QUBAHAN ACADEMIC JOURNAL
VOL. 5, NO. 2, April 2025
https://doi.org/10.48161/qaj.v5n2a1630

Resonance of Green Innovation and Culture by Integration of Environmental Performance

RAMYA M. [1] **and G. PRABU** [1*]

[1] Faculty of Management, SRM Institute of Science and Technology Kattankulathur, Tamil Nadu - 603203, India.

* **Corresponding author:** gp@srmist.edu.in.

ABSTRACT: As ecological concerns grow, the Indian automobile sector is making its significant progress in improving environmental performance. With the raising concerns on ecological perspectives in Indian automobile sector is declining, which paved the attention on the study. Organisations are becoming solicitous on their sustenance in growing economy. Re-thinking on company's policies and strategy have to be refurbished, to intensify on environmental performance. Green HRM practices at its outset supports environment friendly practices that tenets its actions towards the environmentally sustainable performance. Employee green behaviour (EGB) leads its way in bringing awareness of the workplace context with the code of the organisation. Green Culture pulls opportunity in organisations to show its responsibility by contributing to its ecological balance. The principal goal of the current research is to encounter the effects of GHRM Practices, GEB, GI and green 'culture' on EP in automobile industry of Chennai and Chengalpattu districts. The methodology of the study was in automobile sector with a sample size of 367 respondents and adopted purposive sampling. The study extrapolates by SPSS 25 and Smart PLS with its very own correlation and SEM as its statistical packages by embellishing to reveal the relationship and prove the best fit of the model through the results that had been reckoned from the study. The study finds a positive effect GI, GEB, GHRM also GEB contributes with a cordial positive impact on GI and EP. Among these GI seems to be strong positive association with EP in automobile sector, Tamil Nadu. The study concludes that the model suggests a solid structural relationship between GHRM, GEB, GI, EP with 'green innovation' acting as a key mediator highlighting the importance of innovation in improving environmental outcomes while GHRMP, GEB has a significant positive effect on GI, indicating a pivotal part play in driving green innovation.

Keywords: Green HRM Practices (GHRMP), Employee green Behaviour (EGB), Green innovation (GI), Green Culture (GC), Environmental performance (EP).

I. INTRODUCTION

Over the decades, economic growth has been deemed as an incompatible with sustainable environmental practices. However, this is an ongoing issue that drives businesses to behave environmentally in terms of trading, manufacturing, and service delivery. Under [1] view, GHRMP is a set of practices used by enterprises that implement policies promoting environmental sustainability. The severity of technical challenges increases in proportion to companies' use of GI and SD routes. According to the UN (SDGs), GHRM practices include the promotion of green skills and leadershipare linked to responsible production and climate action [2]. Environmental sustainability serves as essential for the well-being of future generations as well as present. Climate change has generated several environmental, social, and economic difficulties for nations worldwide. In line with [3], businesses have to prioritise 'economic', 'social', and 'environmental' concerns while generating stakeholders' profit in order to gain power, a social permit for existence, long-term success, and sustainability [4]. Researches by [5], also identified the influence of GHRM on employees' "environmentally friendly" behaviour and performance. Conservation of the environment is becoming more vital inside businesses, and it is becoming an integral component of corporate strategy and vision [6]. As per [7] argues that green initiatives may improve organisational performance by lowering manufacturing costs and increasing economic efficiency. As a

result, environmental measures are regarded as essential to achieve sustainability [8]. It is also feasible that embracing and executing green culture may increase EP. In view with [9] explored the consequences of GHRMP on employees' "in-role" and "extra-role" green behaviours by adopting the "psychological green climate". In spite, growing study on GHRMP and employees work-related outcomes, rely on social and psychological mechanisms which connect GHRM [10].

The automobile industry faces a multitude of green human resource related bottlenecks such as automation, diversity and inclusion, technology advancements, and the recruitment and retention of qualified workers. Owing to these difficulties, must change and adapt in order to stay up to date with the sector's shifts. Employing eco-friendly initiatives that increase production; lower operating expenses, all through companies might practise employee carbon footprints and improve EP through the usage of "electronic filing"", carsharing", "task sharing", "teleconferencing", and "virtual interviewing".

The study aims to trailblaze in multiple pathways, one is it addresses GEB and its dimensions as the variable is still in its nascent stage and being less explored by previous studies. Because any organization, employees remain as the key role for organizational outcomes. Adding upon to study it marks its contribution in automobile sector in India. The sector remains as the world's fourth largest sector in the world. The study adheres to SLT theory through which employees observe the behaviour of their fellow employees and work on the common objective.

1. RESEARCH GAP

India being the fourth largest automobile manufacturer globally. As the sector contributes highly to the nations GDP and employment also being the key driver in the economy. This sector involves a major source of resource depletion, carbon emission and environmental degradation. Despite high-pitched regulatory pressure and sustainability measures, there are still significant research gaps in this area involving the integration of GHRM, GC, GI, and EP. Previous research supports the link between GHRM and EP, but it is dominated by the hospitality and tourism sectors [11-15] and the banking sector [16]. Addressing the convergence of GHRM, GC, GI, and EP in India's automobile sector is imperative for obtaining environmental sustainability while preserving economic growth. By bridging this research void, the study will be able to design effective, evidence-based strategies for driving green transformation in one of India's most crucial industries. By addressing the gaps from the previous literature, the present study had made its unique contribution by including GEB as one factor as this employee green behaviour is still in nascent stage.

2. AUTOMOBILE INDUSTRY IN INDIA

According to Automotive Outlook 2022 figures, India's "automobile sector" stands fourth in the world in terms of productivity. As of 2023, India showcases its potential and capability which paved way to march towards the world's third largest automobile market in terms of revenue. India is climbed to be world's fourth largest nation in 2022 by the financial worth of its automobile sector. As the sector makes use of over 19 million people both explicitly and implicitly. Chennai's status as a major port city and the hub of the automobile import-export industry is largely due to its development into a major automobile hub, often referred to as the "Detroit of India".

3. THEORETICAL FRAMEWORK

The study refines the existing model and brings a novel insight by identifying and recognizing the relationship between GHRM, GEB, GC and GI towards environmental performance which would offer a macro-level explanation on environmental outcomes. This also explains on the role GHRM on it foster organizational support towards the goal accomplishment. Adding upon to study it marks its contribution in automobile sector in India. The sector remains as the world's fourth largest sector in the world. The study adheres to previous theoretical perspectives which includes SLT theory and NRBV theory through which employees observe the behaviour of their fellow employees and work on their common objective.

4. SOCIAL LEARNING THEORY

Social learning theory (SLT) is a theory, which claims to elucidate the imitating behaviour by observing fellow people in the organisation as its concerned with attitudes, behaviour and emotional reactions with others. Study [17] was the one who proposed SLT theory in 1977. SLT facilitates sharing of information and best practices in

sustainable operations, via networks and collaborations. witnessing peers or industry leaders achieve environmental goals may promote behavioural adjustments inside organisations and employees.

5. NRBV THEORY

Natural Resource Based View (NRBV)theory was originally developed by [18] in 1995. NRBV emphases on strategic status of natural resources and sustainability as a source of competitive advantage. The theory further spotlights the alignment of EP with business goals.

NRBV and SLT are two distinct theories that draw attention to the value of environmental performance in organisations. NRBV emphasises the strategic relevance of natural resources and sustainability, integrating environmental initiatives with business objectives to provide long-term value. SLT promotes the spread of information and best practices in sustainable operations, such as energy efficiency and waste management. Organisations may promote behavioural shifts and optimise resource utilisation by witnessing peers and industry leaders achieve environmental targets, hence lowering costs and environmental impact. Organisations may improve their environmental performance and promote sustainable development by exploiting the observational and collaborative features of SLT.

