana, D. (2025). E-HRM framework for sustainable performance in higher education. *Sustainable Futures*, 10, 101347.
- [41] Kuo, Y. K., Khan, T. I., Islam, S. U., Abdullah, F. Z., Pradana, M., & Kaewsaeng-On, R. (2022). Impact of green HRM practices on environmental performance: The mediating role of green innovation. *Frontiers in psychology*, 13, 916723.
- [42] Larrán Jorge, M., Herrera Madueño, J., Calzado, Y., & Andrades, J. (2016). A proposal for measuring sustainability in universities: a case study of Spain. *International Journal of Sustainability in Higher Education*, 17(5), 671-697.
- [43] Leal Filho, W., Eustachio, J.H.P.P., Caldana, A.C.F., Will, M., Lange Salvia, A., Rampasso, I.S., Anholon, R., Platje, J. & Kovaleva, M. (2020). Sustainability leadership in higher education institutions: An overview of challenges. *Sustainability*, 12(9), 3761.
- [44] Liu, J., & Kitamura, Y. (2019). The role of universities in promoting sustainability in Asia. In *Innovations in asian higher education* (pp. 64-75). Routledge.
- [45] Liu, R., Yue, Z., Ijaz, A., Lutfi, A., & Mao, J. (2023). Sustainable business performance: Examining the role of green HRM practices, green innovation and responsible leadership through the lens of pro-environmental behavior. *Sustainability*, 15(9), 7317.
- [46] Luu, T. T. (2019). Green human resource practices and organizational citizenship behavior for the environment: the roles of collective green crafting and environmentally specific servant leadership. *Journal of Sustainable Tourism*, 27(8), 1167-1196.
- [47] Malik, S. Y., Hayat Mughal, Y., Azam, T., Cao, Y., Wan, Z., Zhu, H., & Thurasamy, R. (2021). Corporate social responsibility, green human resources management, and sustainable performance: is organizational citizenship behavior towards environment the missing link?. *Sustainability*, 13(3), 1044.
- [48] Meng, J., Murad, M., Li, C., Bakhtawar, A., & Ashraf, S. F. (2022). Green lifestyle: a tie between green human resource management practices and green organizational citizenship behavior. *Sustainability*, 15(1), 44.
- [49] Miah, M., Jannat, F., Turner, J., Walter, V., & Szabó-Szentgróti, G. (2026). Effects of green HRM practices on environmental performance: the role of green organisational citizenship behaviour, psychological green climate, and green self-efficacy for greening healthcare organisations. *Social Responsibility Journal*, 1-35.
- [50] Mohammadi, Y., Monavvarifard, F., Salehi, L., Movahedi, R., Karimi, S., & Liobikienė, G. (2023). Explaining the sustainability of universities through the contribution of students' pro-environmental behavior and the management system. *Sustainability*, 15(2), 1562.
- [51] Mousa, S. K., & Othman, M. (2020). The impact of green human resource management practices on sustainable performance in healthcare organisations: A conceptual framework. *Journal of cleaner production*, 243, 118595.
- [52] Muflihah, W. S., Kurniawan, F., Wardana, M. G. W., & Siswanti, Y. (2026). ECO-BEHAVIOR MEDIATING ROLE IN GREEN HUMAN RESOURCE MANAGEMENT ON ENVIRONMENTAL PERFORMANCE. *Jurnal Maneksi (Management Ekonomi Dan Akuntansi)*, 15(1), 187-193.
- [53] Nagy, N. G. (2023). Green generation (s): the generational peculiarities of the environmental attitude. *Chemical engineering transactions*, 107, 199-204.
- [54] Nisar, Q. A., Haider, S., Ali, F., Jamshed, S., Ryu, K., & Gill, S. S. (2021). Green human resource management practices and environmental performance in Malaysian green hotels: The role of green intellectual capital and pro-environmental behavior. *Journal of cleaner production*, 311, 127504.
- [55] Nunnally, J. C., & Bernstein, I. H. (1967). *Psychometric theory* (1st ed.). McGraw-Hill. New York.
- [56] Opatha, H. & Arulrajah, A. A. (2014). Green human resource management: Simplified general reflections. *International Business Research*, 7(8), 101-112.

