

Green Human Capital and Green Human Resource Management as Critical Factors for Organizational Competitive Advantage

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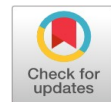
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Abstract: This study investigates the impact of Green Human Capital (GHC) on achieving competitive advantage with the mediating role of Green Human Resource Management (GHRM) in the healthcare sector (hospitals) of Punjab, Pakistan. The study also investigates environmental knowledge's moderating effect between GHRM and competitive advantage. Resource Based View (RBV) theory is used to explain the framework. Quantitative research methods were used, and data were collected from the hospitals through a convenient sampling technique. The population of this study ranges from 20000-30000, and the determined sample size is 371. Statistical package of social sciences (SPSS) version 23 and plugins of Hayes Process Marcos were used to analyze the data. The study's results revealed that GHC significantly influences competitive advantage, and the mediation of GHRM exists between them. However, the study did not find the moderating influence of environmental knowledge on the relationship between GHRM and competitive advantage. This study will extend the literature on GHRM as it is an overlook research field in Pakistan. Moreover, Pakistan is facing critical environmental issues; environmental consciousness is very relevant in human resources and industries alike, as stakeholders will resolve these environmental issues, thus forcing corporate leaders to adopt proactive environmental policies to minimize environmental issues.

Keywords: Green Human Capital (GHC), Green Human Resource Management (GHRM), Competitive Advantage (CA), Resource Based View (RBV).

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INTRODUCTION

Both researchers and practitioners in the contemporary period invest greatly in greening. Renwick (2013) has proposed that managing human capital is a large part of this green agenda quest. Green practices can also be integrated into the company's human resources activities to maximize the chances of a firm's sustainability. Due to the availability of a broad pool of experience and talent in emerging economies, human resources are the main focus for businesses from different industries worldwide (Singh et al., 2018). Previous work, however, did not explicitly answer the connection between GHC and GHRM.

Kong and Thomson (2009) have concluded that human capital can also drive growth and formulation by organizational Human Resource Management (HRM) practices. Chen (2008) found that companies that invest various assets and energy in GHC not only comply with strict international environmental legislation they also eventually gain a competitive advantage. So businesses have begun to build a strong green reputation by attracting adequate talent to support the environment, leading to competitive advantage (Yong et al., 2019).

Jamali (2015) concluded companies should extend their sustainability efforts to produce positive outcomes through green HRM. Researchers proposed that future studies could extend the model in such a way as to make it competitive (Yong et al., 2019). GHRM is extremely critical for structuring sustainable and competitive organizations (Ren et al., 2018). In addition, this report will guide prospective researchers into new fields of green HRM.

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GHRM has been an overlooked research field in Pakistan (Bhutto, & Auranzeb, 2016). Therefore, this study helps researchers investigate this field under the suggested relationship between GHC and competitive advantage and GHRM (Iftikar, Hussain, Malik, Hyder, Kaleem, & Saqib, 2022). This research would also allow administrators to implement GHRM that will contribute to the sustainable and competitive edge of the environment (Khaskhely, Qazi, Khan, Hashmi, & Chang, 2022).

In addition, Pakistan is a host of climate issues (air pollution, soil erosion, water scarcity, and global warming), according to Malik (2020), while numerous factories, manufacturers, and hospitals dispose of their waste in the rivers. Waste management, environmental knowledge, environmentally friendly staff, green practices, and green design steps are missing (Kanwal et al., 2018). Because of these environmental issues, environmental consciousness is very relevant in neighborhoods, human resources, and industries, as stakeholders will resolve these issues (Malik, 2020).

The resource-based view theory is a tactical way of describing what strategic instruments a company must use to acquire a competitive advantage sustainably (Barney, 1991; Khanchanapong et al., 2014). Barney's (1991) article "Solid Resources and Sustained Competitive Vintage" is widely quoted as a major work in the context of the rise of the resource-centered perspective. Green practices are considered uniform and non-substitutable assets uniformly acquired from corporate competitors. Organizations need to consider novel ways to connect tools that rivals find impossible to imitate; and, therefore, provide a competitive advantage. The resource-based view says that corporate tools such as green processes and workers that are hard to falsify help companies strengthen their competitive edge (Nagano, 2020; Saluke et al., 2019; Zameer et al., 2020).