II. RELATED WORK

1.GHRMP, GC, GI AND EP

Practises that are indispensable that support the concerns on environmental attributes by enhancing the organisational culture that tends to corporations achieve greater sustainability performance, particularly in light of GHRM practises that emphasise the value of developing an employee concern for EP, which would enhance their organisational culture [19]. In the words of [20], GHRMP reflects the company's intended direction for EP and encourages to “pay attention to organisational strategies” and initiatives that could encourage employees by adopt green work practises in order to reduce workplace environmental pollution [21]. In reply to the rising profile of environmental protection in business operations, GHRM is gaining headway into HR functions such as hiring, induction, and career advancement. An organization's EP and the environmental consciousness of its employees are positively affected by GHRM's environmental training. This study lends weight to the argument for successful green HR practices by suggesting that GHRM may improve GI and environmental performance as mentioned by [22]. This entails the notion that enterprises implementing a set of GHRM bundles are more likely to achieve the business outcome of environmental sustainability [23]. GC is one in which employees go above and beyond profit-seeking goals to reduce negative environmental consequences while promoting positive environmental advantages [24]. GC refers to organisational attitudes, behaviours, and values that emphasise EP. It includes strategies for lowering ecological footprints, fostering environmental stewardship, and aligning the business operations. The study stated that GHRM practices assist employees develop greener attitudes and drive them to participate in E-PEB activities, which improves EP [23]. EP is defined as organisational efforts that go beyond simple rule and regulation compliance in order to meet and surpass social expectations concerning the natural environment [25, 26]. Study [27] contend that EP is positively related to an industry's growth. Employees who work deeply cares about environment, and it shows in their GC beliefs, attitudes, and behaviours [28]. Thus, HRM practices have a major influence on the incorporation of modern sustainability approaches. Study [29] noted that organisations with higher levels of employee collision may produce superior GCs. GC is one in which environmental conservation is prioritised. According to [30] research, GC encourages employees to be more concerned about environmental concerns, which has a positive impact on their work. Managers must be more concerned with environmental preservation in order to foster GC and many research [31] have found that green culture has a favourable influence on organisational GI. Study [32] also recognised GC as a driving force for GI. This study proposes that GC can improve the efficacy and applicability of green innovation by addressing employees' environmental concerns.

GC with no doubt, it admits how the company deals with its own people and how its leaders cultivate a GC. A strong and sturdy GC built upon GHRM influence the association between GHRMP and EP [33]. Green culture promotes employees to adopt green behaviours, enables efforts to promote sustainability [34]. GHRMP as a considerable positive impact on GI which subsequently improves “environmental Performance” [35,36]. In view of [33], Organizations that adopt GHRM are more inclined to experience advancements in GI, resulting in enhanced sustainability outcomes. In the hotel industry, GI acts as an intermediate between GHRMP and employee retention, which highly represents the indication of effective GHRMP which would in turn foster

greater employee commitment through their innovative approaches [37]. GI being a mediator between GHRM and environmental performance, supported by research demonstrating that GHRM initiatives lead to increased green product and process innovations [38]. The integration of GHRM practices encourages employees to engage in eco-friendly behaviours, consequently advancing innovation that bolsters sustainability [39]. GI includes environmentally sustainable practices, which are important for improving a firm's EP. Also, GI exerts an impact on EP, thereby supporting can be proactive with environmental strategies that can confer competitive advantages [33]. Individuals with a robust level of environmental competence and awareness are able to generate progressively unique solutions for EM, consequently elevating the organisations GI. Thus, organizations ought to assertively prioritize the engagement of employees devoted to "environmental responsibility" to champion and maintain impactful GI [40].

GHRM focusses on "environmental management" by establishing employees are being so committed to sustainability by promoting an environmentally friendly culture inside the organisation [41]. GHRM has an appealing and substantial impact on GI. In addition, GI strongly determines the relationship between GHRM and EP. This indicates that GHRM can have an impact on EP both directly and indirectly through green innovation. Also, this study investigates the considerable beneficial relationship between GI and EP [42]. Organisations may successfully use HRM to accomplish sustainable strategies and goals when their motivation shifts from profit to environmental sustainability. This environmentally conscious HRM is often referred to as GHRM [43]. Study [44] proved that green recruiting aids organisations to reduce pace of environmental deterioration, therefore delivering better environmental sustainability. Green culture encourages employees to think in terms of environmental sustainability. It is an essential catalyst in the implementation of GHRM practices, since GC is believed to be derived when all members of an organisation participate in the organization's greening activities. Study [45] assessed the role of GC as a mediator in the relationship between "green manufacturing" and "green procurement" practices and the organization's EP, but no study has investigated the mediating role of GC's on GHRM and EP. EP relies on organizational creative thinking and innovation to not solely be comparable[46,47] but also to go beyond mere conformity to specified norms and rules [22,48] stated that GI is the use of technology to "minimize waste", "global warming", and "natural resource use". By emphasizing on green choices, banks may invest exclusively in resources that are sustainable. Hence the hypotheses were developed as,

- H1: There is a significant difference between GHRM practices and EP
- H2: There is a significant difference between GHRM practices and green Culture
- H3: There is a significant difference between GHRM practices and green innovation

2. GEB, GC, GI and ENVIRONMENTAL PERFORMANCE

Green employees' behaviour can be generalized as employee activities that foresee the attainment of preserving natural resources and also with the 'ecological environment' that pertains to the improvement on the quality of the environment [24]. Experts have featured GEB as "compound performance domain" which infer a meaningful insight to employees and their behaviours that contribute to organizational goal by promoting "environmental sustainability". According to [40] Employees are slated to guide others or provide suggestions to help the company manage its environmental impact in order to engage in active communication with both the business and their peers. Employees may serve as "environmental promoters", "raising awareness" and "encouraging other individuals to adopt green practices" within the organisation, as well as picking "eco-friendly transportation" options such as 'biking', 'walking', 'carpooling', or 'taking public transportation' to reduce carbon footprint [16]. In response to research, individual knowledge and care for the environment serve as primary inspiration for voluntary pro-environmental activity, which is affected by one's environmental beliefs and attitudes [12]. Consequently, employees' voluntary green activity, triggered by internal incentive rather than role mandate, makes a substantial contribution to environmental conservation within businesses.

Regular contact allows employees to come out with their opinions on EM, which supports GEB [49-51]. In particular, when there is a blend of organisational outcomes and leaders' motivated vision, workers who exhibit Green Employee Behaviour tends to take the ownership to improve the organization, also to encourage teammates to take up "environmentally friendly behaviours", and participate in the "organization's environmental programmes". GHRM entails procedures and policies designed to motivate workers to engage in compassionate and resource-efficient activities that support environmentally conscious behaviour. Green culture may inspire green behaviour by promoting both GHRMP and enhanced environmental awareness. EGB is to determine the degree of "environmental awareness" and "perception on environmental challenges" by [52]. The study was to examine a theoretical model that demonstrates how organisational GC influences GEB through

GHRMP and environmental consciousness (EC), [53] In order to have employees carry out their responsibilities with the required attitude and conduct. Since the association of transformational leadership, GHRM, and GI is reflected in literature, this study contributes to a moderating role of employee's individual behaviour to influence an organization's EP [9]. In the words of, [54,55], GI is associated with strong environmental sustainability policies that promote environmental performance. By "lowering waste and costs", "saving money", "time, and energy", and "promoting financial", "environmental", and "social success", "green product and process innovation" greatly lessens an organization's negative environmental impact while increasing business efficiency [56].

GC plays a key role in helping organisations execute GI that are consistent with global trend for more responsible, environmentally friendly behaviour. This is increasingly common in organisations focused on achieving long-term growth [57]. GI aspires to enhance the practises to kinder to the environmentally sensitive [14]. In industries with greater effectiveness external networks, GI occurs in greater numbers. Further, the DCV states that GIs are essential skills for manufacturing firms, providing advantages in the market, cost savings, and increased financial returns [58]. There are two primary forms of GI, the exploitative and the exploratory. Both could employ contemporary technology and superior methods to drastically lessen their effects on the environment. Financial outcomes can possibly be achieved and risks can be mitigated with a proactive environmental strategy rather than a reactive one. The ecological strategies, according to the paper's hypothesis, deepen the rapport between GI and EP. A culture has to be revealed and developed within the organization [14]. "Green culture" improves employee knowledge of innovation since it indicates an ongoing commitment on environment sustainability in order to prevent environmental damage [11]. The objective is to have concern for the environment while also supporting GC and GI which will benefit the organization's economic health in the long run. In recent decades, the scholarly research has offered evidence that researchers are interested in EP. [59- 61]. To achieve a high degree of EP, businesses have to embrace methods that go beyond by adhering to government rules. These tactics should raise and propel green culture into the public consciousness. Going green can surely assist to reduce environmental concerns within organisations [62]. When ecological arguments are appealing, advantageous, necessary and presented by a reliable source, GC is more likely to be promoted [63]. Businesses that want to improve their green performance and obtain a competitive advantage must have a strong green culture [64]. Study [65] explicitly state that if an organization's human resources show focus and prioritise on environmental preservation, which they are more likely to implement a GC strategy. Based on eco-environmental principles, formal OGC may make it easier for a company to integrate different environmentally friendly goods operationally [66]. Because of this, OGC might be a useful tool for companies trying to adopt eco-friendly programmes that produce SP [67]. Thus, the hypotheses were postulated as,

- H4: There is a significant difference between GEB on environmental performance
- H5: There is a significant difference between GEB on Green Culture
- H6: There is a significant difference between GEB on Green Innovation
- H7: There is a significant difference between green culture on green innovation

3.RESEARCH OBJECTIVES

- To explore the demographic profile and characteristics.
- To find the relationship among GHRM, GEB, GC, GC and environmental performance.
- To investigate the role of GC and GI as an intermediary variable among GHRM practices, GEB,
- environmental performance in automobile industry.
- To find out the association between green culture and GI on EPs.

