

## **GHRM Practices and Sustainable Competitive Advantage : The Intervening Role of Green Organizational Culture**

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### **Abstract**

The objective of this research is to evaluate the effectiveness of Green Human Resource Management (GHRM) practices concerning their effect on attaining Sustainable Competitive Advantage, considering the mediating influence of Green Organizational Culture. The theoretical foundation of the study has been constructed by incorporating perspectives from resource-based views and system theories. This survey-based study followed a quota sampling technique and collected data from 634 managerial staff working at various levels of management in green certified manufacturing firms in Pakistan. The study applied SPSS software version 25 for descriptive statistics while Smart PLS software version 3 for inferential statistical analysis. The findings evidenced that Green Recruitment and Selection, Green Training and Development, and Green Compensation Management have not only positive and significant direct associations but also positive and significant indirect relationships via green organizational culture, with the sustainable competitive advantage of the organization. Since green-certified organisations are prepared to implement GHRM practises in their facilities, practitioners and managers are advised to incorporate GHRM practises into their daily business activities in order to achieve long-term competitiveness.

**Keywords:** green recruitment and selection, green training and development, green compensation management, green organizational culture, sustainable competitive advantage..

### **Introduction**

Droughts, floods, pandemics, and wildfires have all been frequent occurrences of climate change and environmental degradation in the twenty-first century, precipitating financial losses from weather and climatic disasters throughout the world. According to the United Nations Environment Program (2019), human and organisational acts have resulted in global warming of about one degree Celsius over pre-industrial levels. According to Mandip (2012), while organisations practise CSR and claim to be doing their part for

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betterment of the environment, their involvement is quite limited, and they shall ensure immediate action to implement green practises within their organisations and mark the environmental enhancement endeavours a part of their CSR practices. Pakistan is no exception to the rule when it comes to environmental degradation. Pakistan is the world's eleventh largest emitter of chlorofluorocarbons (CFCs), with a rating of 169 out of 180 countries (Wendling, Emerson, Esty, Levy, & Sherbinin, 2018). This means that Pakistan's environmental state is now unsatisfactory, and that it will continue to deteriorate unless and until preventative measures are done. The immediate adoption of GHRM practises in businesses can result in improved environmental performance as well as social and financial advantages (Choi, Gon, Joong, & Agmapisarn, 2018; Siyambalapitiya, Zhang, Liu, 2018; Pham, Tuková, and Jabbour, 2019).

The expanding impetus of environmental concerns throughout the world has driven businesses to incorporate green practises into their daily operations at an increasing rate, and such policies and practises may help businesses become "green and competitive" on a national and worldwide level (Jabbour, Silva, Paiva, & Santos, 2012). The key to successful organizational performance is the adoption of GHRM which ultimately leads to green organizational culture in this era of cut throat competition (Khammadee & Ninaroon, 2022). Researchers such as Muller-Camen, Renwick, Jackson, Redman, Wilkinson and Jabbour have suggested that HRM plays a vital role in achieving this green orientation. The companies ought to develop eco-friendly product designs by leveraging their human capital. This strategic method aims to attain a distinct green positioning relative to competitors, creating a competitive advantage that is challenging to copy and can extend the organization's edge in the market (Mustafa et al., 2023). Subsequently, adding green-office initiatives into HRM responsibilities can improve an organization's prospects for long-term competitiveness. The main aim of this study was to examine the impact of Green Human Resource Management (GHRM) practices on Sustainable Competitive Advantage (SCA) within green-certified enterprises in Pakistan, with a focus on the mediating role of Green Organizational Culture (GOC). This study addresses a gap by empirically exploring the relationships between GHRM, SCA, and GOC, which were identified in the existing literature.