Resource-based view argues that human resources are essential for keeping a company's competitive advantage (Barney et al., 1991). Resource-based view is the theoretical foundation for developing GHRM within companies (Jabbour, 2017). In Pakistan, Malik (2020) also assumed, by RBV, that a constructive and substantial partnership in sustainability is seen in GHRM and the use of green human capital. Thus, the Resource-based view theory strengthens the proposed model as GHC and GHRM practices are hard to imitate and bring competitive advantage.

Organizations rely more on GHRM and GHC due to global economic competitiveness. In the service sector, healthcare is considered an important service provider and is an area of focus among institutions concerned with environmental issues resulting from waste produced. Unfortunately, healthcare professionals have very limited knowledge about environmental issues in Pakistan (Sherani, 2019). Organizations should use the GHRM system to recruit environmentally friendly expertise and train them to strengthen green human capital, achieving competitive advantages (Ahmad, 2015). In addition, the recent literature on GHC and GHRM is predominantly western (Amrutha & Geetha, 2020; Yong, Yusliza, & Fawehinmi, 2019). With these ideas and the existing literature in mind, it is essential to trace the links between GHC and GHRM.

Research Objectives

- To investigate the relationship between green intellectual capital and competitive advantage.
- To assess the mediating effect of GHRM on green intellectual capital and competitive advantage.
- To assess the moderating role of environmental knowledge between GHRM and competitive advantage.
- To assess the role of green intellectual capital and GHRM in gaining a competitive advantage.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Relationship between GHC and Competitive Advantage

Due to the market climate and economic change, human capital is key to sustaining competitiveness (Tang et al., 2017). Human capital is an important asset to the business world's competitiveness as companies have relied on their employees' expertise, skills, and abilities. According to Porter (1985), as a company delivers what clients will assume as "Superior value," it will create a competitive edge over its competitors. The type of competitive advantage has changed from physical to intangible and has contributed to generating demand, which is now dependent on the company's activities, knowledge, and experience (Bushra et al., 2022; Edvinsson et al., 2004).

Human capital is a diverse and deliberate resource that creates, reinforces, and positively affects sustainable competitive advantage (Barney et al., 1991; Hsu, 2008). In addition, human capital plays the most important and fundamental role as a transformative engine for green systemic and green relational capital (Khan et al., 2022; Li et al., 2010). Organized organizations invest in their workers and control their human capital to collaborate

with others, such as GHRM, and have a sustainable competitive advantage (Carpenter, 2001; Wang et al., 2011). According to Chen (2008), the correlation between GHC and competitive advantage is clear and optimistic.

From the Resource-based perspective, companies that create additional competencies in connection with their human capital's environmental strategies gain a competitive advantage as those competencies are difficult to emulate (Barney, 1991; Wang et al., 2011). Hart (1995) notes that one of the pioneers of RBV analysis has shown that pollution prevention, recycling, and environmental strategies can achieve a competitive advantage. GHC contributes to the superior efficiency of an organization, which leads to competitive advantage (Khan et al., 2022; Yong et al., 2019). GHC match any person's contribution to an enterprise and is connected positively to competitive advantage (Chen, 2008; Leonidou et al., 2013).

Moreover, it is assumed that GHC adds more to the growth of green enterprises due to environmental awareness and expertise incorporated into human capital (Yong et al., 2019). Thus capital can be rare as the environmental expertise is rooted in workers and not imitated by other competitors, according to the resource-based view principle (Barney, 1991). Based on the above arguments, we, therefore, suggest the following hypothesis:

H1: There is a positive relationship between GHC and competitive advantage.

Relationship between GHC and Green Human Resource Management

Many investigators argued that the features of their human capital would transform into an invaluable tool to accomplish GHRM organizations as it interacts with other organizations (Carpenter, 2001; Mazzi, 2016). A company should employ human capital that is environmentally sustainable and implement GHRM practices to build a powerful and hard-to-imitate GHC (Jackson et al., 2004; Zada et al., 2022).