III. DATA AND SAMPLE

The present study was carried away in automobile firms who operates across Chennai and Chengalpattu districts are considered to the population. The sample which are taken for study after completing the data sanitizing is determined to be 367 responses out of 389 respondents. The authors find more prominent to adopt purposive sampling, as automobile industry deserves to be studied in conjunction with environmental performance in relation to GHRM practices because it has a significant impact on the environment due to its manufacturing processes, supply chains, and product lifecycle, and in addition to the production of hazardous and non-hazardous waste such as scrap metal, chemicals, and end-of-life vehicles. Combating its notable environmental imprint, adhering to encouraging innovation and sustaining development. The period of study was between March 2023 to November 2023. Primary data is collected through generating google forms among

employees of the sector at all levels. After the data being collected as discussed earlier 367 samples were taken for the study to ensue further processing. The collected data were further progressed with analysis to bring out the culmination of the objective of the study with statistical tool as SMART PLS which deliberately discuss on the results and discussion. The selection process was made in automobile sector in between shopfloor workers through human resource personnel via google forms across the organization who are both technical and non-technical are the actual samples for the present study. Further the demographic characteristics of the sample includes gender, age, marital status, educational background, experience, income level, nature of work and designation are summarized in table 2. The model which was studied was limited with Indian context further it can be studied across other developing countries by adopting the model. Moreover, the sample was taken from only automobile sector but on the purview of limiting the samples, can further be extended with automotive and also with allied and Original Equipment Manufacture's sector.

IV. MATERIAL AND METHOD

1.INSTRUMENTAL DEVELOPMENT

The present quantitative study involves the data collection through primary data employs "self-administered" questionnaire seeking the response from the automobile industry includes all levels of employees to capture the grass root their viewpoint to anticipate the research. Data collection includes a "5-point Likert scale" to record the responses of from 1 as "strongly disagree" to 5 as "strongly agree".

2.MEASURES

The study adopted measures from previous literature as tabulated in the table 1 represents GHRM practices covers the various dimensions includes GRS, GTD, GPE, GRR and GC compiled with 14 items. GEB describes voluntary behaviour and task related behaviour with 4 items scale that supported the present study. GC was measured with 6 items scale. GI incorporates product and process related innovation accounted with 7 items scale and finally EP was measured with 7 item scale in which 6 items were supported. EP was measured with 6 items scale borrowed from prior research were used to assess employee's performance in automobile sector. These quantitative metrics measured reductions in hazardous waste" and "emissions, scraping rate" and "regulatory awareness".

Table 1. Measures of the study.

S. No	Construct	Item	Sources
1	GHRM Practices	14	Shah, (2019) [68] Tang et al. (2018) [69], Jabbour, et al. (2019) [70]
2	Green Employee Behaviour	4	Bashirun & Noranee (2020) [71]
3	Green Culture	6	Roscoe et al. 2019 [15]
4	Green Innovation	7	El-kassar & Singh, (2019) [31]
5	Environmental Performance	6	Pham, T. N. (2010) [72]

Source: Prepared by Authors (2025)

3.RELIABILITY AND VALIDITY

Reliability is used to determine how far the data is reliable. Cronbach's alpha which provides with overall reliability coefficient for both dependent and the independent variables of the study. The obtained reliability value for the study is found to be 0.831 which clearly communicates the value is acceptable for the study which also exclaims the study travels on a right path / marching towards its environmental performance. The sampling was apt to proceed further as it makes an attempt to confirm the sample adequacy of the data that is been obtained from the respondents. "Kaiser-Meyer-Olkin and Bartlett's test" underpins sampling adequacy for each item in the model. Hence, the KMO value is 0.728 which indicates that the sample is adequate. The study had a pilot run with 77 samples to assess the feasibility and validate the study through content validity, construct validity and reliability. The study gone through a pilot run to gauge potential errors and practical feasibility to proceed further

with the research. The study has relied on the previous literature for its instrument which was detailed in table 1. Also, study approaches the subject experts, and validates relevant aspects of the construct to ensure the content validity of the research. To confirm with the construct validity, the study goes through factor analysis and arrive at instrument measure that are closely associated with the study.

4.STATISTICAL ANALYSES

The study actually utilized 367 samples from automobile sector in India was justifiable to proceed with statistical checks and bring the robustness of the study by portraying the employees' roles and responsibilities in the organization. Further, the statistical analysis would remain justifiable in addressing the relationship between variables and signifies the alignment of the constructs through PLS-SEM.

5.CONCEPTUAL FRAMEWORKS

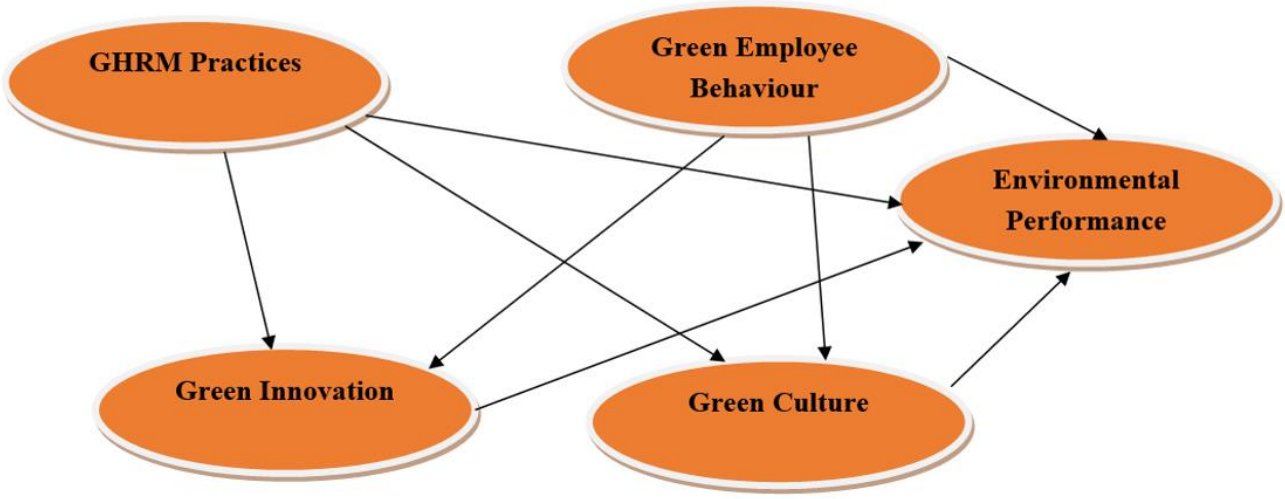

FIGURE 1. Conceptual framework.

Source: (Prepared by authors 2025)

V. DATA ANALYSIS

Table 2. Sample demographic profile.

