GREEN HUMAN RESOURCE MANAGEMENT STRATEGY, GREEN CULTURE, AND OPERATIONAL PERFORMANCE

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Abstract

In the present era, developing green human resource management (HRM) practices, green culture (GC), and operational performance (OP) have become significant challenges for various organizations, including the health sector. The current paper explores the role of green HRM in enhancing OP and GC. The study also confirms the mediating position of GC between green HRM and OP. The quantitative analysis collected 296 cross-sectional cases from employees in the Egyptian health sector. The researchers applied an online survey questionnaire to reach out to the respondents. Using SmartPLS 4 software, the study exerts a positive influence of green HRM on GC and OP. Besides, the impact of GC on OP is positive. Finally, the GC factor mediates the association between green HRM and OP. The study results support the development of policies for promoting green HRM practices to enhance the OP. The study also keeps bringing conducive GC and eco-friendly behaviour where individuals would positively consider preserving the environment through green HRM and conducive environmental performance (EP).

Keywords: Green HRM, Green Culture, Operational Performance, Health Professionals, Public Health

1. INTRODUCTION

Despite the recent economic and environmental crunches, several organizations have attempted to enhance their product and sustainable company performance globally. These companies consider green initiatives to attain vigorous business sustainability and operational performance (OP) (Liu et al., 2023). OP assesses how effectively and efficiently enterprises execute their internal

processes to achieve their organizational objectives and goals. It optimizes performance elements, i.e., quality, productivity, cost efficiency and customer satisfaction (Truong et al., 2017; Gu et al., 2023). Green human resource management (HRM), in terms of lean and human lean practices, responsibly enhances the OP in manufacturing small and medium enterprises (SMEs) in developing contexts (Al-Hakimi et al., 2023; Awan et al., 2023). When it comes to green HRM, there's still room for improvement in employee pro-environmental behaviours, sustainability, OP, and environmental performance (EP), especially in SMEs. The significant association between green HRM and pro-environmental behaviours in SMEs offers hope for a greener future (Elshaer et al., 2021). In sectors like travel agencies and SMEs in Egypt, the journey towards a green culture (GC) and sustainability is challenging but not impossible (Elshaer et al., 2021).

From a health perspective, it's clear that safety management and green health practices have a positive impact on employee relationships with discipline management (Mehta & Chugan, 2015). The empirical assessment of Martins et al. (2021) underscores the importance of green recruitment sustainability (social, economic, and EP) among private and public healthcare organizations. In the health sector of Palestine, despite challenges like the global economic recession and power outages, green HRM has been found to significantly enhance workforce productivity in public hospitals (Ayyash, 2021). Factors such as psychological safety and green HRM in health sector organizations mediate the connection between employees' job satisfaction and ethical leadership style (Gill et al., 2022). More dominantly, the sustainability and performance of the health sector need to be more focused on GC and green HRM, as it is significantly a pillar of sustainable development and economic growth of developing and developing countries (Ayyash, 2021; Gill et al., 2022). Particularly in the health sector of Egypt, the role of green HRM and GC towards OP needs to be explored (Ayyash, 2021; Martins et al., 2021). Thus, based on these requisitions, the researchers have posed the crucial research questions:

RQ1: What is the relationship between green HRM, green culture, and operational performance in the Egyptian health sector?

RQ2: How does green culture mediate the connection between green HRM, green culture, and operational performance in the Egyptian health sector?

This study aims to investigate OP through green HRM and GC. Based on this aim, the researchers proposed the below specific objectives to assess the influence of green HRM on GC and OP. The study further explores the mediating contribution of GC in developing the link between green HRM and OP among Egyptian SMEs. The outcome of the study would provide practical guidelines to policymakers and human resource (HR) authorities, equipping them to enhance sustainable HRM practices in the health sector, thereby minimizing total operating costs and wastage. The study would support bringing GC to the health sector through green HRM, enhancing the organization's performance. Finally, the study's outcomes would contribute to the HRM, management and environmental sciences literature.

