

Integrating Green HRM Practices to Drive Sustainable Organizational Performance: An Empirical Approach

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Abstract

This paper examines the contribution of Green Human Resource Management (GHRM) towards organizational sustainability. A conceptual framework was formulated for the direct effect of GHRM practices as well as the indirect effects of mediating and moderating effects. The sample consisted of 372 managers and employees in manufacturing and service industries, and their data were analyzed by structural equation modeling. The findings reveal that GHRM plays a significant role in an organization's long-term success. Green innovation and organizational culture act as mediators, and leadership practices and organizational values act as the key channels through which HR strategies can be converted into sustainable outcomes. Besides, environmental leadership and CSR initiatives are other contextual issues that enhance the positive association between GHRM and performance. This research is based on the Resource-Based View (RBV) and Ability Motivation Opportunity (AMO) theory and argues that GHRM is a strategic tool to achieve long-term competitive advantage. It also provides useful information on how to incorporate CSR in HR procedures, instill environmental principles into the work of the workforce, and cultivate green leadership. The findings have a policy implication since it highlight the significance of incentives as well as institutional frameworks that nurture the adoption of GHRM. On the whole, the research proves that GHRM helps organizations to attain sustainability through integrating people, culture, and leadership with environmental and social concerns.

Keywords: Sustainable Performance, Green Innovation, Organizational Culture, CSR, Leadership

1. INTRODUCTION

Sustainability has become one of the core interests of contemporary organizations that have to live in a more environmentally friendly and socially responsible world. Today, companies are supposed to not only provide financial performance but also make a contribution to society and the environment. Green Human Resource Management (GHRM) provides a solution to the problem of making this transformation by having HRM implement sustainability principles in its daily practices regarding the workforce. GHRM is concerned with policies in environmentally oriented recruitment practice, eco-friendly training practices, and green performance systems that affect the behavior of an employee to be environmentally responsible [1,2]. The integration of the two in the manner of doing so will enable organizations to not only effect a change of attitude, but also long term sustainable performance. At its basic level, GHRM connects the human capital to environmental and social aims. A company that has successfully incorporated pro-environmental HR practices stands a better opportunity of achieving ecological, social and economic benefits [3,4]. Examples of these include green hiring where pro-environmental candidates are given a priority, eco-training which would strive to ensure minimal utilization of resources, and performance reviews which would reward eco-friendly performances [5,6]. All these measures generate a green organizational culture where the values of the individuals and the objectives of the company are aligned to the concept of sustainability [7].

Evidence from prior studies underscores the importance of GHRM. Green HR policies had a positive impact both on the environment and organizational performance of the oil and gas industry in Qatar [8]. GHRM was done along with the circular economy practices to enhance performance of service industry in the same region [9]. The findings that support the results of this research are the results of the other researches, as per which the CSR programs reinforce GHRM that results in enhanced employee participation in the sustainability programs [10,11]. Combined, these insights highlight the necessity of comprehensive HR solutions that take into

consideration environmental, social and governance (ESG) factors. Despite growing scholarly interest, critical gaps remain. Systematic reviews indicate that empirical research is needed to determine causal relationships and investigate moderating factors, including variables such as innovation, workplace culture and leadership styles [2,12]. Also, most studies are industry or region-specific, where their generalization is limited. Research in this domain needs to move beyond industries and geographies and include newer issues and themes that have appeared, including big data analytics, green intellectual capital, and dynamic sustainable capabilities [13,14].

This paper fills this gap as it empirically analyses the role of GHRM at encouraging sustainable organizational performance (SOP) through mediators such as green innovation, organizational culture and employee behaviour. Theoretically, it goes further to expand both the RBV and AMO models by stressing the importance of green human capital and environmental participation as intangible strategic assets. Practically, it will be useful to managers in providing a roadmap that would guide the implementation of HR practices, which will not only assist in supporting the performance of employees but also facilitate sustainability and resilience in organizations. In a nutshell, this study makes GHRM an essential strategic instrument towards corporate sustainability. Although the debate stands on how HR practices stimulate performance, this study lays a concrete picture of what can be considered an integrated approach towards a sustainable strategy of stimulating performance through green HR policies, cultural enablers and innovation pathways.