S.No	Demographic variable	Category	Frequency	Percentage (%)
1	Gender	Male	274	75
		Female	93	25
		Total	367	100
2	Age	21-25	45	12
		26-30	66	18
		31-35	81	22
		36-40	85	23
		41 and above	90	25
		Total	367	100

		Married	96	26
3	Marital status	Unmarried	271	74
		Total	367	100
		Diploma	55	15
4	Educational background	UG	173	47
		PG	139	38
		Total	367	100
		< 1 Yr	36	10
		1 to 5 Yrs	44	12
5	Experience	6 to 10 Yrs	72	20
		11 to 15 Yrs	102	28
		>15 Yrs	113	31
		Total	367	100
		< 20000	43	12
		20001 - 50000	54	15
6	Income Level	50001 - 70000	67	18
		70001 - 100000	81	22
		>100000	122	33
		Total	367	100
		Technical	144	39
7	Nature of work	Non – Technical	223	61
		Total	367	100
		Junior Executive	96	26
		Senior Executive	106	29
8	Designation	Junior Manager	92	25
		Senior Manager	73	20
		Total	367	100

Source: Prepared by Authors (2025)

The data reflects a predominantly male, well-educated workforce with significant experience and a notable income level, suggesting a professional environment that values education and experience. The demographic profile indicates a younger, career-oriented group, primarily in non-technical roles, which could inform future initiatives aimed at engagement or support within this workforce. Gender claims the majority of males (75%) compared to females (25%), indicating a significant gender imbalance in the respondents. A relatively highest representation in the 41 and above category (25%) and the lowest in the 21-25 group (12%). This suggests that older respondents are more prevalent in the sample. A large portion of the respondents are unmarried (74%), while married individuals make up 26%. This indicates a younger demographic that may be early in their careers. The majority of respondents hold undergraduate degrees (47%), followed by those with postgraduate degrees (38%) and diplomas (15%). This highlights a well-educated sample. Experience is predominantly clustered in the higher ranges, with 31% of respondents having more than 15 years of experience. Only 10% have less than a year of experience, indicating that most respondents are relatively seasoned professionals. The income levels show that a significant portion (33%) earns over 100,000, while only 12% earn less than 20,000. This suggests a relatively affluent sample, likely correlated with their experience and educational background. The majority of respondents are in non-technical roles (61%), while technical roles account for 39%. This indicates a diverse range of

professions among the sample. The most common designations are Senior Executive (29%) and Junior Executive (26%), with Senior Managers (20%) being less common. This distribution suggests a hierarchical organization with a substantial number of individuals in entry and mid-level roles.

1. CORRELATION

The correlation will inspect the relationship among the variables. From the output obtained from Pearsons's correlation the relationship among variables is ought to be found that, GHRMP and GI has the highest positive relationship with r value as 0.840. Then, the most influencing relationship seems to be between GHRMP and EP as the value tends to be r = 0.815. Further GI exhibits a strong positive correlation as r = 0.740 with EP. The least contribution association is between green culture and GEB with r value as 0.605. The correlation table illuminates a strong connection between GHRMP, GI, and EP, reflecting that organisations with excellent green HR practices are inclined to be innovative and focus maximum on the environmental results. Also, GC and EGB helps to improve innovation and EP. Hence, the table value entirely remains as the strong positive association among all the variables in the study.

Table 3. Correlation.

Constructs	GHRMP	GC	GEB	GI	EP
GHRMP	1	0.733	0.564	0.840	0.815
GC		1	0.605	0.643	0.716
GEB			1	0.623	0.632
GI				1	0.740
EP					1

Source: Author's work (2025)

2. MEASUREMENT MODEL

Table 4. Measurement model.

Constructs	Item	Factor Loading	Cronbach's alpha	Composite reliability	AVE
GHRM Practices	GHRM1	0.879	0.682	0.797	0.816
	GHRM2	0.423			
	GHRM3	0.769			
	GHRM4	0.068			
	GHRM5	0.834			
GEB	GEB1	0.682	0.734	0.830	0.941
	GEB2	0.920			
	GEB3	0.918			

	GEB4	0.087			
	GC1	0.816			
	GC2	0.909			
Green Culture			0.872	0.882	0.828
	GC3	0.898			
	GC4	0.709			
	GI1	0.916			
	GI2	0.911			
Green Innovation			0.940	0.942	0.846
	GI3	0.919			
	GI4	0.933			
	EP1	0.381			
	EP2	0.663			
Environmental	EP3	0.806			
			0.867	0.918	0.874
Performance	EP4	0.911			
	EP5	0.922			
	EP7	0.909			

Source:Author's work (2025)

The study adopts PLS-SEM is considered for the analysis as it is used to develop a robust evaluation on measurement model and the structural model. Initially, the PLS-SEM develops structural model later by defining latent variables the measurement model is built. PLS-SEM was picked up for the study for its efficiency in handling the complex model, because PLS-SEM suits so well for the multiple latent constructs as the present study inculcates GHRM, GEB, GC, GI and EP in automobile sector. The crowning feature of PLS-SEM is it can lever non normally distributed data in management research. On the other hand, it also admits small to medium sample size. Also adding the predictive accuracy that modestly forecast the organizational outcomes. The study results had met with the standard threshold value; thus, all variables of the study are impacting its relationship with each other by meeting its statistical thresholds. The study's measuring methodology for constructs is laid out from the SMART PLS table, which gives a thorough description. While the items in GHRM Practices have weak factor loadings below 0.7 a few of them (GHRM1, GHRM3, and GHRM5) show strong loadings exhibit above 0.7 suggesting significant convergent validity. But GHRM2 and GHRM4 don't seem to be making much of a contribution to the construct, with loadings of only 0.423 and 0.068, respectively. "Low Cronbach's alpha" (0.682) and CR (0.797) suggest potential problems with internal consistency, while an AVE of 0.874 is much higher than the 0.5 criterion but still falls short of threshold value. However, GEB1, GEB2, and GEB3 all have high loadings over 0.9 GEB4's found to be extremely low loading of 0.087 suggests problems with GEB4's relevance. A reasonable level of 'internal consistency' was observed by its alpha as (0.734) and CR (0.830). Its adequate convergent validity is demonstrated by its AVE of 0.941. Green Culture construct is well-represented by each item, with GC1, GC2, GC3, and GC4 all contributing significantly (factor loadings > 0.7). The high values of AVE (0.828), alpha value as (0.872), and CR (0.882) demonstrate strong internal consistency and convergent validity among the variables. With factor loadings exceeding 0.9 for every item, Green Innovation clearly has good convergent validity. High levels of internal consistency are shown by alpha value as (0.940) and CR (0.942),

but the acceptable threshold is much beyond with an AVE of 0.846. Finally, environmental performance stands out with a notable exception of EP1, as it reveals high factor loadings for EP2, EP3, EP4, EP5, EP6, EP7 over 0.8 for the items. Strong internal consistency is shown by the construct's which results to be with high alpha value as (0.867) and CR (0.918), while good convergent validity is suggested by the AVE of 0.874, which is over the 0.5 criterion.

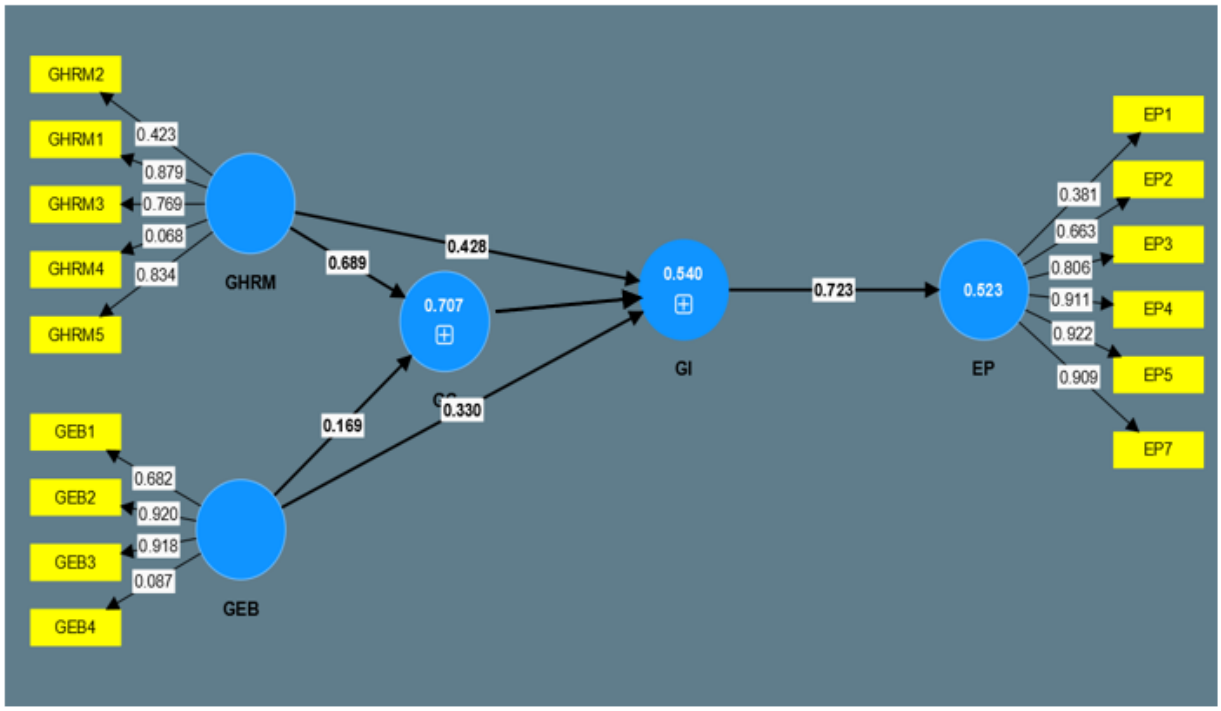

FIGURE 2. Measurement model.