The structure of the paper is as follows. Apart from the Introduction, Section 2 highlights the review of related literature and conceptual framework. Section 3 describes the methods. Section 4 presents data analysis and results. Section 5 discusses the main findings, and Section 6 provides the overall conclusion of the paper.

2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1. Green human resource management

Green HRM leads to increased EP in operating manufacturing firm managers — the green innovation mediating and moderating effect in developing a relationship between green HRM and pro-environmental behaviour and environmental strategy (Aftab et al., 2023). In the study of Wang et al. (2023), green HRM positively predicts the organizational environmental management system in Chinese high-tech companies. However, green design is influenced by green purchasing, knowledge, and production processes. Corporate environmental strategy and green HRM practices are positively connected to the psychological green climate, which enhances performance (Naz et al., 2023). Researchers like Dira et al. (2024) and Gupta and Jangra (2024) support the substantial contribution of green HRM in developing employee engagement, work environment and sustainable performance. It also supports the development of individuals' green behaviours and EP through employee self-efficacy (Nisar et al., 2024). Training, green HRM and commitment also positively predict sustainable performance, as Zaid et al. (2018) and Ghouri et al. (2020) advocate. Organizational support, innovation and leadership are mediated through green HRM (Zhao & Huang, 2022). Mahmood et al. (2023) and Muafi and Kusumawati (2021) suggest that HRM strategies are favourable analysts of chain performance and OP.

2.2. Green culture

Green culture is prominent in developing a firm's EP and sustainable development in light of the ability-motivation-opportunity (AMO) theory (Roscoe et al., 2019). The enablers of GC include leadership and message credibility, positively and meaningfully enhancing firm performance (Muisyo et al., 2022). In the hotel context, green HRM practices significantly improve hotels' EP. The GC and environmental responsibility are the potential mediators that indirectly develop the linkages between green HRM and EP. Besides, these connections are also affected by individuals showcasing green responsibility and green values towards their environment (Ahmed et al., 2021). Abbas and Khan (2023) claim the association between green knowledge management and organizational culture, highlighting their effect on performance and GC. In manufacturing firms, GC has a positive predictive power towards performance (Okechukwu et al., 2023; Anggoro et al., 2024). Imran and Jingzu (2022) claim the constructive effect of GC and innovation on EP. Also, total quality and GC management positively support the connection between sustainability performance and green practices (Fok et al., 2023). Likewise, GC, innovation, and employee commitment positively affect performance and sustainability goals (Sharma et al., 2021).
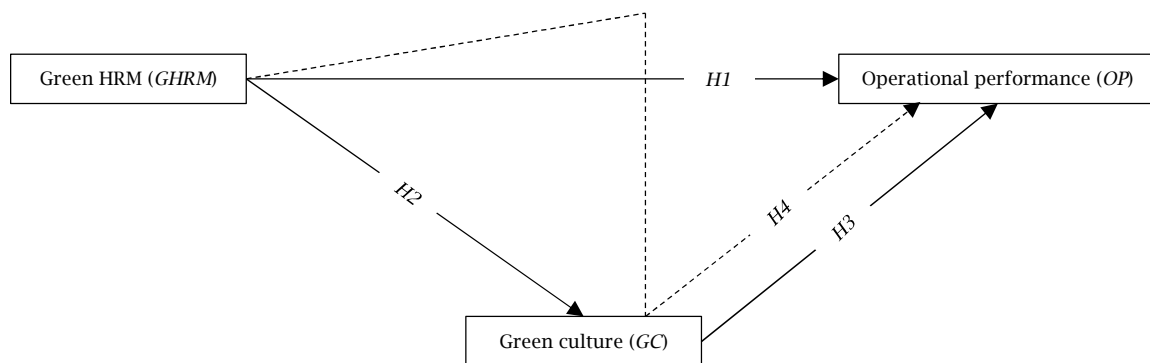
2.3. Operational performance

The OP is predicted through green innovation and HRM practices (Niazi et al., 2023). Correspondingly, Shah and Soomro (2023) confirm that green HRM practices such as compensation and reward, green employee involvement, green training and development and green innovation are significant analysts of OP. In Saudi Arabia, OP and sustainability are affected by organizational environmental culture (Al Doghan et al., 2022). An empirical study by Hooi et al. (2022) suggests a robust effect of green HRM on green organizational citizenship behaviour through GC.