### **Literature Review**

GHRM is getting attention for its innovative style in addressing environmental problems and recognizing businesses' role in tackling them. Khammadee and Ninaroon (2022) contend that the prevalence of environmental threats forces businesses to adopt GHRM practices in conjunction with environmental management. GHRM is

seen as having the potential to enhance environmental performance and sustainability. Aykan (2017) supports this notion, asserting that GHRM involves HR practices that incorporate environmental concerns into organizational operations, leading to the resolution of ecological challenges and the promotion of the company's green objectives. The literature further suggests a growing recognition among individuals and organizations of the importance of environmental concerns, encouraging green initiatives and environmental sustainability. The societal awareness, as indicated by De-Guimares, Severo, and De-Vasconcelos (2018), is motivating the adoption of green human resource practices in corporations, ultimately contributing to sustainable competitiveness.

As a result, three GHRM practises based on green literature and green human resource practises of top-tier global and national enterprises in Pakistan's manufacturing sector were included in the current study. Green training and development, green recruiting and selection as well as a green remuneration scheme are the three GHRM practises addressed in the current study.

### **Green Recruitment and Selection (GRS)**

According to Ahmad (2015), it gives businesses a huge advantage by integrating the recruiting and selection process with environmental challenges, giving them a better chance of enticing the appropriate individuals and keeping them after employment. Green job seekers' awareness, green owner (business) branding, and green methods to attract potential employees are the three parts that make up GRS (Tang, et al., 2018). Green recruitment, according to Bombiak and Marciniuk-Kluska (2018), is concerned not only with familiarity with environmental values and culture in order to attract the suitable candidates, but also with applying the proper technique to the entire staffing mechanism, which includes plummeting the paper use and moving more and more steps of the process to electronic and online podiums. According to Kuo et al. (2022), green recruitment and selection significantly affected the sustainability goals. Companies should make sure that the job descriptions of employees echo the sustainability strategy of the company, and that their websites show their commitment to environmental sustainability (Mandip, 2012). The following hypotheses have been proposed in light of the aforesaid literature:

H1: Green recruiting and selection are linked to a long-term competitive advantage.

H2: The connection between green recruitment and selection and sustainable competitive advantage is mediated by green organisational culture.

### **Green Training and Development (GTD)**

According to Raj and Verma (2019), a vital strategy in HRM is green training and development that ensure adoption of the parameters of the organization's ecological management programme, and environmental training aids in growing environmental consciousness among the workforce. Kuo et al. (2022) argue that in GHRM practices, training enhances employees competencies like collecting waste information and increasing the company's environmental standards. Green training, according to Islam, Hunt, Jantan, Hashim, and Chong (2020), may improve the environmental enactment of the workforce, and the environment may embrace legal concerns, directives relating to the utilization of the newest instruments, and the company's ethical code. The following hypotheses have been offered as a result:

H3: Green training and development is associated with a long-term competitive advantage.

H4: The connection between green training and development and long-term competitive advantage is mediated by green organisational culture.

### **Green Compensation Management (GCM)**

Compensation and reward systems are ways for enticing and persuading workers to achieve environmental goals by providing monetary and non-monetary incentives (Jehan, Hussai, Batool, & Imran, 2020). According to Kuo et al. (2022), stressing employee job satisfaction with green rewards is vital in building environmental performance within the context of the capacity to perform eco-friendly tasks. An assimilated system comprising both non-financial and financial benefits to recruit, keep, and inspire people to meet company environmental objectives is also known as a compensation system (Islam, et al., 2020). Workforces are additionally expected to contribute to green management initiatives if they are given a financial incentive (Raj & Verma, 2019). However, both monetary and non-monetary incentives are effective tools for sustaining green management projects (Yong, Yusliza, & Fawehinmi, 2019). As a result, the following possibilities are suggested:

H5: A green compensation scheme is linked to a long-term competitive advantage.

H6: The link between a green remuneration system and a long-term competitive advantage is mediated by green organisational culture.