Source: Author's work (2025)

3. MODEL FIT

The R Square value which highly elucidate and access the explanatory power of the variance of EP will be explained by blend of GHRMP, GEB with GC, GI and EP. The value of adjusted R square personifies how well the model fits and influenced in the study. 52.3% of the model is explained along with its exogenous variables GHRMP, GEB, GC, GI to EP from the model, which claims to be a moderate explanatory power with existing model. In concerned with "Green culture" the model remains outstanding which explains 70.7% of the variance in GC is explained by the model, as it represents a strong indication of GHRMP and GEB being its independent constructs have a substantial impact on the GC. 54.0% of the R2 value indicates model fit value of GI which represents moderate explanatory power. However, the generally reported fit index in PLS-SEM is SRMR, which gauges the degree to which the proposed model fits with the observed data. A good match is indicated by an SRMR of < 0.08 as the value remains as 0.053.NFI is most prevalent in PLS, and yet it gives a more relative assessment of model fit of NFI value is 0.09, which reported to be good fit as ≥ 0.90.

The study elaborates R square value in table 5, were EP holds the R square value as 0.523 aggregates with 52.3% and the predictors are found to be GHRM, GEB, GC and GI admit with a moderate to good fit. GC with 0.707 accounted to 70.7% where the predictors are GHRM and GEB explains a best fit among the other variables. GI curtails with 0.540 as regression value and accounted to 54.0% and finds the predictors as GHRM, GEB, GC and GI claims to be moderate to good fit for the study. The study acknowledges path coefficient of each variable initiating from GHRM →GI where the value is found to be 0.428 signifies moderate positive effect on GI. Certainly, the path coefficient value of GHRM→GC is found to be 0.689 which was coined to be a significant positive effect on each other. The relationship between GEB→GI represents a path coefficient value of 0.330 and GEB→ GC has 0.169 as its path coefficient value, where both the relationship is said to have a lower effect when compared with GHRM. This indicates that there exhibits uneven behaviour of employees in the organization that

could nullified with a proper channelized training method. Further, the path coefficient value of GI→EP claims to have 0.723 which indicates a strong positive effect on EP. Thus, the findings confirm with the earlier studies that improved green innovative practices would march the organization with enormous environmental advent.

Table 5. R Square.

Constructs	"R-square"	"R-square adjusted"
EP	0.523	0.521
GC	0.707	0.705
GI	0.540	0.537

Source: Author's work (2025)

Table 6. Model fit summary.

	Saturated model	Estimated model
SRMR	0.053	0.053
NFI	0.09	0.09
Chi-square	221.239	221.239

Source: Author's work (2025)

The study elaborates R square value in table 6, were EP holds the R square value as 0.523 aggregates with 52.3% and the predictors are found to be GHRM, GEB, GC and GI admit with a moderate to good fit. GC with 0.707 accounted to 70.7% where the predictors are GHRM and GEB explains a best fit among the other variables. GI curtails with 0.540 as regression value and accounted to 54.0% and finds the predictors as GHRM, GEB, GC and GI claims to be moderate to good fit for the study. PLS-SEM is considered for the analysis as it is used to develop a robust evaluation on measurement model and the structural model. Initially, the PLS-SEM develops structural model later by defining latent variables the measurement model is built. The model developed in the study was reflective model. Based on the study findings the model fit is affirmed with SRMR and NFI values. The study findings arrived with a good match indicated by an SRMR value of 0.053 which is < 0.08 and NFI gives a more relative assessment of model fit of 0.09, which was reported to be good fit. The VIF values falls between 1.703 to 3.217 explains that the data is free from multicollinearity.

4. CONSTRUCT RELIABILITY AND VALIDITY

Owing to growing appeal of statistical analysis using Smart PLS and its comprehensive estimations, PLS-SEM has been employing recent research for data analysis [44]. PLS is thought to be a greater fit for examination and reliability mainly because the study attempted to predict and explain the constructs. The structural model was then examined in the following phase in order to confirm the theories of [45].

Table 7. Construct reliability and validity.

Construct	Cronbach's alpha	CR (rho_c)	CR (rho_a)	AVE
GHRM	0.682	0.762	0.799	0.816
GEB	0.734	0.787	0.830	0.941
GC	0.872	0.914	0.882	0.828
GI	0.940	0.957	0.942	0.846
EP	0.867	0.903	0.918	0.874

Source: Author's work (2025)

GHRM has significantly lower reliability than the other constructions, but it still passes acceptable norms for composite reliability and AVE, assuring its validity as however, its composite reliability (rho_c = 0.762, rho_a = 0.799) and AVE (0.816) are satisfactory, indicating good overall reliability and convergent validity. GEB, GC, GI, and EP, on the flip side hand, exhibit tops with its reliability and validity checks with GC and GI particularly strong with regards to internal consistency and convergent validity. GEB demonstrates adequate reliability and validity, with an Alpha value of 0.734, CR over 0.7, and an AVE of 0.941, indicating strong internal consistency and validity. GC has a high Cronbach's Alpha 0.872, excellent CR (rho_c = 0.914, rho_a = 0.882), and a high AVE (0.828), show casing that it is well-measured. GI has good reliability and validity ratings across all metrics, including 'Cronbach's Alpha' as (0.940), CR (rho_c = 0.957, rho_a = 0.942), and AVE (0.846). The present model indicates high internal consistency and convergent validity with EP is also highly reliable and valid, with 'Cronbach's Alpha' as (0.867), CR (rho_c = 0.903, rho_a = 0.918) and AVE (0.874).

5. DISCRIMINANT VALIDITY

All values in the corresponding rows and columns must be smaller than the values in the diagonal [46]. All of the values in the diagonal are higher than the other values which indicated in Table 8, supporting the discriminant validity. As a result of HTMT Criterion the value of EP is 0.790 which had been squinted and inferred to be highest of that respective column achieves the discriminant validity. Further the "Fornell-Lacker criterion" used to analyse and validate the discriminant validity of the measurement model. This criterion explains the square root of AVE of EP was 0.790 which is again found to be greater than the other values in their respective column.

Table 8. Discriminant validity – (Fornell-Larcker criterion).

Constructs	EP	GC	GEB	GHRM	GI
EP	0.763				
GC	0.736	0.685			
GEB	0.747	0.571	0.885		
GHRM	0.723	0.404	0.704	0.665	
GI	0.743	0.601	0.754	0.717	0.715

Source: Prepared by Authors (2025)

The diagonal numbers from the table signify AVE for every construct. Employing the "Fornell-Larcker criterion", with respect to each construct the diagonal values are explaining the strength of the constructs. EP's discriminant validity found to be 0.763 which is quite higher than other variables ranging between 0.723 and 0.747 revealing that EP has a good discriminant validity since it shares more variance with its own indicators than with others. GC as of 0.685 represents a better association with other constructs between 0.404 and 0.571 which portrays GC also shows high discriminant validity since it is different from the other constructs in the model. GEB has strong discriminant validity since it is distinct from other variables, while having partial correlations with GC and GI. GHRMP with the square root of AVE as 0.885, which is greater signifies that GHRMP has a strong discriminant validity, indicating it is distinguishable from other constructs. GI with a Square root of AVE as 0.715. GI stands out with the square root of AVE for GI is 0.715, which is greater than its correlations personify GI has a good discriminant validity, illustrating that it is unique from the other. Hence, the constructs EP, GC, GEB, GHRMP, GI fulfil the "Fornell-Larcker criterion", indicating excellent discriminant validity. Every construct has a greater AVE relative to its correlations with other constructs, indicating that these variables are favourable indicator for the model since the constructs are suitably distinct as well making the model interpretable and valid for analyzing their interactions.

6. HYPOTHESIS DECISSION

Table 9. Hypothesis testing.