Malik (2020) reports that GHRM and GHC will turn workers into strategic assets because of their environmental knowledge and dedication. These employees allow companies to achieve a competitive advantage. Kong and Thomson (2009) argue that human capital should be the main feature of strategic human resources strategy and management. GHRM plays a significant part in building employees' environmental and green awareness, cultivating deep organizational involvement (Shoaib, 2021).

GHC has positively associated with GHRM (Yong et al., 2019). GHC is more likely to shape GHRM through this knowledge to improve its human resource policies for environmental management (Huang et al., 2011; Khan et al., 2022). GHC service companies embrace the green strategy of human resources and supporting organizations to recruit the finest human capital (Chang et al., 2012).

Many scholars believe that companies must prepare their staff to improve environmental capacity and incorporate GHRM strategies in the enterprise to implement corporate environmental ethics in practice (Helfat & Peteraf, 2015; Teece, 2014).

According to the Resource-based view theory, staff should receive green training to strengthen employee abilities, attitudes, and awareness that reinforces the organization's GHC activities (Gittel, 2013; Jabbour et al., 2019). Green recruiting also attract green jobs seeker, leading to sustainable development (Guerci et al., 2016). Hence, according to these arguments, this study proposes the following hypothesis:

H2: There is a positive relationship between GHC and GHRM.

Relationship between GHRM and Competitive Advantage

HRM is at the heart of competitive advantage. Human resources activities have become an integral part of the employee's shared understanding and are rare, worthwhile, and built over a certain time and help fulfill goals and values (Wright et al., 1998). Organizations must maintain their competitive advantage in this dynamic environment. As indicated by Hillman (2004), corporate, environmental, and reward management must be synchronized to other organizational policies and activities to achieve a durable competitive advantage. Environmental companies handle the human element with high commitment and "green" teams (Arthur & Willig, 1994).

In addition, green control of human capital is important in gaining strategic advantages (Yusoff et al., 2016; Zada et al., 2022). Environmental performance is directly influenced by organizations developing human capital strategies and combining environmental and operational performance, which will achieve a more sustainable competitive edge (Singh et al., 2018). Moreover, companies can build an effective green human resources management strategy through green recruiting, green training, and conservation practices that enhance their business profile and help achieve a competitive edge (Guerci et al., 2016). There are few findings in the current literature on green

management of human resources. Still, all those studies have shown that green management of human resources allows organizations to achieve environmental impacts, economic development, improved images, and competitive advantage (Guerci et al., 2016; Khan et al., 2022).

The Resource-based view of the firm illustrates that the unique pool of capital and unique strategies help companies to claim success and strategic advantage over their rivals (Wernerfelt, 1984). Some studies have reviewed resource-based view and environmental policies in current literature, indicating that sustainability practices, environmental productivity, and environmental technologies are potential strategic tools because they provide businesses with a unified value chain and competitive advantage (Douglas et al., 1998; Zada et al., 2022).

Consequently, the Resource-based view suggests that environmental practices and organizational performance are interlinked, as environmental strategies lead toward competitive advantage (Douglas et al., 1998). Hence, environmental strategies and performance have been linked to improved organizational performance and the competitive advantage of organizations (Klassen et al., 1996).

H3: There is a positive relationship between GHRM and competitive advantage.

GHRM as a mediator between GHC and Competitive Advantage

Recent trends have led economies to gain a better understanding, increasing their need for highly skilled and trained staff, as the source of competitive advantage is human capital (Opatha et al., 2012). Consequently, the company has been pressured to recruit new workers with specific attributes and adopt long-term plans to attract them to gain a sustainable competitive edge (Chang et al., 2012). Organizations must implement green human resources management functions and establish green activities, policies, and procedures to ensure employees' green employment and environmental benefits (Saeed et al., 2022; Yong et al., 2019).

