Enhancing Pro-environmental behavior through Green Human Resource Management Practices: Evidence from Ethiopian Private Hospitals

Abstract

Purpose – The main purpose of this study is to investigate the impact of green human resource management practices (GHRMP) on employees' pro-environmental behavior (PEB) by utilizing social exchange and attitude theory. It will also examine the mediating role of green commitment (GCM), the moderating role of sustainable leadership (SL), and employees' experience as a control variable.

Design/methodology/approach – Convenience sampling was utilized for data collection (N = 347) of employees of private hospitals in Addis Ababa, Ethiopia, using structured questionnaires. The collected data is analyzed using Smart-PLS 4.

Findings – The findings indicate that GHRMPs have a significant influence on PEB, moreover GHRMP significantly influences GCM. The mediating variable, GCM, has a significant influence on PEB and partially mediates the association between GHRMPs and PEB. Likewise, SL moderating the relationship between GHRMP and PEB. However, SL failed to moderate the relationship between GCM and PEB.

Originality/value – This research establishes a theoretical foundation for the private healthcare industry, highlighting the significance of GHRMPs on employees' PEB. Also, the mediating role of GCM and the moderating role of SL make valuable contributions to the healthcare literature and Sustainable Development Goal (SDG 3).

Keywords Green commitment, green human resource management, pro-environmental behavior, social exchange theory, sustainable leadership, health policy

Paper type Research paper

1. Introduction

Due to global warming, political instability, technological advancements, economic integration, and disruptions induced by human migration, the healthcare industry must adopt environmental, social, and economic sustainability to enhance sustainable development goals (Gulseven *et al*., 2020; Khorram-Manesh, 2023; Ranjbari *et al*., 2021; Xu *et al*., 2022). These practices enable healthcare organizations to be environmentally friendly. Academic studies have given significant attention to environmental practices such as GHRMPs, GCM, and PEB because of the crucial need to reduce the impact of global warming (Nurul Alam *et al*., 2023).

Furthermore, the United Nations intends to accomplish Sustainable Development Goal 3 and establish a sustainable society by 2030 (Sheehy *et al*., 2021). Javed *et al*. (2019) revealed the private healthcare sector is vital for a nation due to the fact that it impacts both interconnected sectors and the overall environment. Water and energy, both of which have significant negative effects on society, are intricately linked to the facility of healthcare services (Hasan *et al*., 2024).

There is a research gap regarding GHRMPs in the healthcare context. Garavan *et al*. (2023) claimed that research has not extensively examined employees` perceptions of GHRMPs. Likewise, further study is required to investigate the mediating role through which the adoption of GHRMPs influences employee outcomes (Ahmad *et al*., 2023). Besides, prior research endeavors have primarily concentrated on industries such as hospitality (Pham *et al*., 2022; Luu, 2023) and manufacturing (Le and Tham, 2024), while giving little attention to the healthcare sector. Moreover, while most of the present study focuses on the manufacturing and hospitality sectors, Gupta & Kaur (2024), Nurul Alam *et al*. (2023), and Sachdeva *et al*. (2024) suggest that future researches should explore the potential applications of GHRMPs and green employee behavior in other industries. Also, Iqbal *et al*. (2020) and Zafar and Suseno (2024), suggested future research to incorporate SL as a moderating variable the association between GHRMPs and PEB. Hence, the main purpose of the current research is to investigate the link between GHRMPs and PEB. It also aims to answer further research suggested by prior studies. Furthermore, this study investigates in detail both the indirect effect of GCM and the moderating nature of SL to determine how they affect the link between GHRMPs and PEB.

The Ethiopian healthcare context is uniquely suited for this research, due to the fact that the sustainability of healthcare in Ethiopia encounters substantial problems. Insufficient funding and

elevated out-of-pocket expenses impede the Ethiopian healthcare system, preventing numerous individuals from receiving superior healthcare treatments *(*Merga *et al*., 2022*).* This financial strain frequently results in devastating health costs for families, driving them into poverty. Ethiopia's healthcare is lacking in medical supplies, diagnostic capabilities, and healthcare personnel (Tadesse *et al*., 2021). Moreover, a select number of corporations monopolize the importation of medical equipment and supplies, restricting access to innovative medical advances (Walle *et al*., 2023). Confronting these issues necessitates a comprehensive strategy, encompassing augmented funds, enhanced healthcare systems, and optimized governmental procedures (Assefa *et al*., 2018).