Hypothesis	Path coefficient	STDEV	P Values	Decision
H_1: GHRM -> EP	0.310	0.077	0.000	"Supported"
H_2: GHRM -> GC	0.689	0.080	0.000	"Supported"
H_3: GHRM -> GI	0.428	0.101	0.000	"Supported"
H_4: GEB -> EP	0.239	0.077	0.002	"Supported"
H_5: GEB -> GC	0.169	0.088	0.006	"Supported"
H_6: GEB -> GI	0.330	0.107	0.002	"Supported"
H7: GI -> EP	0.723	0.031	0.000	"Supported"

Source: Author's work (2025)

The path model depicts the relationships between GEB, GHRMP, GC, GI, and EP, indicating both the strength and direction of the relationships among variables. The p values are tabulated in the table 9 and these p values brings the decision on the hypotheses that are explained elaborately below and arrived with their respective threshold value. H1: GHRM → EP as GHRMP with a modest and significant beneficial impact on EP, as indicated by the "path coefficient" as 0.310 and p = 0.000. Organisations might achieve better environmental outcomes by promoting green HRM practices hence the hypothesis is accepted. H2: GHRM → GC has a path coefficient of 0.689 with a p-value of 0.000, which suggests a significant positive outcome. GHRMP have an immense positive impact on green culture. Implementing green HR practices has tremendous effects on the organization's GC. The hypothesis H3: GHRM → GI: With a path coefficient of 0.428 and a p-value of 0.000, has a significant positive outcome explains, GHRMP also have a moderate to considerable beneficial impact on green innovation. Green HRM promotes innovation towards environmentally friendly practices. The hypothesis H4: GEB to EP holds a path coefficient as 0.239, with a significant p-value of 0.002 and stays statistically significant GEB has a moderate but considerable beneficial impact on EP. Hence accept H4. H5: GEB -> GC, has a path value as 0.169, p-value claims to be significant with 0.006 as its value. GEB has a slight but considerable beneficial impact on GC. As more workers engage in green behaviours, the organization's green culture is likely to strengthen. Thus, H5 is accepted. H6: GEB -> GI holds a p-value of 0.002 which is significant. GEB has a mild and considerable beneficial impact on "green innovation", while the employees operate in an environmentally responsible manner, the organization's green innovation initiatives improve on its performance. Hence H6 is accepted. H7: GI → EP has a path value as 0.723, and p-value as 0.000 ought to be significant, GI has a very strong and considerable beneficial impact on EP, which explains how organisations that innovates on green practices figures immense improvements in their environmental performance. Hence the H7 is accepted.

7. FINDINGS AND DISCUSSION

To delve upon each construct, GHRM caters the various dimensions of HR practices relating to environmentally friendly practices in the organization. It argues the employees are given with well-informed concerns about the company's requirement while recruiting and also its propagandas' employer branding among the potential employees. The study's findings indicate that the green training provided to employees were so effective in achieving the organizational objective and accomplish its goals. The green rewards and recognition are comparatively less when compared with the training methods which clearly represents that there exists a lacuna between rewards and recognition of the employees in the organization. GEB signifies the differences between task related green behaviour and the voluntary green behaviours [73]. The findings claim to represents that employees are bit reluctant to exhibit voluntary green behaviour. When exploring GI, the organization are excelling in both product innovation and process innovation that foster the environmental performance.

Cultivating a culture in the workplace that places an emphasis on environmental sustainability requires the implementation of these strategies. In addition, the prior studies have shown that GC and employee conduct skilfully develop and carry forth structural and social improvements that will lead to environmental sustainability within companies [4]. GC and GI are two factors that play a mediating role in the link between GHRM practices and employee green behaviour, as well as environmental performance. This

highlights the necessity on focussing on environmental strategies and GI to improve overall environmental performance [22]. This relationship may be successfully remembered via the use of these two factors as stated by [74] GHRM include initiatives such as 'green recruiting', "green training", "green performance appraisal" and "green rewards". These approaches aim at improving employees' environmental knowledge and involvement in adopting sustainable practices. By the year 2022, [75], Green Innovation positively contributes to the protect the environment and it includes the introduction of new concepts, techniques, or products by [76]. The results validated multiple hypotheses, demonstrating that GHRMP had a favourable impact on GI and EP, with partial mediation effects found. Employees should be encouraged to think creatively about ways to enhance EP through the implementation of GHRMP, which may promote GI. Due to this, novel approaches which improves the organization's efforts to be more sustainable, when the outcome of the interaction between GC and GI, it appears to be employees outperforms to be environmentally friendly practices, they are also more inclined to engage in innovative behaviours that are in favour of these initiatives [77]. The mediating roles of GC and GI are of great importance in establishing a connection between GHRM practices and the green behaviour of employees and the overall environmental performance [78]. Employees are probable to engage in environmentally conscious gauges when they see GHRM initiatives could strengthen GC. Meanwhile, a robust dedication to eco-friendly principles may create an environment that is appealing to GI, which in fact can generate innovative solutions that improve environmental performance. Both employee participation in environmentally friendly behaviours and the company's overall environmental performance are positively impacted by GHRM policies, according to the research [79]. By pooling the strengths of GC and GI provide a solid foundation upon which dedicated workers may build an innovative culture that places an emphasis on environmental responsibility and long-term viability of the business. Ultimately, to fully grasp how businesses may successfully foster environmental sustainability, it is crucial to incorporate GC and GI as intermediaries in the connection between GHRM practices and workers' environmentally conscious actions. Better environmental performance is possible when companies encourage a dedicated and creative team. The blend of GC and GI generates a strong framework in with dedicated personnel are encouraged to innovate, resulting in a long-term organisational culture that prioritises environmental stewardship [9]. Green HRM enhances workers' GI and EP. Effective GI can minimise negative environmental consequences while enhancing economic and social benefits for businesses. A strong GC, characterised by employees shared environmental ideas, encourages collaboration and dedication to improve environmental performance. Pro-environmental HRM policies may create a culture that encourages employees to engage in environmentally responsible behaviour.

VI. CONCLUSION

The study discloses that GHRM have an indirect effect on environmental performance, emphasising the need of efficient GI in achieving favourable environmental results with an interplay of GC and GI can lead to ongoing improvement in environmental performance since GI enriches GC. GHRM is also related to GI, implying that effective green HR practices can improve environmental results through accomplished GI initiatives. This theoretical framework serves as a foundation for comprehending the intricate interactions between various factors. The findings show the significance of incorporating GC, GHRM, and environmental strategies within organisational operations. GHRM has an influence on green behaviours through the green attitudes of employees. Organisations must take part in GHRM activities to help staff develop green behaviours. The link between GHRMP and EP is mediated by GC and GI promotes an environmentally friendly culture and green innovation for environmental benefit.

1. MANAGERIAL IMPLICATIONS

First, we proclaim that companies can benefit from fostering a favourable perception of themselves in the eyes of the public by taking action and creating brand image to protect the environment. GHRMP constitutes an essential for recruiting and retaining people who complement the company's objective of succeeding through "green processes and products". It has grown increasingly demanding, and businesses must produce environmentally friendly goods and services. Organisations should also see GHRM practises as a competitive advantage when it comes to directing human resources towards their environmental management initiatives. The present study suggests that that green innovation enhance environmental performance than green culture that already provides. Based on the research we conducted findings we insist that manufacturing enterprises ought to maintain environmental management targets with GHRMP and policies in an effort to promote and sustain "green processes and product innovation". Managers need to prioritize not just exploitative GI but also

encourage exploratory GI to mitigate and reverse harmful environmental effects. As a result, business leaders and managers will look at green innovation as a viable visionary opportunity and utilise it to meet EP priorities. HR managers are pressed to incorporate pro-environmental hiring and training approaches with the goal to create a green culture inside their organisations. Cultivating a strong green culture may increase employees' commitment to environmental activities, which will improve the efficiency of the organisation.

2. LIMITATION AND FUTURE SCOPE

For researchers, to get a greater grasp of the distinct ways in which exploitative and exploratory GI impact environmental performance, future studies should make one such distinction. The model which was studied was limited with Indian context further it can be studied across other developing countries by adopting the model. While this research gives useful insights, it is imperative to recognise its boundaries. One possible pitfall is the possibility of inconsistencies in data collection which might impact the results. This bias might be the result of sample selection, researcher subjectivity, or limitations in accessible data sources. The study's findings may be limited to a certain demographic, place, or timeframe, making them difficult to generalise. Variations in cultural, economic, or environmental variables may have an impact on results in ways that this study impacted. Prospective studies should try to overcome these limitations by including varying populations, using rigorous procedures to reduce bias, and testing the findings in multiple situations to improve their applicability.