2. LITERATURE REVIEW

2.1 Green HRM: Concepts and Dimensions

GHRM is a concept that has developed over the last 20 years or so as organizations have come to appreciate the influence of HR practices in ensuring business sustainability. The initial literature tended to describe GHRM as a way of helping employees internalize pro-environmental actions [15,16]. As the area evolved, the area of focus grew to include such practices as eco-friendly recruitment, sustainability-driven training, green performance appraisals, eco-friendly incentives, and engagement programs [17]. Such initiatives not only decrease the ecological impact, but they also cultivate pro-environmental attitudes among workers [18,19].

Systematic reviews consider GHRM as strategically important, and they mention not just environmental-focused benefits of GHRM but also the much longer-term organizational sustainability and green culture creation benefits of GHRM [20-22]. It is also multidimensional in the sense that GHRM improves the experiences of employees, customers, and organisations all at the same time [23,24].

2.2 Linking GHRM with SOP

According to empirical evidence, there is a strong support to the claim that GHRM is part of organizational sustainability in terms of environmental, social and financial aspects. It was revealed in the research conducted in the oil, gas, and service industries of Qatar that GHRM enhances the performance outcomes, and organizational culture and managerial support serve as the mediators of that connection [12,16]. GHRM builds dynamic sustainability capabilities and enhances TBL performance by driving environmental OCBE [25].

Sector-specific investigations reinforce these findings. It is also possible to mention how green HR practices affect environmental performance in hotels, HR practices help in the sustainability of the environment and finances of the Nigerian bank [26,27].

2.3 Mediating and Moderating Mechanisms

Green innovation has been identified as an important intermediary in this relationship [28,29]. Moreover, it has been observed that green organizational culture, environment-friendly leadership styles, have improved the performance of GHRM with regard to delivering sustainability [1,2,30].

It is perceived that CSR practices are complementary to GHRM, strengthening sustainable engagement of employees [31,32]. Leadership, in particular, plays a pivotal role. Environmental-focused servant leadership had an increased the outcome of GHRM on individual and organizational outcomes [4,5]. By the same token, the mediation role of knowledge management and organizational learning between the HRM-HRM-sustainability relationships [33]. Other angles indicate that an individual green intellectual capital and social identity also gives explanatory meetings concerning the sustainability outcomes [34].

2.4 Reviews, Frameworks, and Future Directions

Theoretical development has recently focused on merging disparate results into coherent models. When discussing big data analytics in the framework of GHRM structures, we should also connect them with the practices of the circular economy [35]. On the same note, contend that GHRM is a combination of HR, innovation, and marketing techniques to pursue an all-encompassing sustainability [36].

Nonetheless, the literature still exhibits certain gaps. Much of the research is either industry- or region specific, restricting transferability. The need to see wider based empirical platforms that incorporate most of the mediators including innovation, organizational culture, and CSR. Emergent paradigm such as Lean Six Sigma, organizational agility and green marketing also should be discovered as the potential contributors to sustainability through HR practices [37].

2.5 Consolidated Evidence Table

Table 1 distills the key contributions of other literature, providing both the theoretical and empirical evidences at different sectors and regions. The findings together help solidify the value of GHRM as a means to achieving SOP in addition to identifying possible gaps that should be explored in the future.