Consequently, the significance of the current research lies in its practical and theoretical contribution. The current research findings provide important direction for healthcare management and personnel. Moreover, the findings of this study enable the development and execution of GHRMP initiatives, thereby strengthening environmental commitment and PEB, ultimately encouraging the sustainability and efficiency of operational activities. It is imperative for organizations to create policies that encourage ecologically conscious conduct among employees and guarantee that these policies align with sustainability goals. This research actively supports the attainment of Sustainable Development Goals (Sheehy & Farneti, 2021) in the healthcare sector by advocating for ecologically sustainable human resources practices through sustainable leadership and employee green commitment. This study also adds to the theoretical discussion on GHRMPs, GCM, SL, and PEB in the private healthcare context.

The paper's structure is as follows: After the introduction, the second section reviews related research and develops hypotheses. Section three describes the methodology. The paper's fourth section incorporates data analysis and results. Finally, section 5 consists of discussion, theoretical and management implications, limitations, and a conclusion.

2. Literature review

2.1 Theoretical framework

Prior to looking at the mediating role of green commitment (GCM) and the moderating role of sustainable leadership (SL) in the link between green human resource management practices (GHRMPs) and employees' pro-environmental behavior (PEB), it is important to look at the

theories that explain this relationship. The study uses social exchange theory (SET) and attitude theory to show how GCM and SL affect the link between GHRMPs and PEB.

The social exchange theory (SET) argues that the concept of reciprocity drives interactions between actors, where employees feel obligated to perform a certain action in response to receiving a benefit from another party (Karatepe *et al*., 2022). Arguably, when a firm provides support through GHRMPs, such as green initiatives (Paillé and Valéau, 2021), employees actively engage in these activities, expecting to receive incentives in exchange for improving their PEB. Moreover, when firms allocate resources to GHRM practices and exhibit a strong dedication to sustainability, employees are more inclined to respond by showing more GCM and support for these environmentally friendly objectives (Robertson and Barling, 2013).

The SET suggests that employees participate in relationships and interactions based on their perception of the balance between the benefits and drawbacks (Peng *et al*., 2024). In the context of green commitment, employees are more likely to engage in pro-environmental behavior if they perceive significant advantages, such as recognition, skill development opportunities, and prospects for career progression. Moreover, hospitals can encourage nurses and doctors to be more environmentally friendly by giving them access to useful information. This creates a culture that values green behavior, which leads to employees' PEB.

Furthermore, sustainable leadership (SL) significantly facilitates the exchange process by fostering a culture characterized by mutual respect and shared responsibility (Hargreaves, 2007). Organizational leaders' efforts have a crucial influence on several traditional organizational outcomes, including employee attitudes, organizational and environmental performance (Agust *et al*., 2024). Hence, sustainable leadership and green behavior might bolster the endeavor of organizations to achieve environmental sustainability.

Bull`s (1951) attitude theory emphasizes the significance of employees' positive emotional responses, such as affective commitment, in their work environment. Bull (1951) proposed the attitude theory, which provides evidence for the mediating role of GCM and the moderating effect of SL. According to this theory, firms that adopt and implement GHRMPs foster more commitment among employees toward their work environment (Pham *et al*., 2019). Furthermore, the association between green human resource management practices and PEB among nurses and doctors can be influenced by the emotional responses of employees, such as their affective commitment to their work and the leadership style of the hospital. Hospitals with SL can influence

the attitudes of employees toward pro-environmental behavior and green practices. Moreover, the attitude of leadership, particularly sustainable leadership that prioritizes green initiatives and green behavior, can impact the relationship between GHRMPs and PEB. Thus, employees` attitude has a significant influence on their green behavior, which is the outcome of leadership style and human resource practices.