- [57] Paillé, P., Mejía-Morelos, J. H., Amara, N., & Norrin, H. (2022). Greening the workplace through supervisory behaviors: assessing what really matters to employees. *The International Journal of Human Resource Management*, 33(9), 1754-1781.
- [58] Perano, M., Aisha, R., Channa, N. A., & Casali, G. L. (2025). The nexus between green HRM and environmental performance for sustainable business excellence: the role of employees' environmental passion and pro-environmental behavior. *Total Quality Management & Business Excellence*, 36(1-2), 1-25.
- [59] Pham, N. T., Tučková, Z., & Jabbour, C. J. C. (2019). Greening the hospitality industry: How do green human resource management practices influence organizational citizenship behavior in hotels? A mixed-methods study. *Tourism management*, 72, 386-399.
- [60] Pricopoaia, O., Cristache, N., Lupașc, A., & Iancu, D. (2025). The implications of digital transformation and environmental innovation for sustainability. *Journal of Innovation & Knowledge*, 10(3), 100713.
- [61] Raineri, N., & Paillé, P. (2016). Linking corporate policy and supervisory support with environmental citizenship behaviors: The role of employee environmental beliefs and commitment. *Journal of Business Ethics*, 137(1), 129-148.
- [62] Rehman, A., Ara, A., & Singh, H. P. (2025). How green HRM practices, organisational citizenship behaviour towards environment, technological competence and resistance to change influence the environmental performance of Saudi universities. *Future Business Journal*, 11(1), 224.
- [63] Ren, S., & Chowdhury, S. (2026). Toward inclusive green Human Resource Management: An identity-based analytical framework. *Human Resource Management Journal*, 36(1), 48-63.
- [64] Renwick, D. W., Redman, T., & Maguire, S. (2013). Green human resource management: A review and research agenda. *International journal of management reviews*, 15(1), 1-14.
- [65] Renwick, D., Redman, T., & Maguire, S. (2008). Green HRM: A review, process model, and research agenda. *University of Sheffield Management School Discussion Paper*, 1(1), 1-46.
- [66] Saeed, B. B., Afsar, B., Hafeez, S., Khan, I., Tahir, M., & Afridi, M. A. (2019). Promoting employee's proenvironmental behavior through green human resource management practices. *Corporate social responsibility and environmental management*, 26(2), 424-438.
- [67] Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of management journal*, 37(3), 580-607.
- [68] Sobaih, A. E. E., Hasanein, A., & Elshaer, I. (2020). Influences of green human resources management on environmental performance in small lodging enterprises: The role of green innovation. *Sustainability*, 12(24), 10371.
- [69] Song, W., Yu, H., & Xu, H. (2021). Effects of green human resource management and managerial environmental concern on green innovation. *European journal of innovation management*, 24(3), 951-967.
- [70] Sugiharto, V., & Ardiansyah, M. (2025). Challenges and Opportunities for Implementing Green HRM in Management Source Human Resources in Higher Education. *Journal of Educational Management Research*, 4(3), 1268-1279.
- [71] Tahir, A. H., Umer, M., Nauman, S., Abbass, K., & Song, H. (2024). Sustainable development goals and green human resource management: A comprehensive review of environmental performance. *Journal of environmental management*, 370, 122495.
- [72] Tang, G., Chen, Y., Jiang, Y., Paillé, P., & Jia, J. (2018). Green human resource management practices: scale development and validity. *Asia pacific journal of human resources*, 56(1), 31-55.
- [73] Trumpp, C., Endrikat, J., Zopf, C., & Guenther, E. (2015). Definition, conceptualization, and measurement of corporate environmental performance: A critical examination of a multidimensional construct. *Journal of business ethics*, 126(2), 185-204.
- [74] Vanisri, K., & Padhy, P. C. (2024). Examining the role of green human resource management practices on environmental behavior with the environmental knowledge mediation effect. *International Journal of Human Capital in Urban Management*, 9(2), 317-330.
- [75] Wiernik, B. M., Dilchert, S., & Ones, D. S. (2016). Age and employee green behaviors: A meta-analysis. *Frontiers in psychology*, 7, 194.
- [76] Winston, A. (2009). Energize employees with green strategy. *Harvard Business Review*, 87(9), 24.