Moreover, employees can encourage effective environmental performance based on green policies. In addition, green training may enhance employees' awareness of the environmental impacts of their actions as a source of competitive advantage (Opatha et al., 2014). However, many scholars have found a positive relationship between GHRM, for example, green hiring, green education and commitment, green compensation, and environmental performance management (Guerci, 2016; Renwick, 2013).

Yong (2019) states that strategic HRM practices will develop and transform organizational resources into GHRM that help companies achieve corporate goals and tasks. For businesses to overcome their corporations' environmental issues and to build a solid and lasting strategic edge, GHRM strategies are gradually being implemented (Chen & Chang, 2013; Saeed et al., 2022). Organizations also tend to recruit potential hires with green experience, who play an important part in developing green business skills and gaining a sustainable competitive advantage (Turban & Greening, 1997).

Saluke (2019) says GHRM positively connects to green human capital. Businesses will benefit and maintain GHC by using green management of human resources to reduce environmental burdens. Accordingly, the findings of the Malik (2020) study showed that the use of GHC by GHRM and green intellectual capital could become a valuable and strategic weapon. His results showed that providing GHRM and intellectual capital could lead to environmentally friendly, dedicated workers and, in return, allow businesses to acquire competitive advantage and sustainability. The research by Malik (2020), which contributed to the body of information on GHRM and green intellectual capital, concluded that sustainable results could be accomplished through GHRM and green human capital.

Enterprises should then train highly potential personnel to develop their environmental management skills to achieve high environmental standards. Organizations with social success also attract more skilled prospective career seekers and constitute an important competitive advantage for rivals to imitate (Turban et al., 1997). Hence, we propose a hypothesis that:

H4: GHRM mediates the relationship between GHC and competitive advantage.

Environmental Knowledge, Green Human Resource Management, and Competitive Advantage

Citizens' understanding of environmental issues, processes, and policies increase awareness and anxiety about their contribution to the conservation of the environment (Zsóka et al., 2013). The two critical aspects of environmental consciousness are environmental knowledge and perception. Barr (2007) said employee understanding of waste control, climate, and company sustainability policies would enhance voluntary workplace environmental

actions. Combining environmental consciousness with GHRM policies would reinforce this relationship and improve employee involvement in environmentally friendly practices (Afsar, 2016; Khan et al., 2022).

Companies see new information acquisition as gaining and maintaining a competitive advantage (Danskin et al. 2005; Ullah et al., 2021). The knowledge continues to evolve within the firm and is shared among the members of the firm through communication, sharing, and learning. The staff of the company needs to have green experience and knowledge of sustainability effectively, to sell a sustainable service or allow a valuable product to make profits.

Mazzi (2016) argued that GHRM and environmental management must be combined, as the association encourages employees to participate in environmental management activities by developing expertise and attitudes. Research has shown that the green management of resources will impact employee understanding of the environment (Tang et al., 2017). The green recruiting method, green preparation, green administration, green income, and green engagement work in a symbiotic way to raise employees' eco-conscience (Farid et al., 2021; Renwick, 2013).

From the resource-based perspective, planning and competitiveness are founded on the operational ability to promote environmentally friendly economic activity; therefore, engaging in environmental expertise contributes significantly to achieving a competitive advantage (Hart, 1995). The company's effectively set up green human resources management would become a separate hindrance for the rivals to protect its strategic edge (Chaudhry et al., 2016).

Environmental knowledge is essential for firms to implement. Individual environmental knowledge is important for companies to address external environmental pressures, particularly in developing Green Innovation and Green Management (Chang et al., 2012). Green practices in human resources management are the product of employee actions on the environmental competence of the company. The better a person understands the environment, the more likely he is to participate in conservation behavior (Chaudhary et al., 2016). Hence, according to these statements, we propose that:

H5: Environmental knowledge moderates the relationship between GHRM and a competitive advantage such that the relationship would be strengthened when an employee's environmental knowledge is high.