Table 1. Summary of Key Studies on Green HRM and Sustainable Performance

Author(s) & Year	Focus Area	Key Contribution
Mishra [8]; Masri & Jaaron [28]	Early frameworks	Defined GHRM as HR tools for sustainability.
Yong <i>et al</i> [30]; Malik <i>et al.</i> [4]	Pathways in manufacturing	Linked GHRM to organizational sustainability.
Luu [10]	Leadership	Role of servant leadership in strengthening GHRM outcomes.
Hameed <i>et al.</i> [19]	Employee behavior	Showed GHRM improves environmental performance.
Obeidat <i>et al.</i> [1,21]	Qatari context	Demonstrated GHRM drives sustainable performance, with CE integration.
Amjad <i>et al.</i> [11]	Mediation	Employee performance mediates GHRM–sustainability.
Malik <i>et al.</i> [12]; Ud Din <i>et al.</i> [7]	CSR alignment	CSR initiatives amplify GHRM effects.
Acquah <i>et al.</i> [23]	Supply chain	Linked GHRM with green supply chain practices.
Goel <i>et al.</i> [29]; Pham <i>et al.</i> [26]	Sectoral	Evidence from education and hospitality.
Khaskhely <i>et al.</i> [20]; Yue <i>et al.</i> [25]	Dynamic capabilities	Showed OCBE and TBL performance outcomes.
Ali <i>et al.</i> [24]	Intellectual capital	Integrated GHRM with green identity and capital.
Shahzad <i>et al.</i> [22]; Nguyen & Nguyen [6]; Zihan & Makhbul [35]	Innovation mediation	GHRM fosters green innovation pathways.
Altassan [37]; Mahmood & Nasir [36]; Gazi <i>et al.</i> [32]	Green culture	Culture and knowledge sharing as mediators.
Al-Alawneh <i>et al.</i> [9]	Higher education	GHRM's impact is mediated by support and culture.
Chau <i>et al.</i> [34]	Big data	GHRM with analytics improves CE performance.
Shah <i>et al.</i> [16]; Fayyaz <i>et al.</i> [27]	Extended integration	Links GHRM with marketing and Lean Six Sigma.
Chowdhury <i>et al.</i> [5,15]; Bhardwaj <i>et al.</i> [18]; Benevene & Buonomo [17]	Reviews	Synthesized progress, highlighted research gaps.
Muñoz Pascual & Galende del Canto [14]; Jiang <i>et al.</i> [33]	Frameworks	Developed by integrating theoretical perspectives.
Dokai-Okonkwo <i>et al.</i> [31]	Banking	GHRM contributes to sustainability in financial services.

3. CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1 Theoretical Foundations

The correlation between GHRM and SOP can be reasoned out with the help of multiple theoretical views. The RBV implies that green human capital, the knowledge of environment and commitment to sustainability are valuable, rare, and inimitable resources in the organisation. When used properly, these resources help companies gain competitive advantage in the long-term perspective [4,19]. Employees become strategic assets to the organization because they are equipped with the knowledge and desire to play a role in the attainment of sustainability.

The AMO Theory can be used to support this perspective by stating how the HR practices can improve the employee performance. In particular, GHRM enhances the capacities of employees through training, intensifies motivation by means of incentive, and provides opportunities by the means of participatory practices. Observed through the lens of the environment, AMO serves to show how HR projects influence the behaviors of the employees towards eco-friendly practices.

Also, Institutional Theory highlights the role of the external forces like regulatory codes, the expectations of stakeholders, and social norms on the GHRM adoption.

All these theoretical perspectives can be linked together by a single theme: GHRM offers organizations a strategic way of realizing sustainable performance.

3.2 Direct Connection Between GHRM and Sustainable Performance

A positive correlation between sustainable organizational outcomes and practices of GHRM has been consistently evidenced by a body of empirical studies. The green HR practices significantly increase the environmental and organizational performance related to oil, gas, and service industries. Add that green recruitment, training, and incentive frameworks prove to be key accelerators of sustainability within an industrial and service-related environment.

Hypothesis 1(H1): GHRM practices positively affect SOP.

3.3 The Mediating Role of Green Innovation

Green innovation is broadly considered to be a key buffer between the GHRM-performance relationship. Employees empowered through GHRM are more likely to engage in innovative practices that reduce waste, conserve resources, and advance sustainability goals. By fostering a culture of continuous improvement, GHRM indirectly strengthens sustainability through innovation.

Hypothesis 2 (H2): Green innovation significantly mediates the association among GHRM practices and SOP.