### **Sustainable Competitive Advantage (SCA)**

It is necessary to foster a green human capital in order to cultivate a sustainable labour force that serves as a catalyst in achieving sustainability goals (Mustafa et al., 2023). The combination of organisational competences and resources in Resource-based view (RBV) must be produced, positioned, and preserved, according to Mahdi, Nassar, and Almsafir (2019). Some of these obstacles can be addressed, particularly when it comes to using employee knowledge to promote core talents that are unique, unmatched, valued, and organised to gain a long-term competitive advantage (Barney & Clark, 2007; Barney, 1995). According to Almada and Borges (2018), large organisations have a greater ability to implement RBV strategies and invest in human resource management. In this approach, the implementation of RBV methods, in conjunction with human resource management engagement, may have a substantial impact on organisational performance and is a key component of long-term competitive advantage.

### **Green Organizational Culture (GOC)**

The extant green literature highlights the significance of a green culture in corporations for environmental sustainability and competitive advantage. Chandra, Arafah, and Basri (2021) and Khammadee and Ninaroon (2022) contribute empirical evidence supporting the positive influence of a green organizational culture on competitive advantage and environmental performance. This aligns with the wider dialogue on corporate social responsibility and sustainable business practices. While the positive effects are emphasized, it's crucial to critically assess the limitations and challenges highlighted by Hosain and Rahman (2016) and Deshwal (2015). The substantial time investment required to develop and implement a green culture, along with the initial expenditure without immediate earnings, prompts considerations regarding the feasibility and practicality across various types of organizations. Furthermore, Deshwal (2015) indicates specific challenges such as recruitment, training, and attitudinal shifts in a short timeframe, which could pose substantial hurdles to the successful adoption of green practices.

Likhitkar and Verma (2017) introduce another dimension by emphasising the challenge of a lack of green values and beliefs within organizations. This adds a cultural perspective, suggesting that the success of a green initiative is not solely dependent on structural changes but also on inculcating a green mindset within the organizational fabric. The concept of Green Human Resource Management (HRM) practices is intensely engrained in insights derived from the resource-based view theory (Barney, 1991). This

viewpoint emphasizes the unique resources of a company as the foundation for achieving sustainable competitive advantage. Previous literature regards green HRM as antecedents, representing the strategic resources of a firm that play a crucial role in modifying the firm's resource base as required. The goal is to formulate value-generating strategies that enhance the overall performance of the company (Eisenhardt & Martin, 2000). This theoretical framework has been widely and consistently applied. The objective is for these resources to possess characteristics of being valuable, rare, difficult to imitate, and not easily understood by competitors, thereby making a competitive advantage (Barney, 1991)

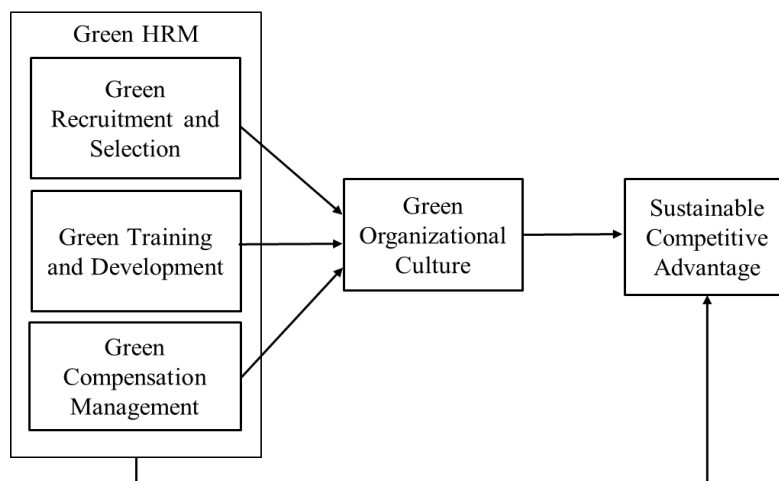


Figure 1: Conceptual Model

### Research Methodology

The current study follows the positivist philosophy which applies the deductive approach for statistical analysis. The survey-based strategy has been adopted for data gathering purposes. The study has used the mono-method of research choice. It is a cross-sectional empirical study.