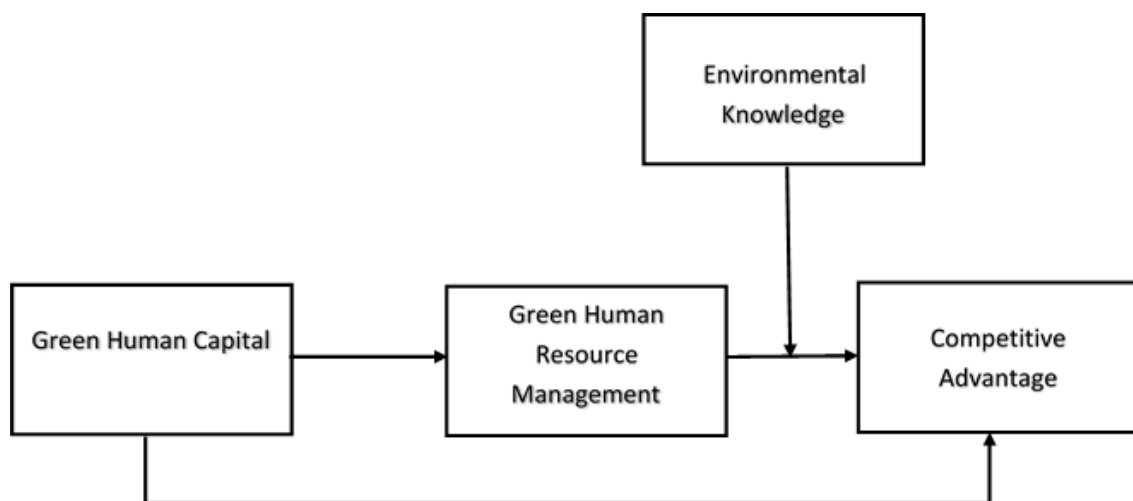


Figure 1: Conceptual framework for the proposed relationships

RESEARCH METHODOLOGY

Sample Selection and Data Collection

This study is quantitative. Data were collected from respondents through structured questionnaires and from healthcare professionals working in hospitals in Punjab, Pakistan. Some easily accessible hospitals are Indus Hospital Muzaffargarh, Jinnah Hospital Lahore, Nishtar Hospital Multan, City Hospital Multan, CMH Multan and Rawalpindi, Holy Family Hospital Rawalpindi, Shifa International Hospital, THQ Sadiqabad, Sheikh Zaid Hospital Rahim Yar Khan and many others. The questionnaires were in English, created using Google Forms, and distributed through E-mails and WhatsApp.

Moreover, we have selected this sample for two reasons: studies relevant to the "Green" concept in the healthcare

sector are very limited, especially in the context of our country. Secondly, in our country, many hospitals dispose of their waste in rivers, and management staff and healthcare professionals are not very committed to preserving natural resources. Hence, we have selected this sample to analyze the awareness of healthcare professionals about GHC and GHRM.

In this research, we have used a convenient sampling technique and determined our sample size according to the table of Krejcie & Morgan (1970). The population of our study ranges from 20000-30000. Hence, according to Krejcie and Morgan's (1970) Table, the sample size of our study is 371. Six hundred questionnaires were distributed, from which 371 were received back. The response rate was 92%, of which most respondents were male, 53%, and females, 47%. In the age category, 50% of respondents fall into the 21-30 years category. Concerning qualification, 32% of healthcare professionals said they were FCPS degree holders, and 62% of respondents had 1-5 years of work experience.

Measures

Green human capital: The questionnaire for measuring GHC consists of 5 items adapted from a scale developed by (Chen, 2008). The scales were measured on a 5-point Likert-type scale with responses to statements ranging from (1) strongly disagree to (5) strongly agree. The items of this variable are reliable as their Cronbach alpha is 0.868.

Green human resource management: The GHRM questionnaire consists of 15 items scale adopted from Jabbour (2011). A 5-point Likert-type scale is used to answer each item. The items of this variable are reliable as their Cronbach alpha is 0.855.

Competitive advantage: Competitive advantage is measured with 10 items scale developed by Chen (2008). A five-point Likert scale was used to measure items' responses ranging from "strongly disagree" to "strongly agree." The items of this variable are reliable as their Cronbach alpha is 0.890.