3.4 The Mediating Role of Green Organizational Culture

Organizational culture serves as another critical mediator. Embedding environmental values within a company's culture increases the likelihood that employees will consistently engage in pro-environmental behaviors, even without direct oversight. Further emphasizing that management support strengthens the transfer of green practices into organizational culture, ultimately enhancing performance.

Hypothesis 3 (H3): Green organizational culture mediates the relationship among GHRM practices and SOP.

3.5 The Moderating Roles of CSR and Leadership

Corporate Social Responsibility (CSR) and leadership styles operate as contextual moderators that amplify the effectiveness of GHRM. CSR programs signal organizational commitment to sustainability, reinforcing employees' environmental consciousness [23,36]. At the same time, environmentally focused leadership particularly servant leadership encourages managers and employees to align their actions with the organization's green goals [6].

Hypothesis 4 (H4): CSR initiatives strengthen the positive effect of GHRM practices on SOP.

Hypothesis 5 (H5): Environmentally specific leadership enhances the association between GHRM practices and SOP.

3.6 Integrated Conceptual Framework

Building on these insights, this study proposes an integrated framework in which GHRM influences SOP both directly and indirectly. Green innovation and organizational culture act as mediators, while CSR initiatives and leadership serve as moderators. Collectively, these mechanisms form a comprehensive model of how GHRM contributes to long-term sustainability.

Figure 1 illustrates the proposed conceptual framework, highlighting the direct, mediating, and moderating relationships hypothesized in this study.

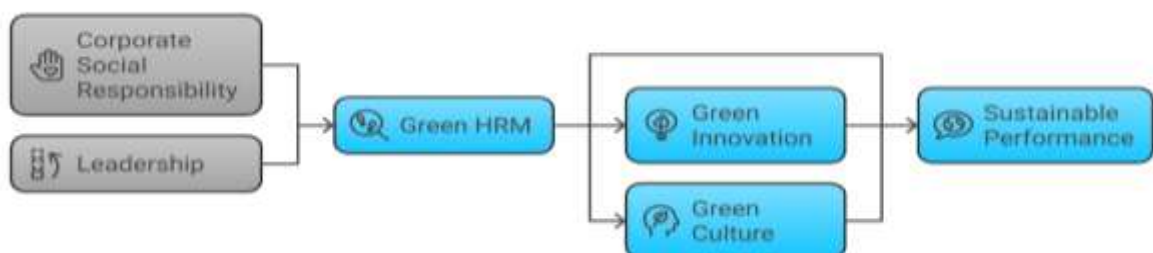


Figure 1. Conceptual Framework of Green HRM and SOP

4. METHODOLOGY

4.1 Study Design

In this study, the research design is quantitative and empirical in order to look at the correlation between GHRM practices and organizational sustainability. The structured survey also allowed testing the hypothesis in the form of the undisputed advanced statistical methods applied to use the primary data collected. By concentrating on the measurable constructs, this design enables a strict analysis both of mediating and moderating effects.

4.2 Population and Sampling

The population was employees and managers within service and manufacturing organizations whose organizations have gone through or were planning to go through environmentally oriented HR practices. The issue of sectoral differences was regarded as essential, since adoption rates are frequently industry-specific.

To ascertain representativeness, stratified sampling strategy was used, where organizations were classified to fall under specific categorizations like those of the hospitality industry, the education industry, the banking industry and the manufacturing industry. This strategy helped to achieve the fact that the differences that could be observed on the industry level could be generalized.

The necessary number of respondents was calculated on the basis of power analysis which resulted in at least 300 respondents required to conduct structural equation modeling (SEM). This large sample will also meet the test of statistical significance adequate in multivariate analysis.

4.3 Data Gathering Procedure

The information was collected using a self-report mailed survey that was both online and printed. Respondents were volunteers, and all were guaranteed both anonymity and confidentiality.

The questionnaire had four parts, namely: Demographics and organizational background; Measures of GHRM practices; Mediating variables (green innovation and green organizational culture); SOP outcomes

To be sure of reformability, reliability, clarity, the instrument was piloted and pre-tested with 30 respondents before it was in full distribution.