Subsequently, the above literature separately explores the connection between green HRM, GC and OP (Ahmed et al., 2021; Muisyo et al., 2022; Shah & Soomro, 2023). Besides, the GC is also found to be a mediator in bridging the links between green HRM and OP, EP (Aftab et al., 2023; Naz et al., 2023; Wang et al., 2023; Niazi et al., 2023). However, an integrated model with a combination of green HRM, GC, and OP, specifically in the health sector contexts of Egypt, has yet to be investigated (Ayyash, 2021; Martins et al., 2021; Gill et al., 2022). Thus, based on these gaps and the connection of factors,

the researchers developed Figure 1 to explore the health sector context of Egypt. This study offers the novelty of providing practical implications unique in their application to the Egyptian health sector, a context that has yet to be explored in the literature. The findings offer actionable guidance for healthcare organizations in this region, emphasizing the embracing of green HRM practices and the importance of cultivating a GC to realize operational benefits. This specific focus on the Egyptian health sector provides new, context-specific insights that can be valuable for practitioners aiming to integrate sustainability into their operations effectively. Besides, this study advances the theoretical understanding of green HRM by explicitly placing prominence on the mediating role of GC in linking green HRM practices to OP. While earlier literature has explored the direct effects of green HRM, this study provides a novel insight into how GC acts as a crucial intermediary that improves the effectiveness of green HRM initiatives. This contributes to a better understanding of the mechanisms through which green HRM influences organizational outcomes, thus refining existing models and theories in the field.

Figure 1. Conceptual model

Source: Authors' elaboration.

2.4. Green HRM and operational performance

Green HRM is the best predictor OP. According to Wang et al. (2023), there is a substantial role of employee knowledge and expertise in driving green OP. According to the assessment of Zaid et al. (2018) and Ghouri et al. (2020), sustainable performance is predicted by green HRM practices where employee communication, involvement, and training are required. Likewise, Zhao and Huang (2022) underline the standing of leadership, innovation, and organizational support in achieving sustainable business performance through green HRM initiatives. There is an excellent integration of big data analytics with green HRM, which enhances OP by augmenting HRM strategies (Mahmood et al., 2023). The empirical assessment of Muafi and Kusumawati (2021) demonstrates the interconnectedness between supply chain performance, green HRM, and business performance. More recently, in a similar field, researchers like Gupta and Jangra (2024) and Dira et al. (2024) have exerted prominence on employee engagement and a supportive work environment in executing green HRM practices and accomplishing sustainable humanist performance. Green HRM is meaningful in influencing EP through employee self-efficacy and green behaviours (Nisar et al., 2024).

Consequently, the domain literature confirms the positive link between green HRM and OP in diverse contexts. However, these relationships need to be explicitly improved for SMEs in Egypt. Thus, we suggest the following hypothesis:

H1: Green HRM positively and significantly predicts Egyptian SMEs' operational performance.

2.5. Green HRM and green culture

Green HRM is positively associated with GC, which plays a robust role in developing OP and environmental sustainability. The literature strongly suggests the predictive effect of green HRM on OC. For instance, Hooi et al. (2022) stress the inevitability of aligning HRM practices with green values to nurture green organizational citizenship behaviour. This compelling argument is further reinforced by Shahzad et al. (2023), who highlight the mediating role of GC in green HRM's effect on sustainable performance. Well-known scholars like Muisyo et al. (2022) and Al-Alawneh et al. (2024) investigate the interceding impact of GC in the association between competitive advantage, green HRM and or EP, more dominantly in higher education settings. Likewise, GC is forecasted by green HRM and EP (Aggarwal & Agarwala, 2023). Similarly, Al-Swidi