Environmental knowledge: The 9 items scale developed by Vlek's (2002) study measures environmental knowledge. The respondents selfreported the extent of their knowledge of global environmental issues (anchored on a five-Likert scale ranging from "strongly disagree" to "strongly agree"). The items of this variable are reliable as its Cronbach alpha is 0.850.

RESULTS

Data is statistically analyzed using Statistical Package for Social Sciences (SPSS) Software, and plugins of Hayes Process Marcos were employed to test hypotheses. Regression analysis was used to check the direct hypotheses; for moderation, Hayes Process Marcos (Model 1) was employed, and for mediation analysis was done through Hayes Process Marcos (Model 4) was used.

The validity and reliability of the scales of variables under the study are checked by using the reliability analysis shown in Table 1. We have four variables: GHC , GHRM, Competitive Advantage (CA), and Environmental Knowledge (EK).

Table 1: Reliability analysis

Scales	Number of items	Reliability
GHC	5	.868
GHRM	15	.855
CA	11	.890
EK	9	.850

Note: N= 371, GHC =Green Human Capital, GHRM =Green Human Resource Management

CA=Competitive Advantage, EK=Environmental Knowledge

Table 1 shows that the scales of all variables are reliable as reliability values for all variables are greater than 0.8, which shows that reliability is at a very good level (Hulin et al., 2001).

Correlation tests show the interrelationship between variables. Correlation is present in Table 2. The correlation of GHC was positive and significant with green HRM ($r= .261, p<.01$), competitive advantage ($r= .301, p<.01$), and environmental knowledge ($r= .420, p<.01$), respectively. The correlation of green HRM with competitive advantage ($r= .414, p<.01$) and environmental knowledge ($r= .596, p<.01$) was also found positive and significant.

Additionally, competitive advantage and environmental knowledge were found positive and significant ($r = .544, p < .01$). One-way ANOVA of demographic variables and constructs was measured, illustrating that demographic variables do not cause any significant variance in dependent and mediating variables.

Table 2: Correlation test

Variables	1	2	3	4	5	6	7	8
1 Gender	-							
2 Age	.423**							
3 Edu	.001	.085						
4 WE	.327*	.693**	-.003					
5 GHC	-.017*	.035	.050	.036				
6 GHRM	-.034	-.057	-.003	-.043	.261**			
7 CA	-.060	-.054	-.060	.071	.301**	.414**		
8 EK	-.053	-.092	-.056	-.043	.420**	.596**	.544**	-

Note: N= 371, Edu=Education, WE=Work Experience, GHC =Green Human Capital, GHRM =Green Human Resource Management, CA=Competitive Advantage, EK=Environmental Knowledge

Hypothesis Testing

Results for H1 are shown in Table 3 above, which shows that GHC among healthcare professionals increases competitive advantage ($\beta = .309, p < .01$). Hence H1 is supported. If GHC is improved, competitive advantage can also increase. These findings are consistent with previous research that GHC has a strong and substantial competitive advantage relationship (Chen, 2008; Chahal & Bakshi, 2015; Kamukama et al., 2011; Obeidat et al., 2021). The study by Yong (2019) found that GHC could be improved to boost competitive advantage. GHC is also the organization's spirit and is handled by designing Hospital management processes, policies, structures, skills in HRM, and capacities and expertise. Hospitals will benefit from strengthening cooperation between healthcare workers to share ideas and knowledge and create two-way contact networks to get input from stakeholders (Obeidat et al., 2021).

Results for H2 are shown in Table 3, demonstrating a significant effect of GHC on GHRM ($\beta = .260, p < .01$). Thus, H2 is also supported by the results. These studies are aligned with previous studies that have a positive, important connection to GHRM and GHC (Chen et al., 2008; Huang et al., 2011).

Previous studies have shown that GHC has environmental competencies and associated task engagement. Moreover, the beneficial effect of GHC on green innovation efficiency was also shown by Chen & Chang (2013). Environmental knowledge and expertise are also rooted in staff, which they will build, distribute, and express their thinking and ideas that affect GHRM.