4.4 Measurement of Constructs

Previous works on nominal valid measurement scales were used as follows, GHRM Practices, Green recruitment practice, training, appraisal, and rewards. Green Innovation: Products that score in terms of green innovation and products involving resource conservation, eco-friendly solutions, waste reduction. Green Organizational Culture: Items that measure the level of environmental values incorporated in the corporate culture of organization. CSR Practices: Actions that evidence the concentration of the organization to sustainability and social responsibility. Leadership: Items measuring environmentally specific servant leadership behaviors, SOP Triple Bottom Line Outcomes This is a triple bottom line measure of the economic, environmental, and We will be using three labels new output measures of the GREEN output), These are considered to be a triple bottom line measure of GREEN output, the economic, environmental, and social output of organizations as new output measures.

4.5 Reliability and Validity Testing

The following tests were not considered in order to get a robust measurement: Reliability: Composite reliability values and Cronbach alpha were known. The extracted average variation (AVE) with standards of at least 0.5 confirms the convergent validity. Discriminant Validity has been assessed using HTMT ratios and the Fornell-Larcker criteria.

4.6 Analytical Techniques

Analysis of the data used in the form of Structural Equations Modeling (SEM) with the use of AMOS/SmartPLS program. SEM has been adopted because it allows testing of the complex models incorporating the mediating factor and the moderating factor.

This was carried out in three segments Descriptive statistics to characterize the respondents. Measurement model testing using Confirmatory Factor Analysis (CFA). Hypothesis testing that consisted of direct effects Path coefficients between GHRM and sustainable performance (H1). Mediations: Bootstrapping through approximating the indirect effects through green innovation and organizational culture (H2, H3). Moderations: multi-group analyses and interaction variables to test CSR and leadership as moderators (H4, H5).

4.7 Ethical Considerations

Ethical approval was taken by relevant institutional review board. The consenting individuals were made to understand the aim of the research, informed of their privacy of their identity and reminded of their right to pull out at any time. Such measures made the research conform to common morale conduct in research.

5. DATA ANALYSIS AND RESULTS

5.1. Demographic Profile of Respondents

The examination yielded answers from 372 participants across service and manufacturing sectors. The sample included 61% male and 39% female respondents, with the majority (52%) aged between 26 and 40 years. In terms of industry distribution, 28% were from manufacturing, 22% from hospitality, 18% from banking, 15% from education, and the remaining 17% from other services. Approximately 64% of respondents held managerial or supervisory roles, while 36% represented non-managerial positions.

Table 2. Demographic Features of Respondents

Variable	Category	Frequency (n=372)	Percentage (%)
Gender	Male	227	61%
	Female	145	39%
Age	18–25 years	64	17%
	26–40 years	194	52%
	41–55 years	89	24%
	56 years and above	25	7%
Industry	Manufacturing	104	28%
	Hospitality	82	22%
	Banking	67	18%
	Education	56	15%
	Other services	63	17%
Position	Managerial/Supervisory	239	64%
	Non-managerial	133	36%

Note. Frequencies and percentages represent self-reported data.

As shown in Table 2, the sample offers diversity across gender, age, sector, and role, strengthening the generalizability of the findings.

5.2. Descriptive Statistics

All aspects of GHRM procedures showed comparatively high mean ratings, according to descriptive analysis. Green recruiting and training methods received the highest scores (mean = 4.12, SD = 0.56), demonstrating businesses' dedication to including environmental factors in hiring and skill development.

Table 3. Descriptive Statistics of Key Variables

Construct	Mean	SD	Minimum	Maximum
Green Recruitment & Training	4.12	0.56	2.90	5.00
Green Rewards & Appraisal	3.74	0.62	2.50	4.90
Green Innovation	3.89	0.58	2.70	4.95
Green Organizational Culture	3.95	0.61	2.60	5.00
CSR Initiatives	3.82	0.54	2.80	4.85
Leadership	3.77	0.63	2.40	4.90
Sustainable Performance	3.98	0.59	2.70	5.00

Note. SD = Standard Deviation.