2.2 Hypotheses development

2.2.1 GHRM practices and Employees' Pro-Environmental Behavior

Employees' pro-environmental behavior (PEB) is intricately associated with green human resource management (GHRM) practices (Xie *et al*., 2023). Organizations can cultivate a culture of sustainability by incorporating environmental objectives into HR practices, including green recruitment, training, and performance management (Le and Tham 2024). Moreover, GHRMPs employees to embrace eco-friendly practices, as they experience heightened engagement and job satisfaction which enhance their pro-environmental behavior. This means that employees who are satisfied with their environmental efforts are more likely to act in an environmentally friendly way.

Integrating global perspectives on GHRM practices can substantially strengthen the thoroughness of this literature review. Adekoya *et al*. (2023) indicated that GHRM practices are being implemented in several emerging economies, including Malaysia and India, where firms are incorporating environmental sustainability into their HR policies and practices. Research by Zihan *et al*. (2024) underscores the implementation of GHRMPs in Malaysian SMEs, focusing on the influence of perceived organizational green preparedness and corporate social responsibility in promoting these practices. Furthermore, Chang *et al*. (2024) looked at how GHRM practices can foster small and medium-sized businesses reach the SDGs set by the United Nations.

Furthermore, incorporating new studies on GHRMP and sustainability in healthcare settings beyond Ethiopia would expand the topic. Walsh et al. (2024) delineated that contribution of primary care to the environmental footprint of healthcare and provides options for mitigating its carbon impact. A study by Braithwaite et al. (2024) and Leal Filho et al. (2024) emphasized the necessity for a transformative shift towards an environmentally sustainable healthcare paradigm, concentrating on the use of renewable energy sources and the enhancement of energy efficiency in healthcare facilities. These contemporary global perspectives will enhance the theoretical

framework of this research, yielding a more thorough comprehension of GHRMP and sustainability in healthcare environments.

Regarding GHRMPs, the strategy, which includes significant aspects such as green evaluation and reward, green training, and green selection and recruiting, has attracted considerable academic interest (Khan *et al*., 2020). Green selection and recruiting refer to the deliberate process of selecting candidates based on their compatibility with a company's environmental principles (Kuo *et al*., 2022). Furthermore, according to Mwita (2019), green training refers to the process of providing employees with the necessary skills and knowledge to reduce environmental pollution. Finally, the concept of green assessment and incentives entails evaluating and incentivizing aspects that align with a company's environmental objectives (Saeed *et al*., 2019).

According to Blau`s (1964) SET, employees feel obligated to reciprocate a company's commitment to investing in and acknowledging their environmentally friendly initiatives. The implementation of GHRMPs by the organization serves as an effective means of signaling its values, thereby fostering employee motivation to actively contribute towards the organization's objectives (Al-Sabi *et al*., 2024). Likewise, prior researches have established a significant association between GHRMPs and employees' PEB (Al-Sabi *et al*., 2024; Nurul Alam *et al*., 2023). Thus, the following hypothesis is constructed:

H1: GHRMPs has a positive and significant influence on employee`s PEB

2.2.2 GHRMP and Green commitment

Green human resource management (GHRM) practices are essential in cultivating environmental commitment among employees (Thenmozhi *et al*., 2021). By incorporating environmental sustainability into HR practices, including recruitment, training, and performance management, hospitals can foster a culture that emphasizes and prioritizes environmental responsibility. This, in turn, bolsters employees' dedication to environmentally sustainable activities, as they see a greater alignment with the organization's sustainability objectives. According to AlKetbi and Rice (2024) GHRM practices enhance employees' ecological attitudes and behaviors, resulting in increased organizational commitment to environmental sustainability.

Utilizing social exchange and attitude theory (Blau, 1964), this paper elucidates the direct relationship between GHRMPs and GCM. Private healthcare staffs, upon acknowledging specific

advantages from their management activities, will develop GCM (Hameed *et al*., 2020). Therefore, the attitude of employees has vital role in improving an effective GHRM strategy, and the level of environmental commitment (Saeed *et al*., 2019).