Results for H3 are shown in Table 3, indicating that GHRM has a strong and positive association with a competitive advantage ($\beta = .410, p < .01$). Thus, it supports H3. These findings suggest that the most efficient GHRM practices adopted by a company increase an organization's competitive advantage, given that its workers show environmentally friendly performance. The study by Yong (2019) approves a positive correlation between the organization's competitive advantage and GHRM. Many previous studies showed that GHRM activities affect the environmental effects of an organization favorably and put the business ahead of its competitors (Jabbour, 2013; Yusoff et al., 2019).

Table 4 shows the results of moderation and mediation. The indirect effect of GHC on competitive advantage through green HRM was also found significant with (Indirect effect= .11, ULCI= .37, LLCI=.19). There is no zero between the upper and lower limit confidence intervals, thus supporting H4 of the study. The previous study supports these findings, which examined the mediatory function of GHRM between stakeholder pressure and environmental performance and found that the relationship of constructed variables is mediated by different GHRM practices (Guerci et al., 2016).

Moderation of environmental knowledge between green HRM and competitive advantage was tested through Hayes (2017) process Macros Model 1. Environmental knowledge and green HRM were mean-centered before testing moderation. The results (Table 5) did not support the moderation of environmental knowledge between green HRM competitive advantage ($\beta = -.02, ULCI = .10, LLCI = -.15$). This insinuates that the environmental

knowledge of healthcare professionals in an organization does not strengthen the GHRM of that organization which may further lead towards competitive advantage.

The *p*-value of the interaction between GHRM and competitive advantage variables is greater than 0.05. Hence, the moderation of environmental knowledge between GHRM and competitive advantage is statistically not supported. In addition, Jabbour (2017) study reported that company workers would not share and practice environmental knowledge unless incorporated into the organization’s GHRM system. He stated that employees only practice environmental knowledge if there is some reward system in GHRM of that organization. Therefore the relationship between GHRM and competitive advantage is not moderated in the face of all these claims.

Table 3: Hypothesis test

H	Path	β	<i>p</i>	Status
H1	GHC → CA	.309	.000	Supported
H2	GHC → GHRM	.260	.000	Supported
H3	GHRM → CA	.410	.000	Supported

Table 4: Bootstrap results for mediation analysis

H	Path	β	SE	LLCI	ULCI	Status
H4	GHC → GHRM → CA	.11	.04	.19	.37	Supported

Table 5: Bootstrap results for moderation analysis

H	Path	β	SE	LLCI	ULCI	Status
H5	GHRM x EK → CA	-.02	.06	-.15	.10	Not Supported

Note: N= 371, Standard Error (SE), Lower Limit (LL), Upper Limit (UL), Confidence Interval (CI)

GHC=Green Human Capital, GHRM=Green Human Resource Management, CA=Competitive Advantage, EK=Environmental Knowledge

DISCUSSION AND PRACTICAL IMPLICATIONS

The consequence of GHC on competitive advantage with the mediating function of GHRM and the moderating role of environmental knowledge was examined in this study. This research is being carried out with a single unit of the healthcare sector: the hospitals of Punjab, Pakistan, and data were obtained from the healthcare professionals of the hospitals. The results show that GHC positively and significantly affects the organizational ability to attain competitive advantage. GHC is a good basis for developing, implementing, and using an organization’s environmental protection scheme. Thus, hypothesis 1 is supported as these findings are also supported by many researchers in existing literature (Chang et al., 2012; Huang et al., 2011; Lopez et al., 2011; Obediat et al., 2021; Yong et al., 2019).

Furthermore, the results also show that GHC also has a positive and significant relationship with GHRM. Guerci (2016) illustrated that GHC influences GHRM as GHC is rooted in workforces and is considered an organization’s soul.

Competitive advantage is also attained from the unique resources which cannot be imitated by the competitors easily. GHC and GHRM are resources that enhance an organization’s sustainable competitive advantage. Resource-based view theory also supports this argument, which demonstrates that an organization’s resources must be rare and hard to imitate to create a competitive advantage (Barney et al., 1991). Thus, the mediating effect of GHRM is also supported by previous studies (Guerci et al., 2016; Obediat et al., 2020).