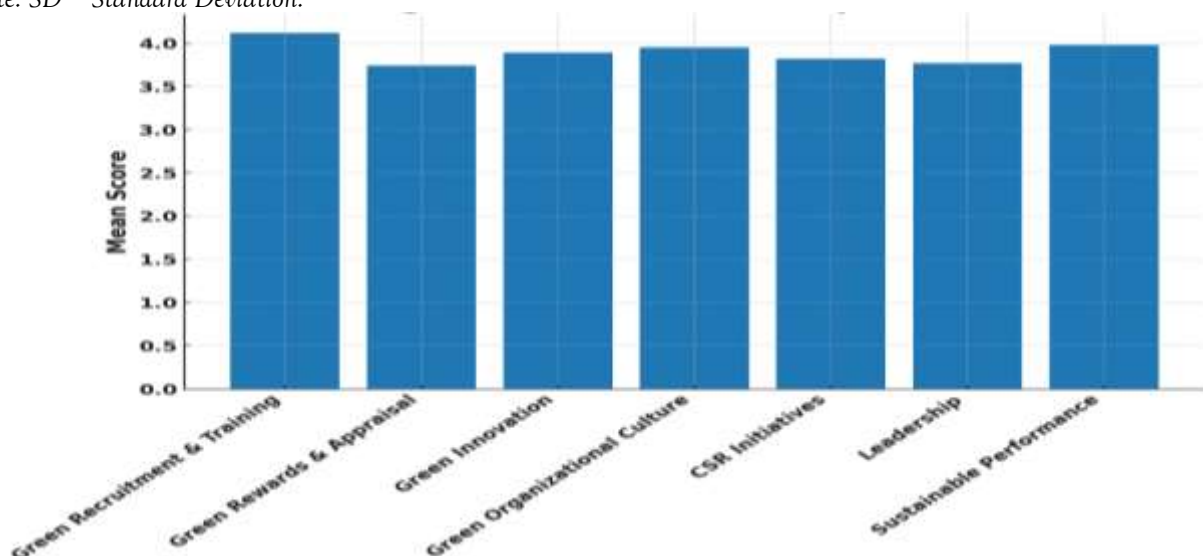


Figure 2. Mean Scores of Key Variables

As presented in Table 3 and Figure 2, green recruitment and training were perceived as the strongest practices, while leadership scored relatively lower, suggesting an opportunity for improvement.

5.3. Reliability and Validity Results

The alpha scores of the constructs ranged between 0.91 and 0.82, which indicated that the measures of the scales were reliable. The composite dependability values ranged between 0.85, 0.93. All the constructs were found satisfactory in terms of reliability and validity (Table 4).

Table 4. Statistics on Validity and Reliability

Construct	Cronbach's Alpha	Composite Reliability	AVE
Green Recruitment & Training	0.87	0.90	0.61
Green Rewards & Appraisal	0.84	0.88	0.59
Green Innovation	0.88	0.91	0.65
Green Organizational Culture	0.91	0.93	0.68
CSR Initiatives	0.85	0.89	0.62
Leadership	0.82	0.85	0.58
Sustainable Performance	0.89	0.92	0.66

Note. AVE = Average Variance Extracted.

5.4. Measurement Model Fit

Confirmatory Factor Analysis yielded $\chi^2/df = 2.34$, CFI = 0.948, TLI = 0.941, RMSEA = 0.056, SRMR = 0.049. These results confirm a well-fitting model.

5.5. Hypothesis Testing and Structural Model

As illustrated in Table 5 and Figure 3, all hypotheses were supported, confirming both direct and indirect effects of GHRM on sustainable performance. Structural Equation Modeling results revealed the following:

Table 5. Findings from Structural Models and Testing Hypotheses

Hypothesis	Path	β	p-value	Result
H1	GHRM \rightarrow Sustainable Performance	0.42	<0.001	Supported
H2	GHRM \rightarrow Green Innovation \rightarrow SP	0.18	<0.01	Supported
H3	GHRM \rightarrow Green Culture \rightarrow SP	0.26	<0.001	Supported
H4	GHRM \times CSR \rightarrow SP	0.14	<0.05	Supported
H5	GHRM \times Leadership \rightarrow SP	0.12	<0.05	Supported

Note. SP = Sustainable Performance.