Prior research by Khan *et al*. (2022) and Le and Tham (2024) revealed that there is a significant association between GHRMP and green concepts at the individual level. Irani *et al*. (2022) argued that the impact of GHRMPs on employees' environmental commitment is inconsistent. Some studies have demonstrated a feeble correlation between GHRMP and employees' GCM (Paillé and Valéau, 2021; Pham *et al*., 2019). Hence, this contradictory finding implies the need for further research. Thus, we have hypothesized that:

H2: GHRMPs has positive and significant influence on employees' GCM.

2.2.3 Green commitment and Pro- environmental behavior

Green commitment and pro-environmental behavior are closely intertwined, as employees who are committed to their organization's environmental goals are more likely to engage in behaviors that support sustainability (Lee *et al*., 2023). Research indicates that green commitment positively affects pro-environmental behavior, as employees with a strong feeling of responsibility for environmental sustainability are more inclined to engage in eco-friendly actions (Naz *et al*., 2023). This link is frequently influenced by factors such as organizational support, environmental awareness, and a favorable green work environment, which further motivate nurses and doctors to engage in pro-environmental actions. Consequently, cultivating a GCM within a business can engender a more ecologically aware workforce and advance sustainability objectives.

Current firms have adopted the practice of incorporating environmentally friendly efforts into their policies (Tabesh *et al*., 2024). These initiatives include promoting energy-efficient air conditioners, telecommuting, and telemedicine (Rahman *et al*. 2012). Employees' dedication to the environment stems from their tendency to collaboratively address and prioritize the organization's environmental concerns (Noor Faezah *et al*., 2024). Han and Hyun (2017) argued that employees' commitment to environmental sustainability can influence their propensity to engage in basic environmental actions, such as PEB. Prior research carried out by Nurul Alam et al. (2023) revealed a notable link between GCM and PEB. Thus, we have hypothesized that:

H3: GCM has a positive and significant influence on employees' PEB.

2.2.4 The mediating role of green commitment

GCM refers to employees' attempts to demonstrate their worth to a firm by exhibiting sustainable behavioral traits toward environmental concerns (Nawangsari *et al*., 2023). The mediating role of green commitment is essential in the association between GHRM practices and PEB (Perez *et al*., 2023). GHRM practices, including eco-friendly recruitment, training, and performance evaluation, cultivate a culture of environmental accountability with in the firm. This culture fosters employees' environmental commitment, thereby encouraging them to participate in pro-environmental practices. This means that employees who are committed to their company's environmental goals are more likely to do activities that are good for the environment (Khan *et al*., 2022). Consequently, promoting environmental commitment through efficient GHRM practices can substantially improve employees' pro-environmental behaviors.

A study in the areas of HRM posited that the implementation of GHRMPs has an impact on employees' PEB through GCM (Saeed *et al*., 2019). Furthermore, according to Bull (1951), attitude theory also reveals the significance of workers' positive emotional reactions, such as affective commitment to green behavior. In addition, Al-Sabi *et al*. (2024) proposed that future studies incorporate GCM into the association between strategic HRM techniques and employee performance. Khan *et al*. (2022) conducted previous research that revealed a notable mediation role for GCM in the link between GHRMPs and PEB. Hence, it leads to the following hypothesis:
H4: GCM significantly mediate relationship between GHRM practices and PEB.

2.2.5 The moderating role of sustainable leadership

Sustainable leadership (SL) is characterized by essential attributes including the synchronization of a shared vision, cultivation of employee support, and establishment of an ethical work environment (Iqbal *et al*., 2020). This approach takes into account the interests and viewpoints of various stakeholders within the organization regarding sustainability matters. SL include complex interactions between people, the natural environment, and global needs (Burawat, 2019). This method emphasizes the organization's commitment to society's welfare by taking into account social values and achieving enduring success through strategic decision-making and ecological conservation (Elkington and Heitz 2014; Burawat, 2019). The literature used the interchangeable terms sustainability, sustainable leadership, green leadership, green management, and environmental leadership to establish a link between leadership and sustainable practices (Cosby 2014). Achieving sustainable leadership is a paramount concern for several players in the current green economy, such as organizations and government agencies.