With these research results in hand, researchers may better probe the complexities of GI and its effects on ecological consequences in their future investigations. The study comprehends sample potential constraints and the need for a deeper examination of green culture components and their influence on environmental performance. Future study should take into consideration for a broader pro-environmental ideas and management thoughts to create a picture of green culture in organisations. Future research should examine the impact of GC and GI in promoting voluntary green behaviours for a wise implementation of ideas into practice in business organisations.

Funding Statement

This research received no external funding from any agency or university. The APC was funded by self.

Author Contributions

The research advocates individual contributions using the following statements: “Conceptualization, methodology, formal analysis, data curation, writing—original draft preparation, writing—review and editing was made by first author RM and validation, visualization, supervision by corresponding author GP.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data are available from the authors upon request.

Acknowledgments

Not applicable

REFERENCES

1. Jackson, S. E., & Seo, J. (**2010**). The greening of strategic HRM scholarship. *Organization Management Journal, 7*(4), 278–290.
2. Chiboiwa, M., Babafemi, E., Oseghale, F. M., & Oseghale, R. (**2024**). Green human resource management and sustainable performance management. In *Waste Management and Life Cycle Assessment for Sustainable Business Practice* (pp. 131–158). IGI Global.
3. Daily, B. F., Bishop, J. W., & Govindarajulu, N. (**2009**). A conceptual model for organizational citizenship behavior directed toward the environment. *Business & Society, 48*(2), 243–256.
4. Jamal, T., Zahid, M., Martins, J. M., Mata, M. N., Rahman, H. U., & Mata, P. N. (**2021**). Perceived green human resource management practices and corporate sustainability: Multigroup analysis and major industries perspectives. *Sustainability, 13*(6), 3045.
5. 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.
6. Martelo-Landroguez, S., Albort-Morant, G., Leal-Rodríguez, A. L., & Ribeiro-Soriano, B. (**2018**). The effect of absorptive capacity on green customer capital under an organizational unlearning context. *Sustainability, 10*(1), 265.

7. Porter, M. E. (**1991**). Towards a dynamic theory of strategy. *Strategic Management Journal, 12*(S2), 95–117.
8. Frenken, K., & Faber, A. (**2009**). Introduction: Evolutionary methodologies for analyzing environmental innovations and the implications for environmental policy. *Technological Forecasting and Social Change, 76*(4), 449–452.
9. 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.
10. 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.
11. Yang, Z., Sun, J., Zhang, Y., & Wang, Y. (**2017**). Green, green, it's green: A triad model of technology, culture, and innovation for corporate sustainability. *Sustainability, 9*(8), 1369.
12. Mansoor, A., Jahan, S., & Riaz, M. (**2021**). Does green intellectual capital spur corporate environmental performance through green workforce? *Journal of Intellectual Capital, 22*(5), 823–839.
13. Pham, N. T., Thanh, T. V., Tučková, Z., & Thuy, V. T. N. (**2020**). The role of green human resource management in driving hotel's environmental performance: Interaction and mediation analysis. *International Journal of Hospitality Management, 88*, 102392.
14. 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.
15. Chen, Y., Tang, G., Jin, J., Li, J., & Paillé, P. (**2015**). Linking market orientation and environmental performance: The influence of environmental strategy, employee's environmental involvement, and environmental product quality. *Journal of Business Ethics, 127*, 479–500.
16. Elshaer, I. A., Sobaih, A. E. E., Aliedan, M., & Azazz, A. M. (**2021**). The effect of green human resource management on environmental performance in small tourism enterprises: Mediating role of pro-environmental behaviors. *Sustainability, 13*(4), 1956.
17. Aslam, M., Zain, F., Qasim, M., Leghari, M. A., & Abbas, M. Z. (**2024**). Does organizational green culture impact competitive advantage and green performance with mediation of green innovation? *Journal of Social Sciences Review, 4*(4), 1–15.
18. Bandura, A. (**1977**). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215.
19. Arulrajah, A. A., Opatha, H. H. D. N. P., & Nawaratne, N. N. J. (**2015**). Green human resource management practices: A review. *(Unpublished manuscript)*.
20. Longoni, A., Luzzini, D., & Guerci, M. (**2018**). Deploying environmental management across functions: The relationship between green human resource management and green supply chain management. *Journal of Business Ethics, 151*(4), 1081–1095.
21. Singh, S. K., Del Giudice, M., Chierici, R., & Graziano, D. (**2020**). Green innovation and environmental performance: The role of green transformational leadership and green human resource management. *Technological Forecasting and Social Change, 150*, 119762.
22. Rehman, S. U., Kraus, S., Shah, S. A., Khanin, D., & Mahto, R. V. (**2021**). Analyzing the relationship between green innovation and environmental performance in large manufacturing firms. *Technological Forecasting and Social Change, 163*, 120481.
23. Sroufe, R., Liebowitz, J., Sivasubramaniam, N., & Donahue, J. F. (**2010**). Are you a leader or a laggard? HR's role in creating a sustainability culture. *People & Strategy, 33*(1), 34–42.
24. Imran, M., Arshad, I., & Ismail, F. (**2021**). Green organizational culture and organizational performance: The mediating role of green innovation and environmental performance. *Jurnal Pendidikan IPA Indonesia, 10*(4), 515–530.
25. Colwell, S. R., & Joshi, A. W. (**2013**). Corporate ecological responsiveness: Antecedent effects of institutional pressure and top management commitment and their impact on organizational performance. *Business Strategy and the Environment, 22*(2), 73–91.
26. Russo, M. V., & Fouts, P. A. (**1997**). A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal, 40*(3), 534–559.
27. Schlegelmilch, B. B., Bohlen, G. M., & Diamantopoulos, A. (**1996**). The link between green purchasing decisions and measures of environmental consciousness. *European Journal of Marketing, 30*(5), 35–55.
28. Roscoe, S., Subramanian, N., Jabbour, C. J. C., & Chong, T. (**2019**). Green human resource environmental performance for sustainable development. *Business Strategy and the Environment, 28*(5), 737–749.
29. Pellegrini, C., Rizzi, F., & Frey, M. (**2018**). The role of sustainable human resource practices in influencing employee behavior for corporate sustainability. *Business Strategy and the Environment, 27*, 1221–1232.
30. Wang, C. H. (**2019**). How organizational green culture influences green performance and competitive advantage: The mediating role of green innovation. *Journal of Manufacturing Technology Management, 30*(4), 666–683.
31. Gürlek, M., & Tuna, M. (**2018**). Reinforcing competitive advantage through green organizational culture and green innovation. *The Service Industries Journal, 38*(7–8), 467–491.
32. Napathorn, C. (**2022**). The implementation of green human resource management bundles across firms in pursuit of environmental sustainability goals. *Sustainable Development, 30*(5), 787–803.
33. Fang, L., Shi, S., Gao, J., & Li, X. (**2022**). The mediating role of green innovation and green culture in the relationship between green human resource management and environmental performance. *PLOS ONE, 17*(9), e0274820.
34. Annisa, A., Sutanto, S., Arief, B., & Wiradinata, I. (**2024**). Sustainable transportation in the context of Indonesia Emas 2045: Facilitating the transition towards an environmentally friendly future. *Jurnal Daur Lingkungan, 7*(1), 1–14.