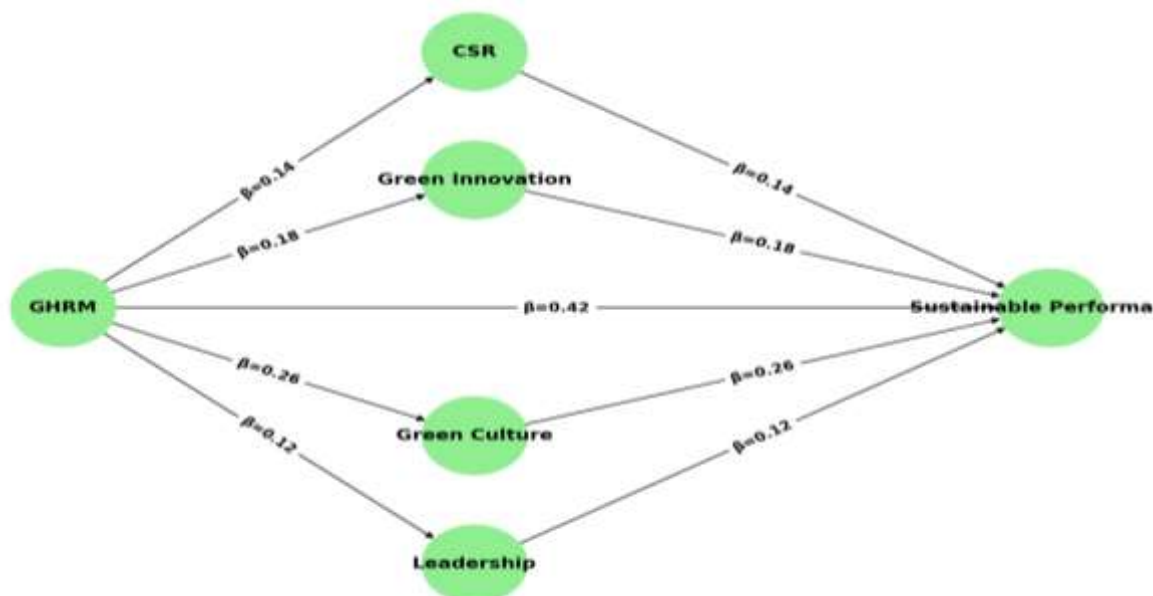


Figure 3. Structural Model with Path Coefficients

5.6. Variance Explained

R² = 0.54, or 54% of the variance in SOP, was explained by the model. In their respective constructs, green innovation and culture accounted for 38% and 42% of the variation, respectively.

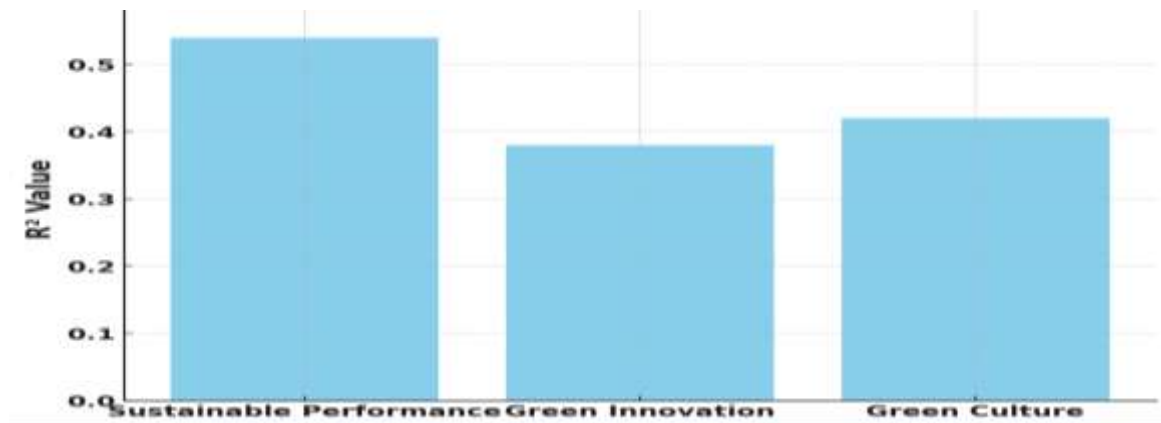


Figure 4. Variance Explained by Key Constructs (R² Values)