This study is focussed towards manufacturing companies in Pakistan that hold green office certifications. From a pool of 50 companies certified as green offices (WWF, 2020) in both the service and manufacturing sectors, 29 companies specifically working in the manufacturing sector were chosen for inclusion. The 29 chosen corporations jointly employed nearly 120,000 workers. Due to the challenge of attaining a sampling frame for the entire targeted population, the study employed the quota sampling technique. The determination of the sample size was conducted using different methods, including G Power Analysis and the formula proposed by

Krejcie and Morgan in 1970. The method used to define the quota for each company is expressed as follows:

$$Quota_{Company} = \frac{Sample\ Size}{Total\ Population} \times Population_{Company}$$

Bearing in mind the outcomes of the three distinct sample size methodologies, it was determined that the optimal sample size for the present study would be 700, aligning with the common rule of thumb that suggests a larger sample size is generally more favorable. In short, the study collected only 634 completed questionnaires from the managerial position holders' respondents of green-certified companies of Pakistan. Table 1 describes the measure employed for study variables. Responses to all the survey questions were documented based on on a 5-point Likert type scale.

**Table 1.**

The scale items of the constructs

Study Variables	No. of Items	Sources
Green recruitment and selection (GRS)	6 Items	Renwick, et al., 2013)
Green Training and Development (GTD)	3 Items	(Jabbour, 2011)
Green compensation management (GCM)	4 Items	(Berrone & Gomez-Mejia, 2009)
Green Organizational Culture (GOC)	6 Items	Wang, 2019)
Sustainable Competitive Advantage (SCA)	16 Items	(Mahdi, Nassar, & Almsafir, 2019)

### Data Analysis and Findings

The research has has applied the partial least square structural equation modeling approach for analyzing the data. It should be remembered that PLS-SEM consists of two steps for data analysis. Stage one is called the measurement model while stage two is stated as the structural model. The reliability and validity of the study constructs is assessed through the measurement model while the structural model ascertains the f square, R square, Q square, VIF, and Beta values. Four hypotheses were put out by the study to evaluate how well predictions correlated with actual results.

### Measurement Model

Confirming the measurement model's accuracy in measuring the study's scale items' corresponding constructs was done to verify reliability of the constructs. Additionally, discriminant and convergent validities should be used to evaluate concept validity (Hair et al.,

2010). Internal consistency and reliability of the study's constructs are measured using Cronbach's Alpha and Composite Reliability.