This study further proposed another hypothesis related to moderating effect of environmental knowledge between GHRM and competitive advantage, but the results do not support it. Previous studies showed that employees do not share and practice environmental knowledge on their own unless it is embedded in that organization’s GHRM systems. Thus, the moderating effect does not exist, and these results are also supported by (Jabbour et al., 2015). However, in light of the findings, this study concludes that GHC and GHRM practices of healthcare professionals can enhance hospitals’ environmental and financial performance and the ability to attain a competitive advantage over their rivals.

The results of this study offer several essential theoretical and practical contributions. First, our study links GHC to competitive advantage by mediating the role of GHRM, and results indicate that GHC positively improves competitive advantage. The mediation effect of GHRM plays an important role because HRM provides adequate knowledge about green practices to employees.

Second, the current study extends research on GHC and GHRM practices through the resource-based view and provides answers for how GHC can be linked to competitive advantage through GHRM. Based on the resource-based view and our research findings, we suggest that GHC is a strategic intangible resource that a firm should leverage to shape GHRM, which attains a competitive advantage. Last, this study contributes to literature by linking the GHC and GHRM because literature on these two is rather scant. Thus, this study contributes to GHC and GHRM literature and extends the literature on RBV by studying competitive advantage and declaring GHC and GHRM as rare, valuable, and imitable resources for an organization.

This research has several practical consequences for practitioners of healthcare. The first is a deeper understanding of green human capital's impact on competitive advantage. GHC is significant as it is considered the soul of organizations as it is embedded in employees and leaves the organization when the workforces leave (Chang et al., 2012). This study helps healthcare professionals promote green practices and facilitate green trends in their hospitals, improving the quality of services and enhancing their competitive advantage.

CONCLUSION

Conclusively, organizations are moving towards the changing shift of the international economy and started to involve green practices as part of their organizations. Competitive advantage is considered the main factor in determining the performance of organizations, and to achieve it, resources must be rare and difficult to imitate by rivals. GHC and HRM are major resources that will eventually bring a competitive advantage to organizations.

FUTURE DIRECTIONS

We suggest that future researchers test the hypotheses of this study in other service sectors at the country level to enhance the generalizability of results and the proposed model. The literature on green intellectual capital and GHRM is rather scant, especially in the Pakistani context. Future researchers could adopt other data collection techniques instead of just one and use other reliable sampling techniques, such as simple random or stratified sampling.

We recommend that future researchers could also study this model with Intellectual Capital View (ICV) and Knowledge-Based View (KBV) theories, as these theories are more concerned about the intangible resources of the firm. Furthermore, our study used just two dimensions of green intellectual capital: GHC and green relational capital. So, we suggest future researchers add other dimensions of green intellectual capital, especially organizational capital, innovation capital, and process capital.

Moreover, it is also recommended that green intellectual capital and GHRM could be studied concerning other variables such as Corporate Social Responsibility (CSR), Organizational Citizenship Behavior of Environment (OCBE) and Islamic HRM and also study each single practice of green human resources management such as green recruitment, green selection, green training and green rewards, etc. as green intellectual capital and GHRM literature is too much limited in the context of our country.

LIMITATIONS

Despite the remarkable importance and careful design, this study also has some limitations. First, the generalizability of the results is a possible drawback of this study. As healthcare professionals have very limited knowledge about GHRM concepts, thus it required more explanation and information to participants, which may have impacted the generalizability of the results. In addition, this study is conducted in a particular context that can also affect the generalizability of the findings.

Another limitation of this study is due to COVID-19, we have used online questionnaire survey techniques for data collection, and every data collection method has its own biases. Furthermore, in this study, we used a convenient sampling technique, the least reliable sampling design regarding generalizability.

Moreover, we used resource-based view theory in this study but according to many researchers, this theory is

criticized for its explanation of an organization's resources. Many researchers argued that the resource-based view does not tell anything about the firm's intangible resources as it tells about rare resources in a more generalized way. So, many researchers used its two dimensions ICV theory and KBV theory. However, this theory supported our model and contributed well to our study.

Disclosure statement

The authors have no conflict of interest.

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