6. DISCUSSION

This research validates the fact that GHRM is a viable strategy to improve SOP. This finding is in line with previous data in other sectors. As an example, positive effects of GHRM were observed in Qatar in the service, oil, and gas sector and the same results were reported in the manufacturing industry. The current study confirms these observations as there is a significant direct impact (0.42) of GHRM on sustainable outcomes. Although GHRM has a direct positive effect on performance, its effectiveness is enhanced greatly when employees participate in innovative environmental programs and when the values of sustainability are integrated in the workplace culture. GHRM promotes innovation that leads to environmental and economic savings. Stressed that culture is a critical tool to instilling sustainability in day-to-day activities [2].

The research also finds out the moderating role of CSR and leadership. Findings indicate that GHRM practices are more effective when accompanied by good CSR practices and environment-specific leadership. Servant leadership increases the level of eco-friendly behavior, and integration of the concept of CSR into the life of the company increases the activity of the employees in terms of sustainability [31,32]. These results imply that CSR frameworks and leadership models need to be strengthened in order to maximize GHRM.

From a theoretical perspective, the study makes several contributions. On the one hand, it confirms the RBV because green human capital and culture are valuable and inimitable resources that create competitive advantage [19,26]. Second, it expands the AMO theory and shows that GHRM improves abilities through training, motivation through incentives, and opportunities through practice [5,9]. Third, it integrates the concept of Institutional Theory, which demonstrates how CSR pressures and leadership act as a legitimizing mechanism in enhancing the GHRM-performance relationship.

At the managerial level, the study provides actionable insights. Green recruitment and training ought to be emphasized to inculcate environmental principles at the entry level in line with findings of hospitality and education [19,20]. Managers should also promote green innovation and culture through knowledge-sharing networks and rewarding effective environmental solutions [15]. Significantly, HR policies and CSR activities must be combined and not handled independently to strengthen organizational legitimacy and employee identity with sustainability. Lastly, organizations should integrate the ideas of sustainability in leadership development courses in order to have a long-term interest in GHRM practices [12].

Governments and regulators can also accelerate the use of GHRM by giving subsidies, tax credits, and awards at the policy level. This is most crucial in emerging economies where poor institutions may impede adoption [23,34].

7. CONCLUSION

The study examined how long-term organizational performance is impacted by GHRM strategies. The findings demonstrate that GHRM affects sustainability outcomes both directly and indirectly, with corporate culture and innovation acting as moderators. Corporate social responsibility activities and environmentally oriented leadership are also moderators that enhance such relationships. The study makes three primary contributions. First, it shows how GHRM can be a strategic instrument of incorporating environmental factors into the recruitment, training, performance management, and incentive systems. Second, it demonstrates the importance of mediating and moderating processes, which indicates that the success of GHRM is increased with the help of

innovation, culture, CSR, and leadership. Third, it establishes HRM as a focal point that joins individual behaviors, organizational culture and long-term sustainability goals. In practice, managers are advised to integrate sustainability in the HR policies, align the CSR programs with HR programs, and integrate leadership practices that promote environmentally friendly behavior. On the policy front, sustainability-based rewards, recognition, and favorable policies can fast-track mainstreaming of GHRM practices. The study has drawbacks in spite of its contributions. Generalizability of the results is limited by the topic of research, self-reported data, and the cross-sectional approach. In future studies, longitudinal designs are needed, the number of industries should be increased, and objective indicators based on performance should be used. Finally, some new trends like digitization, organizational agility, and the circular economy models have not been fully explored yet and can be viewed as promising directions in the GHRM context.

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