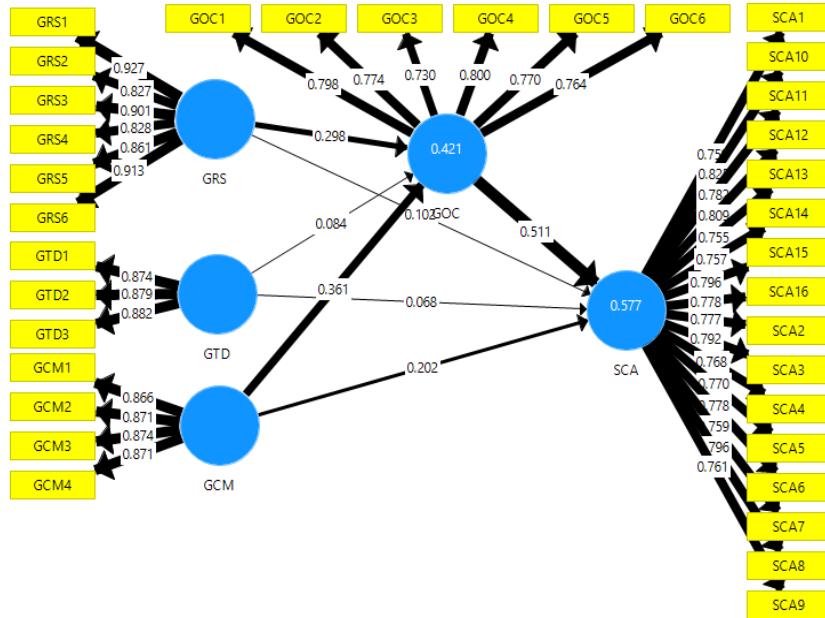


Figure 2: Results of PLS Algorithm

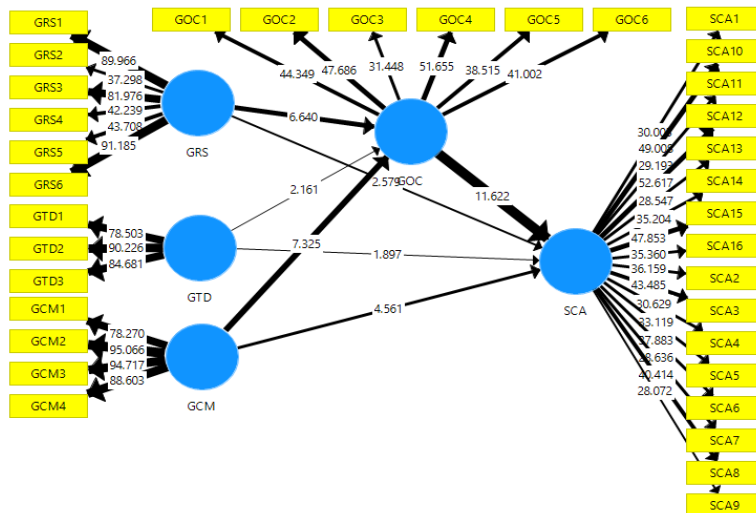


Figure 3: Results of Bootstrapping

Table 2: Constructs' Loadings, CA, CR, AVE

Constructs	Indicators	Loadings	T-Statistics	P-Values	CA	CR	AVE
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<b>GCM</b>	GCM1	0.866	70.552	0.000	0.893	0.926	0.758
	GCM2	0.871	93.838	0.000			
	GCM3	0.874	92.971	0.000			
	GCM4	0.871	85.658	0.000			
<b>GOC</b>	GOC1	0.798	39.887	0.000	0.865	0.899	0.597
	GOC2	0.774	47.414	0.000			
	GOC3	0.730	31.578	0.000			
	GOC4	0.800	53.545	0.000			
	GOC5	0.770	38.410	0.000			
	GOC6	0.764	43.241	0.000			
<b>GRS</b>	GRS1	0.927	87.807	0.000	0.94	0.950	0.769
	GRS2	0.827	38.640	0.000			
	GRS3	0.901	82.502	0.000			
	GRS4	0.828	38.848	0.000			
	GRS5	0.861	45.478	0.000			
	GRS6	0.913	89.085	0.000			
<b>GTD</b>	GTD1	0.874	81.151	0.000	0.852	0.91	0.771
	GTD2	0.879	88.476	0.000			
	GTD3	0.882	82.613	0.000			
<b>SCA</b>	SCA1	0.759	34.202	0.000	0.91	0.94	0.607
	SCA2	0.777	37.094	0.000			
	SCA3	0.792	40.865	0.000			
	SCA4	0.768	31.935	0.000			
	SCA5	0.770	32.347	0.000			
	SCA6	0.778	37.163	0.000			
	SCA7	0.759	28.677	0.000			
	SCA8	0.796	39.464	0.000			
	SCA9	0.761	29.022	0.000			
	SCA10	0.825	51.831	0.000			
	SCA11	0.782	29.680	0.000			
	SCA12	0.809	55.781	0.000			
	SCA13	0.755	29.357	0.000			
	SCA14	0.757	34.668	0.000			
	SCA15	0.796	46.809	0.000			
	SCA16	0.778	34.153	0.000			

### Construct's Reliability and Convergent Validity

Using the PLS Algorithm to verify the loadings of indicators on their pertinent constructs and Bootstrapping to get T statistics and p values, individual item dependability was examined. All of the item loadings on their respective constructs are statistically significant and significantly greater than the threshold value of 0.7. For Average Variance Extracted, Composite Reliability, and the Cronbach's Alpha, *Journal of Managerial Sciences* 9 Volume 17 Issue 4 October-December 2023

all of the constructs' extracted values are within the acceptable range; specifically, the values for CA, CR, and AVE are larger than 0.71 and 0.5 respectively. As a result, it can be concluded that values of all CR, CA and AVE demonstrate internal consistency reliability and convergent validity, respectively. Table 2 displays the values of CA, CR, and AVE.