et al. (2021) inspect the united effect of green HRM, leadership, and GC on EP and employees' green behaviour. Incorporating green HRM, innovation, and organizational environmental culture positively predicts sustainable performance (Al Doghan et al., 2022). Furthermore, the research of Roscoe et al. (2019) and Faezah et al. (2024) stress the positive connection of HRM with a supportive GC. Shah and Soomro (2023) and Soomro and Shah (2019) recommend the substantial influence of green HRM practices on green innovation, behaviour, commitment, and performance. Moreover, Prakosa and Wajdi (2024) predict the robust contribution of GC and green transformational leadership in fostering green employee behaviour.

Consequently, green HRM positively predicts GC in diverse sectors rather than the Egyptian SMEs. Thus, we developed the next hypothesis:

H2: Green HRM positively and significantly predicts Egyptian SMEs' green culture.

2.6. Green culture and operational performance

Green culture works as a robust and substantial analyst of OP. These associations are extensively investigated and confirmed by the domain literature. In this way, the study of Sharma et al. (2021) confirms the positive effect of GC, innovation, and employee commitment on performance and sustainability goals. Likewise, Fok et al. (2023) highlighted the role of total quality management and GC in improving the link between green practices and sustainability performance. Another empirical analysis confirmed the positive connection between GC, innovation, and EP (Imran & Jingzu, 2022). In the assessment of Abbas and Khan (2023), there is an interaction between GC and green knowledge management, emphasizing their effect on performance and green innovation. In SMEs, green organizational culture positively predicts performance (Okechukwu et al., 2023). Finally, Anggoro et al. (2024) underlined the prominence of leadership and GC in driving green initiatives, particularly in the context of intelligent campus transformations.

As a result, GC generates novel ideas which help nurture an enormous OP, ultimately enhancing the organization's long-term sustainability. Therefore, the investigation is of utmost importance in confirming the role of GC towards OP in Egyptian SMEs. This emphasis on the Egyptian business environment highlights the significance of the research:

H3: Green culture positively and significantly predicts Egyptian SMEs' operational performance.

2.7. Green culture as mediator

Green culture, as a crucial factor, directly and indirectly influences organizational performance. As Aggarwal and Agarwala (2023) suggest, GC acts as a mediator, strengthening the links between green HRM and EP. Similarly, Muisyo et al. (2022) highlight the positive mediating effect of GC between green HRM and the green competitive advantage of the firm. The GC also reinforces the connection between management practices and the green performance of corporations (Khalil & Muneenam, 2021). Shahzad et al. (2023) and Fang et al. (2022) further underline the mediating contribution of factors such as GC, green innovation, and employee behaviour in the association between EP and green

HRM practices. According to Pham et al. (2023), GC develops the connection between a hotel's employees' motivations and green performance. In higher education, Al-Alawneh et al. (2024) demonstrate that management support and GC play robust mediating roles in bridging the connection of green HRM with EP. More recently, Sun et al. (2024) underlined the mediating effect of organizational GC and work ethic between green training and employee green performance in the mining sector.

Consequently, the literature confirms GC's consistent association (direct and indirect) with OP and green HRM and bridges the link between OP and green HRM. This highlights the potential impact of our proposed study in confirming these associations in the context of Egyptian SMEs. Therefore, we proposed the following hypothesis:

H4: Green culture positively mediates the association between green HRM and operational performance in Egyptian SMEs.

3. RESEARCH METHODOLOGY

3.1. Survey approach and respondents

The researchers used the quantitative strategy as it is the most effective and reliable mode, providing quantitative evidence of facts (Baumberg, 2016; Pattaro et al., 2022). In the field of green HRM, GC, sustainability and OP, several scholars like Mehta and Chugan (2015), Martins et al. (2021), Gill et al. (2022), Wang et al. (2023), and Niazi et al. (2023) who adopted the same modes to finish their quantitative assessments.