35. K., G., & Priyashantha. (**2022**). Impact of green human resource management on employee green behavior: The mediating role of green attitude. *Indonesian Journal of Sustainability Accounting and Management*.
36. Hart, S. L. (**1995**). A natural-resource-based view of the firm. *Academy of Management Review, 20*(4), 986–1014.
37. Hassanein, F., Daouk, A., Yassine, D., Bou Zakhem, N., Elsayed, R., & Saleh, A. (**2024**). Green human resource management and employee retention in the hotel industry of UAE: The mediating effect of green innovation. *Sustainability, 16*(11), 4668.
38. Mittal, E., & Kaur, N. (**2023**). GHRM practices and employee retention in the IT sector: Parallel mediation approach. *Prajnan, 52*(2), 155–178.
39. Zihan, W., & Makhbul, Z. K. M. (**2024**). Green human resource management as a catalyst for sustainable performance: Unveiling the role of green innovations. *Sustainability, 16*(4), 1453.
40. Anwar, N., Mahmood, N. H. N., Yusliza, M. Y., Ramayah, T., Faezah, J. N., & Khalid, W. (**2020**). Green human resource management for organizational citizenship behaviour towards the environment and environmental performance on a university campus. *Journal of Cleaner Production, 276*, 123188.
41. Malik, M. S., Ali, K., Kausar, N., & Chaudhry, M. A. (**2021**). Enhancing environmental performance through green HRM and green innovation: Examining the mediating role of green creativity and moderating role of green shared vision. *Pakistan Journal of Commerce and Social Sciences (PJCSS), 15*(2), 265–285.
42. Rubel, M. R. B., Kee, D. M. H., & Rimi, N. N. (**2021**). Green human resource management and supervisor pro-environmental behavior: The role of green work climate perceptions. *Journal of Cleaner Production, 313*, 127669.
43. Mishra, P. (**2017**). Green human resource management: A framework for sustainable organizational development in an emerging economy. *International Journal of Organizational Analysis, 25*(5), 762–788.
44. Niazi, U. I., Nisar, Q. A., Nasir, N., Naz, S., Haider, S., & Khan, W. (**2023**). Green HRM, green innovation and environmental performance: The role of green transformational leadership and green corporate social responsibility. *Environmental Science and Pollution Research, 30*(15), 45353–45368.
45. Chan, R. Y. (**2005**). Does the natural-resource-based view of the firm apply in an emerging economy? A survey of foreign invested enterprises in China. *Journal of Management Studies, 42*(3), 625–672.
46. Chin, T., Shi, Y., Singh, S. K., Agbanyo, G. K., & Ferraris, A. (**2022**). Leveraging blockchain technology for green innovation in ecosystem-based business models: A dynamic capability of values appropriation. *Technological Forecasting and Social Change, 183*, 121908.
47. Kraus, S., Rehman, S. U., & García, F. J. S. (**2020**). Corporate social responsibility and environmental performance: The mediating role of environmental strategy and green innovation. *Technological Forecasting and Social Change, 160*, 120262.
48. Wang, S., Abbas, J., Sial, M. S., Álvarez-Otero, S., & Cioca, L. I. (**2022**). Achieving green innovation and sustainable development goals through green knowledge management: Moderating role of organizational green culture. *Journal of Innovation & Knowledge, 7*(4), 100272.
49. Norton, T. A., Parker, S. L., Zacher, H., & Ashkanasy, N. M. (**2015**). Employee green behavior: A theoretical framework, multilevel review, and future research agenda. *Organization & Environment, 28*(1), 103–125.
50. Campbell, J. P., & Wiernik, B. M. (**2015**). The modeling and assessment of work performance. *Annual Review of Organizational Psychology and Organizational Behavior, 2*, 47–74.
51. Robertson, J. L., & Barling, J. (**2017**). Toward a new measure of organizational environmental citizenship behavior. *Journal of Business Research, 75*, 57–66.
52. Huang, C. L., & Kung, F. H. (**2011**). Environmental consciousness and intellectual capital management: Evidence from Taiwan's manufacturing industry. *Management Decision, 49*(9), 1405–1425.
53. Yeşiltaş, M., Gürlek, M., & Kenar, G. (**2022**). Organizational green culture and green employee behavior: Differences between green and non-green hotels. *Journal of Cleaner Production, 343*, 131051.
54. Tariq, A., Badir, Y., & Chonglerttham, S. (**2019**). Green innovation and performance: Moderation analyses from Thailand. *European Journal of Innovation Management, 22*(3), 446–467.
55. Varghese, S. (**2019**). A review on green innovation practices and its impact on various performance levels. *Journal of the Gujarat Research Society, 21*(8), 340–347.
56. El-Kassar, A. N., & Singh, S. K. (**2019**). Green innovation and organizational commitment and HR practices. *Technological Forecasting and Social Change, 144*, 483–498.
57. Yong, J. Y., Yusliza, M. Y., Ramayah, T., Chiappetta Jabbour, C. J., Sehnem, S., & Mani, V. (**2020**). Pathways towards sustainability in manufacturing organizations: Empirical evidence on the role of green human resource management. *Business Strategy and the Environment, 29*(1), 212–228.
58. Afum, E., Sun, Z., Agyabeng-Mensah, Y., & Baah, C. (**2021**). Lean production systems, social sustainability performance and green competitiveness: The mediating roles of green technology adoption and green product innovation. *Journal of Engineering, Design and Technology, 21*(1), 206–227.
59. 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.
60. Wang, L., Xu, L., & Song, H. (**2011**). Environmental performance evaluation of Beijing's energy use planning. *Energy Policy, 39*(6), 3483–3495.

61. García-Machado, J. J., & Martínez-Ávila, M. (**2019**). Environmental performance and green culture: The mediating effect of green innovation. An application to the automotive industry. *Sustainability, 11*(18), 4874.
62. Shair, F., Shaorong, S., Kamran, H. W., Hussain, M. S., Nawaz, M. A., & Nguyen, V. C. (2021). Assessing the efficiency and total factor productivity growth of the banking industry: do environmental concerns matters?. *Environmental Science and Pollution Research*, *28*, 20822-20838.
63. Afum, E., Agyabeng-Mensah, Y., & Owusu, J. A. (**2020**). Translating environmental management practices into improved environmental performance via green organizational culture: Insight from Ghanaian manufacturing SMEs. *Journal of Supply Chain Management Systems, 9*(1), 31–49
64. Srinivasan, S. A., & Kurey, B. (**2014**). Creating a culture of quality. *Harvard Business Review, 92*(4), 23–25.
65. Rehman, S. U., Elrehail, H., Poulin, M., Shamout, M. D., & Alzoubi, H. M. (**2023**). Green managerial practices and green performance: A serial mediation model. *International Journal of Innovation Studies, 7*(3), 196–207.
66. Fergusson, H., & Langford, D. A. (**2006**). Strategies for managing environmental issues in construction organizations. *Engineering, Construction and Architectural Management, 13*(2), 171–185.
67. Banerjee, S. B., Iyer, E. S., & Kashyap, R. K. (**2003**). Corporate environmentalism: Antecedents and influence of industry type. *Journal of Marketing, 67*(2), 106–122.
68. Shah, M. (**2019**). Green human resource management: Development of a valid measurement scale. *Business Strategy and the Environment, 28*(5), 771–785.
69. 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.
70. Jabbour, C. J. C., Sarkis, J., de Sousa Jabbour, A. B. L., Renwick, D. W. S., Singh, S. K., Grebinevych, O., … & Godinho Filho, M. (**2019**). Who is in charge? A review and a research agenda on the 'human side' of the circular economy. *Journal of Cleaner Production, 222*, 793–801.
71. Bashirun, S. N., & Noranee, S. (**2020**). Influence of environmental knowledge and attitude on employee green behaviour. *International Journal of Academic Research in Business and Social Sciences, 10*(6), 937–946.
72. Pham, T. N. (**2010**). Green human resource management and corporate environmental performance in the hotel industry. *(Unpublished doctoral dissertation)*.
73. 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.
74. Aboramadan, M. (**2022**). The effect of green HRM on employee green behaviors in higher education: The mediating mechanism of green work engagement. *International Journal of Organizational Analysis, 30*(1), 7–23.
75. Chen, T., & Wu, Z. (**2022**). How to facilitate employees' green behavior? The joint role of green human resource management practice and green transformational leadership. *Frontiers in Psychology, 13*, 906869.
76. Gyensare, M. A., Adomako, S., & Amankwah-Amoah, J. (**2024**). Green HRM practices, employee well-being, and sustainable work behavior: Examining the moderating role of resource commitment. *Business Strategy and the Environment, 33*(4), 3129–3141.
77. Tuan, L. T. (**2022**). Promoting employee green behavior in the Chinese and Vietnamese hospitality contexts: The roles of green human resource management practices and responsible leadership. *International Journal of Hospitality Management, 105*, 103253.
78. Veerasamy, U., Joseph, M. S., & Parayitam, S. (**2023**). Green human resource management and employee green behaviour: Participation and involvement, and training and development as moderators. *South Asian Journal of Human Resources Management, 10*(1), 1–18.
79. Kuo, Y., & Chen, M. (**2016**). Impact of eco-innovation on environment performance and competitive advantage: Moderating effect of green reputation. *International Journal of Management Applications and Sciences, 2*, 69–77.