### Discriminant Validity

The Hetero-Trait Mono-Trait Standard and the Fornell-Larker Criterion (Fornell & Larker, 1981) are used to assess it. According to Table 3, all of the elements are secure since their square root of AVE values are higher relative to the correlations among them. Because of this rule, the discriminant validity has been shown.

Table 3: Fornell-Larcker Criterion

Constructs	GCM	GOC	GRS	GTD	SCA
GCM	<b>.870</b>				
GOC	.594	<b>.773</b>			
GRS	.626	.568	<b>.877</b>		
GTD	.552	.439	.520	<b>.878</b>	
SCA	.607	.719	.554	.456	<b>.779</b>

Table 4:  
Heterotrait-Monotrait ratio (HTMT)

Constructs	GCM	GOC	GRS	GTD
GCM				
GOC	.676			
GRS	.679	.626		
GTD	.632	.509	.578	
SCA	.656	.789	.578	.504

The findings of the HTMT ratios in Table 4 show that all of the values are within the acceptable range, indicating discriminant validity. Above the cut-off value of 0.85, there is no value. As a result, it acknowledges that the measurements of the constructions are distinct (Hair, Hult, Ringle, & Sarstedt, 2017; Henseler, Ringle, & Sarstedt, 2015).

### Structural Model (Hypothesis Testing)

The structural model evaluation involves a variety of tests that are required for the research project to go well. These tests include: Collinearity tests in the model, path coefficients ( $\beta$ ) values,  $R^2$  (R-square), ( $f^2$ ) effect size, and  $Q^2$  (predictive relevance).

**Table 5:**  
 $\beta$ , t, p, CI,  $R^2$ ,  $f^2$ ,  $Q^2$  values

Paths	Path Coefficient	T Statistics	P Values	CI		R Square	f Square	Q Square
				LL	UL			
GCM → GOC	0.361	7.118	0.000	0.261	0.457		0.121	
GCM → SCA	0.202	4.662	0.000	0.115	0.289	0.421	0.046	0.249
GOC → SCA	0.511	11.602	0.000	0.420	0.591	(GOC)	0.358	(GOC)
GRS → GOC	0.298	6.577	0.000	0.210	0.396		0.087	
GRS → SCA	0.102	2.613	0.009	0.026	0.181	0.577	0.013	0.347
GTD → GOC	0.084	2.066	0.039	0.003	0.170	(SCA)	0.008	(SCA)
<b>GTD → SCA</b>	<b>0.068</b>	<b>1.828</b>	<b>0.068</b>	<b>-0.005</b>	<b>0.133</b>		<b>0.007</b>	

The acceptance and rejection of a hypothesis were determined through the bootstrapping approach with a sub-sampling of 5000, as shown in Table 5. The t-value, p-value, and CI were used to determine the acceptance and rejection of a hypothesis (bias-corrected). Two of the three direct hypotheses were found to be true, while the third was shown to be false. In the above-mentioned table 5, the study found that GRS has a significant positive influence on SCA ( $\beta=0.102$ ,  $t=2.163$ ,  $p=0.009$ ). Hence, H1 (hypothesis) was supported. Likewise, the outcomes indicate that GCM has a significant positive impact on SCA ( $\beta=0.202$ ,  $t=4.662$ ,  $p=0.000$ ). Thus, another direct hypothesis H5 was also supported. Furthermore, GTD has a significant negative influence on SCA ( $\beta=0.068$ ,  $t=1.828$ ,  $p=0.068$ ,  $LL=-0.005$  and  $UL=0.133$ ). Hence, hypothesis H3 was not supported.