Contextually, the researchers focused on Egypt's public and private health sector, which primarily focused on individuals' mental health, which is essential in its own right (Gureje & Jenkins, 2007). Egyptian public health sector enthusiasts bring positive changes by providing crucial public services. Additionally, the new system reduces the expertise of doctors and enables them to have the support of financial experts (Hassan & Sarker, 2012; Ahmed et al., 2023).

In this regard, the researchers targeted public and private sector employees working in the health sector in Egypt and are aware of green HRM practices, the organization of a greener environment and the preferment of health sector green creativities in the Egypt Vision 2030 (Khalil, 2020). The researchers adopted an online survey questionnaire to get the response from respondents. Initially, they were adequately communicated to confirm their inclination to participate in the research voluntarily. Then, they were made aware of the study's aim and objectives. Finally, the researchers collected 296 valid responses and employed these for final conclusions.

3.2. Survey tools and reliability calculation

We conducted a mini version (pilot study) to ensure the validity and reliability of the survey tool. The researchers provided a notion of reliability through Cronbach's alpha (a) reliability, which is a robust tool to ensure internal consistency among the scale items (Hair et al., 2017). In the case of this study, the researchers found overall reliability to be 0.839, where the alpha for every factor remained satisfactory (> 0.70) with excellent scores (Hair et al., 2017). Furthermore, the validity of the survey tool

is checked by experts (university professors), where researchers get physical validation and the content of the items. Thus, the trivial modifications recommended by experts. Consequently, the questionnaire is launched for large data after ensuring reliable and valid notions of the questionnaire.

3.3. Non-response bias

We ensured non-response bias (NRB) to avoid the risk and invalidity of the results. NRB limits the investigation and the consistency of the findings. To confirm the notion of NRB, we compared early responses (fifty) to the last responses (fifty). In doing so, we used three main demographic variables, i.e., *gender, age*, and *employee experience*, to assess NRB through an analysis of variance (ANOVA) statistical test. As a result, a statistically non-significant value of ANOVA suggests no significant difference between the early and last respondents. Henceforth, the results ensured a satisfactorily unbiased sample.

3.4. Measurement scales

We borrowed all the items from the domain literature. We measure the green HRM factor on six items adopted from the empirical assessment of Hsiao et al. (2014) and Shen and Benson (2016). The sample item of scale is "*My hospital provides adequate training to promote environmental management as a core organizational value.*" Likewise, we gauged the GC factor on six items borrowed from researchers, i.e., Fraj et al. (2011) and Banerjee (2002). The sample content is "*Our hospital makes a concerted effort to make every employee understand the importance of environmental preservation*". Finally, the researchers measured the OP construct by applying three items from Abbas and Hussien (2021), with sample content: "*Sustainable human resource management practices*

help the hospitals to minimize total operating costs". The researchers used a five-point Likert scale from 1 = strongly disagree to 5 = strongly agree.

4. ANALYSIS AND RESULTS

4.1. Measurement model

The SmartPLS4 is used to analyze the data. At the initial stage, the examined construct reliability where the most critical indicators of construct reliability, such as average variance extracted (AVE), loadings and composite reliability (CR), were appropriately observed. The measurement model results demonstrate the acceptance with loading scores above 0.70 (Hair et al., 2017). On the other hand, a few items did not qualify for the required values (*GHRM6, GC5*, and *GC6*) and needed to be included (see Table 1 and Figure 2). Moreover, AVE is a robust indicator of measurement, which was found to be within acceptable scores (> 0.50) (Hair et al., 2017). Another indicator of measurement (CR) also appeared with greater than 0.70 scores for all the constructs, along with Cronbach's alpha as higher than 0.70 (Hair et al., 2017) (see Table 1 and Figure 2).

Table 1. Measurement weights

Item	Loading	Cronbach's alpha (α)	AVE	CR
GC1	0.842			
GC2	0.896	0.912	0.791	0.938
GC3	0.898			
GC4	0.920			
GHRM1	0.900			
GHRM2	0.912			
GHRM3	0.923	0.933	0.790	0.949
GHRM4	0.815			
GHRM5	0.891			
OP1	0.943			
OP2	0.914	0.927	0.873	0.954
OP3	0.946			

Note: Deleted items: GHRM6, GC5, and GC6.
Source: Authors' elaboration.