Table 5 also displays the values of f square, R square and Q square. The R square value of SCA is 0.577 which shows that GOC explains 57 percent of the variance in the SCA. Likewise, the R square of GOC was found to be 0.421 which shows that all the exogenous constructs explain the 42% of the variation in the GOC. In the social sciences,  $R^2$  values of less than 0.02 are considered poor, 0.13 or higher are considered moderate, and 0.26 or above are considered significant (Cohen, 1988). Furthermore, the values of 'f' square indicate that the GOC has a substantial effect on SCA which is 0.358, and the other constructs like GRS and GTD had a weak influence on SCA and GTD had a minute influence on GOC. The  $Q^2$  values (0.249 and 0.347) being greater than 0 (as shown in table 5), evidenced the predictive relevance (out of sample) for all the constructs in the study model.

### Mediation Analysis

A mediating effect is stated to exist when two related constructions interact through a third construct, according to Hair et al., (2017). Because the present study used Smart PLS software to conduct data analysis and findings, it is necessary to employ the bootstrapping approach (Hair et al., 2017).

In Table 6, the findings present that GOC significantly mediates the association between GRS and SCA ( $\beta=0.152$ ,  $t=5.722$ ,  $p=0.000$ ,  $LL= 0.104$  and  $UL= 0.209$ ). Therefore, hypothesis H2 was supported. Similarly, GOC also significantly mediates the association amid GCM and SCA ( $\beta=0.185$ ,  $t=5.868$ ,  $p=0.000$ ,  $LL= 0.125$  and  $UL= 0.247$ ). Hence, hypothesis H6 was also supported. In the end, GOC also mediates the relationship between GTD and SCA positively and significantly ( $\beta=0.043$ ,  $t=1.983$ ,  $p=0.048$ ,  $LL= 0.002$  and  $UL= 0.088$ ). Thus, hypothesis H4 was also supported.

**Table 8:**  
Specific Indirect Effect

Paths	Specific Indirect Effect	T Statistics	P Values	CI	
				LL	UL
GCM → GOC → SCA	0.185	5.868	0.000	0.125	0.247
GRS → GOC → SCA	0.152	5.722	0.000	0.104	0.209
GTD → GOC → SCA	0.043	1.983	0.048	0.002	0.088

The structural model results and analysis of mediating effect show that a unexceptional level of GHRM practises exists among green-certified firms. The GHRM practices significantly influence the long term competitiveness of these companies, and that green organisational culture have a mediating effect in the relation amid GHRM practises and SCA in green certified firms operating in Pakistan.

### Discussion

The goal of this research was to see how GHRM practises affect long-term competitive advantage in green-certified manufacturing enterprises in Pakistan. As an intervening variable between GHRM practises and SCA, green organisational culture was explored. According to hypothesis H5, GHRM techniques such as GCM have a strong and favourable link with SCA. The findings are

consistent with Oyedokun's findings (2019). Following that, as predicted by hypothesis H1, the data demonstrate that GRS has a positive and significant connection with SCA. The results of Zao et al. (2020), Bombiak and Marinciuk-kluska (2018), Ren et al. (2018), and Jabbour and Santos (2008) support this idea. The result also surprisingly shows that GTD has an insignificant association with SCA. This finding is also congruent with the results of Malik et al. (2020). Malik et al. (2020) argued that green training and development have an insignificant effect on the sustainability of Pakistani manufacturing companies. This may be due to a lack of awareness and knowledge as well as resources on the importance of green training. Therefore, it is important for GHRM practices, like GTD, to be executed effectively and efficiently in order to persuade the workforce to achieve SCA. Several additional studies, such as Delmas and Pekovic's, have found a favourable and substantial link between green training and organisational success (2013). Amjad et al. (2021) found a large and favourable effect of training and development on organisational sustainability.