Figure 2. Loadings
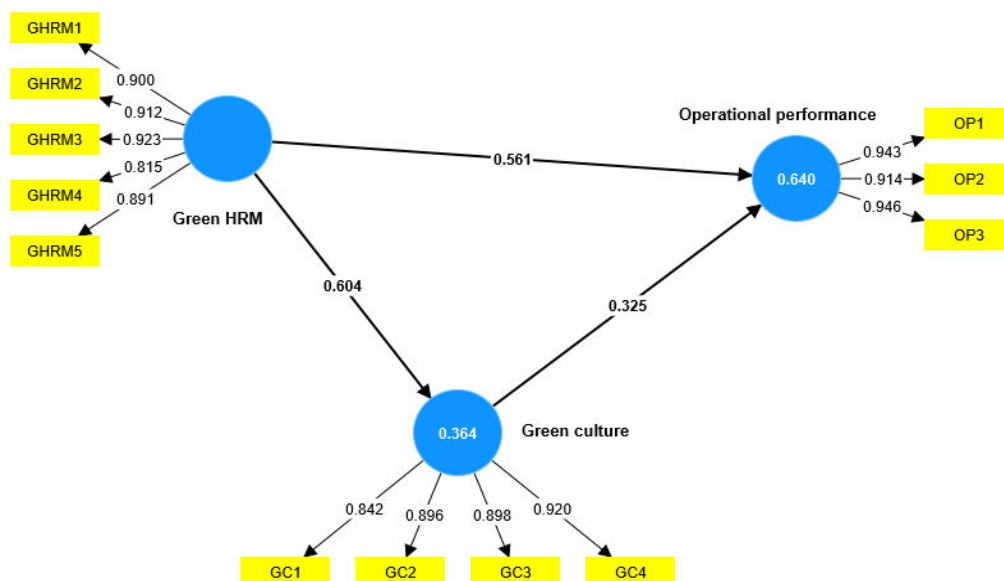
Source: Authors' elaboration.

Moreover, we applied a heterotrait-monotrait (HTMT) ratio through correlations to gauge the discriminant validity (DV) (Henseler et al., 2015). The HTMT values less than 0.85 suggest a good DV (Kline, 2016). In this way, in the present study, less than a value of 0.85 of HTMT ensured the excellent assumption of DV (Gold et al., 2001) (see Table 2).

Table 2. Heterotrait-monotrait ratio

Constructs	GC	GHRM	OP
GC			
GHRM	0.638		
OP	0.712	0.803	

Source: Authors' elaboration.

4.2. Structural model

As presented in Table 3 and Figure 3, the path estimations suggest a positive influence of green HRM on OP and GC, which accepted the proposed hypotheses [(*H1* = green HRM → OP = β = 0.561; p < 0.01) (*H2* = green HRM → GC = β = 0.604; p < 0.01)]. Moreover, the analysis also confirmed a positive predictive power of GC on OP (*H3* = GC → OP = β =0.561; p < 0.01). Subsequently, *H3* is supported. Concerning mediating effects, the mediation exploration confirmed a positive mediating impact of GC in reinforcing the connection between green HRM and OP (*H4* = green HRM → GC → OP; p < 0.01). Therefore, the final *H4* is supported.

**Table 3.** Structural equation modelling path weights

No.	Effects	Std. (β)	Mean	Std. dev.	t-value	p-value	Interpretation
H1	Green HRM → OP	0.561	0.559	0.057	9.908	0.000	Accepted
H2	Green HRM → GC	0.604	0.605	0.042	14.455	0.000	Accepted
H3	GC → OP	0.325	0.327	0.059	5.469	0.000	Accepted
H4	Green HRM → GC → OP	0.196	0.198	0.039	5.035	0.000	Accepted

*Note: * p < 0.05, ** p < 0.01, *** p < 0.001.*
Source: Authors' elaboration.