The outcomes of this investigation supported the indirect and substantial relationship between GRS and SCA, with GOC playing a completely mediating function. This outcome is consistent with prior research (Yusoff et al., 2018; Tahir et al., 2019). This outcome presents that the presence of green organizational culture is vital in confirming the compliance of GRS practice that leads to SCA in the workplace. Previous studies show that the green organizational culture strengthens the association between GRS and SCA (Tahir et al., 2019). The current results also show that there is a significant association amid GCM and SCA through the mediation of GOC. It also means that if organisations have a stronger green compensation system as a result of a positive assessment of green companies' practises, employees will have increased willingness and motivation, resulting in a sturdier green organisational values, which will eventually resultants of positive sustainable competitiveness. The next finding shows that GOC mediates the association of GTD and SCA. In several studies, green organizational culture is found to have significant mediating effect in the association amid GHRM practices and sustainable outcomes, for instance, Kucukoglu and Pinar (2016). Organizations attain sustainable competitive advantage through enhancing rare, imitable, and non-substitutable green strategies (green training and development) with the support of green organizational culture (Gurlek & Tuna, 2017). In the end, to the best of the researcher's information, no other research has been conducted by using GOC as a mediator between GHRM practices and SCA among green-certified companies across the Pakistani context.

**Theoretical Contributions**

The current study while applying resource-based view (RBV) theory hypothesized that GHRM practices (GRS, GCM) would have a significant positive association with a sustainable competitive advantage. However, there is a positive but insignificant association amid GTD and SCA. The findings showed that out of six hypotheses only one was insignificant while 5 hypotheses were statistically significant and positive with SCA directly as well as indirectly. These findings infer that GHRM may offer green-oriented workers and rambles the green beliefs and values across the company which in turn can support the company to gain SCA.

**Managerial and Practical Implications**

This research has several of implications, particularly for business professionals and legislators. The model of this study also provides a guideline to manufacturing companies explaining the effect of GHRM on SCA. It is to remember that as a result of the shortage of natural resources and green-related concerns in current times, the manufacturing sector plays a significant role in reducing green-related issues. Thus, the managers or practitioners can develop green-oriented HR and adopt GHRM as a strategy in order to achieve SCA. The findings indicate that those manufacturing companies that adopted GHRM practices had quite improved SCA. If the company adopts sustainability as a goal, it should reshape organizational culture while using GHRM practices for workers across the different levels. In this way, the workers will get environmental awareness and will struggle for a sustainable competitive advantage. Lastly, the industrial sector in Pakistan is considered to have weaker green performance, and still, it is among a major suppliers to the exchequer. The present study highlights that GHRM practices may support getting SCA. The government of Pakistan must develop such policies that offer direction and motivation to the manufacturing sector to adopt GHRM practices.

**Limitations and De-limitations of the Study**

Besides the variables used in the model, other variables can also contribute to the model. In addition to it, the model may be further adjusted and polished while studying comparatively between green and non-green organizations and across the nations. This study was a single point in time so in the future, the longitudinal study can be applied. The present study has not covered the dimensional analysis of sustainable competitive advantage which can be more meaningful approach however sustainable competitive advantage has been studied in its entirety.

**Conclusions**

Despite being a major contributor to Pakistan's economy, the manufacturing sector also stands out as the main source of greenhouse gas emissions and environmental challenges. Subsequently, the adoption of Green Human Resource Management (GHRM) practices is increasingly essential for organizations to mitigate environmental issues and achieve Sustainable Competitive Advantage (SCA). With natural resources depleting rapidly and climate conditions worsening, sustainability has become a serious area for exploration. To address these concerns, companies are employing modern and effective approaches like GHRM practices to attain sustainable competitiveness in the fiercely competitive global landscape. The present study successfully employed the Resource-Based View theory and system theory within the manufacturing sector to attain sustainable competitive advantage through the application of green human resource management activities. In conclusion, it is established that manufacturing companies, through the adoption of green human resource management practices, can attain sustainable competitive advantage.

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