Figure 3. Structural model
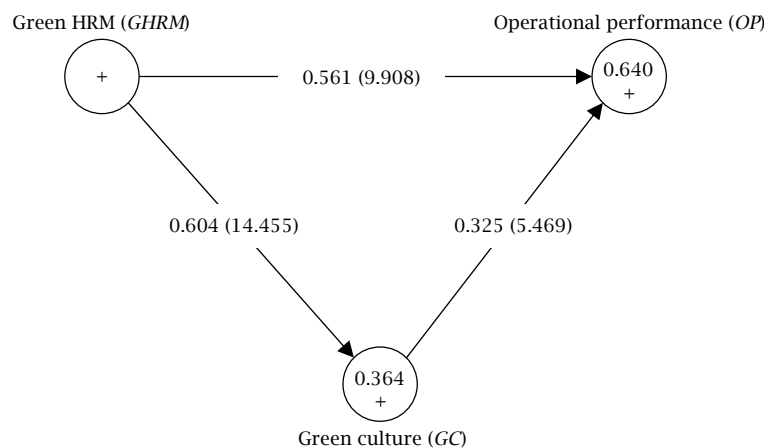
Source: Authors' elaboration.

5. DISCUSSION

The study examined the connection between green HRM and OP. The study also proposed an indirect relationship of GC among the health professionals in public and private hospitals in Egypt. The base of the study was on a robust conceptual framework developed from domain literature. The results supported the significant link between green HRM and OP. These outcomes are accorded with previous literature like Mehta and Chugan (2015), Elshaer et al. (2021), Ayyash (2021), Gill et al. (2022), and Awan et al. (2023). These results show that the Egyptian hospital's staff members are content, demonstrating that their institution provides sufficient training to support environmental control as a fundamental organizational principle. As part of performance evaluations, the institute considers how well employees are doing regarding environmental responsibility. Their organizations take personal identity-environmental management fit into account during recruiting and selection, and they link employee eco-friendly behaviour to awards and remuneration. The health sector personnel understands the scope of the company's environmental strategy. The health industry welcomes staff contributions to enhancing the environment.

In addition, the influence of green HRM on GC is positive and significant. These relationships align with previous literature suggesting a positive impact of green HRM on GC (Shah & Soomro, 2023; Roscoe et al., 2019; Ahmed et al., 2021; Muisyo et al., 2022). The results suggest that green HRM promotes GC, ultimately leading to OP. Green practices robustly develop conducive GC where employees care for their organization and create a greener culture.

Furthermore, the study ensured a positive influence of GC on OP, which is reinforced by the domain literature (Mehta & Chugan, 2015; Elshaer et al., 2021; Martins et al., 2021; Aftab et al., 2023; Wang et al., 2023; Naz et al., 2023). These findings imply that the health organization of employees makes a concentrated effort to convey the value of environmental preservation to every employee. Their group has a particular policy that encourages environmental awareness everywhere. In their organization, protecting the environment is a top concern. In our company, protecting

the environment is a critical business value. Environmental aims are connected to their other company goals via their health sector. Their firm produces goods and methods that reduce environmental effects. Lastly, the investigation confirmed a mediating development of GC in the connection between green HRM and OP among Egypt's health sector employees. GC construct provides the solutions to reinforce OP through green HRM.

6. CONCLUSION

Maintaining the performance of every organization has become a significant challenge in the present era. The health sector also confronts the massive difficulties of green initiatives and a massive and conducive environment. In this regard, the overall results of the present study contributed to the positive and significant contribution of green HRM and GC in enhancing the OP in the health sector in Egypt. Besides, GC contributes to developing a favourable environment where every employee can contribute positively to their organization.

The study offers practical and theoretical implications. Concerning practical implications, the study's findings assist policymakers and organizations in adopting environmentally sustainable HR practices to enhance employee productivity, efficiency, and engagement. Green HRM initiatives, i.e., promoting eco-friendly workplace behaviours, offering sustainability training, and encouraging resource conservation, may improve operational results by aligning employee actions with the organization's environmental goals. Besides, the findings help nurture a culture of responsibility and innovation, improve resource utilization, reduce waste, and enhance overall OP in a sector where operational efficiency is acute. The outcomes of the study support the implementation of environmentally sustainable HR practices, such as eco-friendly recruitment, training, and performance management, which bring and foster a workplace culture that values and prioritizes environmental sustainability. This can lead to intensified environmental awareness and proactive behaviours among employees, generating a more cohesive organizational effort toward sustainability goals. As employees adopt green values, they are more likely to be involved in energy conservation, waste reduction, and sustainable resource use, which enhance the organization's EP and contribute to building a more socially responsible healthcare system. Furthermore, the study's results encourage employees to embrace environmentally responsible practices, i.e., energy conservation, waste reduction, and resource efficiency; it leads to more efficient operations, reduced costs, and improved resource management. Healthcare institutions can thus influence GC to meet sustainability goals and improve overall productivity and operational outcomes. By entrenching green values into the organizational culture, leaders can create an environment where employees are motivated to align their daily work practices with eco-friendly initiatives, eventually leading to improved performance and a competitive advantage in sustainability. Finally, the study's findings assist policymakers and organizations in adopting environmentally sustainable HR practices and cultivating an organizational culture that implants green values intensely into employee behaviours and attitudes. Healthcare institutions should nurture a GC through leadership support, continuous communication, and employee engagement initiatives.

Concerning the theoretical implications, the findings of the study support and extend the resource-based view by signifying that environmentally sustainable HR practices can be a valuable, rare, and unique resource that improves OP. These contribute to the development of the green HRM framework, strengthening the idea that integrating environmental concerns into HR policies benefits the planet and expands operational outcomes. The findings of the study bridge gaps in the literature regarding the role of green HRM in sectors like healthcare, where operational efficiency is vital, and care about the notion that sustainability initiatives can be a crucial driver of both employee performance and organizational success. The result of the study reinforces the idea that HRM can play a pivotal role in determining organizational culture, encompassing theories of culture development by representing that environmentally engrossed HR practices can instil green values within an organization. It supports the notion that green HRM influences individual behaviours and drives collective cultural shifts towards sustainability. Besides, the finding contributes to institutional theory by exemplifying how formal HR practices can institutionalize environmental values, making them an integral part of the organization's identity. These findings open up further research opportunities to unveil the long-term cultural transformations by green HRM across diverse sectors and regions. Findings broaden the debate on the link between sustainability and performance. Integrating environmental values into organizational culture is not just a moral or social choice but a strategic one with tangible operational benefits. This spreads existing models of organizational culture by highlighting the central role culture plays in converting HR strategies into operational success. Furthermore, the study's theoretical contribution would fill the literature gaps by adding an integrated model with a combination of green HRM, GC, and OP, specifically in the health sector contexts of Egypt, which has yet to be explored. The study would assist the domain researchers in developing a theoretical framework where green HRM, GC, and OP constructs would provide meaningful and substantial empirical evidence. Furthermore, the mediating confirmation of GC through this study would further strengthen the theoretical worth of the study. Finally, the study would contribute to domain literature, specifically from a developing context.

The study has certain limitations as it is conducted in a developing context. The study modes were restricted to only quantitative methods focused on cross-sectional data. The study is limited to a theory, as it concentrates only on constructs rather than the theory of the domain. The study is restricted to a few constructs, such as green HRM, GC, and OP. We selected respondents from Egypt's public and private health sectors. Finally, the findings of the study are limited to 296 samples only.

In the future, we will advocate for a more inclusive research approach. This includes using mixed methods, integrating qualitative and quantitative methods, and applying longitudinal data to enrich and validate results. Future studies should also

ensure that their theoretical frameworks are aligned with the field's established theories, enhancing the study's context for a broader range of respondents. This could include individuals from the education and services sectors, among others. Finally, we recommend expanding the sample in future studies, offering a more representative view of the subject.

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