Previous study by Haldorai *et al*. (2022) revealed a lack of consistency in the association between GHRMPs and the environmentally friendly actions of employees. Moreover, research suggests that GHRMPs promote employees' green behavior (Fawehinmi *et al*., 2020). Furthermore, Zafar and Suseno (2024) suggested incorporating SL as a moderating variable the association between GHRMPs and PEB. Accordingly, the following hypotheses are proposed.

H5: SL has the moderating role the relationship between GCM and PEB

H6: SL has the moderating role the relationship between GHRMP and PEB

2.2.6 *Control variable*

The employee experience as a control variable markedly affects pro-environmental behavior in hospitals. Favorable employee experiences, defined by supportive work environments, and chances for professional development, can bolster employees' commitment to environmental sustainability (Tian *et al*., 2020). When employees see their value and engagement, they are more inclined to embrace and advocate for pro-environmental behaviors, including waste reduction, energy conservation, and adherence to eco-friendly policies. This means that creating a supportive and interesting workplace is important for promoting sustainability in healthcare settings.

Employee experience is one of the individual-level factors that might impact green-related behavior in firms (Aljarah, 2020). As a sociodemographic factor, controlling employees' years of experience can affect cognitive processes (Li *et al*., 2020). Researchers have advanced the argument that when employees get more experience, they develop greater creativity (Zhang *et al*., 2020), which can impact their performance of green work. Hence, the current research used employees' experience as control variable.

[Insert Figure 1 here]

3. Methodology

3.1 Study procedures and sample

The current research collected data from employees (nurses and doctors) of private hospitals located in Addis Ababa, Ethiopia. The primary reason for undertaking this research in Ethiopia is the need for substantial attention to the country's healthcare sector, given its status as the second-most populated in Africa and the presence of internal and regional instability (Tessema *et al*., 2024; Utino *et al*., 2023). The research approach was cross-sectional. Self – administered questionnaires

with an attached consent form were distributed, to doctors and nurses, using convenience sampling method.

The study focused on private hospitals due to their supervisor sustainability practices compared to public hospitals in Ethiopia`s healthcare industry. To avoid convenience sampling bias, data is collected from all departments in the hospitals to make it more inclusive. Doctors and Nurses were chosen for this study due to their vital responsibilities in healthcare delivery, where their behaviors attitude, and practices can profoundly influence patient outcomes. This includes treatment efficacy, patient satisfaction, and compliance with medical guidelines. Moreover, their responses can elucidate patterns and trends that guide evidence-based practices and policy formulation. Convenience sampling bias was mitigated by incorporating a balanced number of doctors and nurses on duty during the data collection process from each department (Christensen *et al*., 2014; Teimouri *et al*., 2018).

Determination of the required sample size for non-probability sampling and unknown populations presents a challenge in accurately estimating the overall population. In light of this, Cochran (1977) suggested a sample size of 384 with a margin of error of 5% and a confidence level of 95%. Hence, we distributed 450 questionnaires to employees of private hospitals in Addis Ababa with informed consent forms. Consequently, ethical principles are adhered to and 347 responses were received, resulting in a response rate of 77.1%. Tabachnick and Fidell (2007) revealed that a sample size of 300 or more is ideal for a study using the SEM framework. Consequently, our data is adequate for this study.

Finally, for data analysis Smart-PLS version 4 employed partial least squares structural equation modeling (PLS-SEM) to investigate the relationship among research constructs (Hair et al., 2021). Partial Least Squares Structural Equation Modeling (PLS-SEM) is a great method for this study because it can work with small sample sizes and make accurate predictions, especially when looking at research models with many constructs, mediator and moderator (Willaby et al., 2015). Additionally, PLS-SEM offers the advantage of simultaneously assessing both the measurement and structural model results (Jattamart and Kwangsawad, 2021). Thus, we can assert that PLS-SEM was the most appropriate instrument for this study.

3.2 Measure

A five-point Likert scale: ``1 - strongly disagree``, ``2 – disagree``, ``3 – neutral``, ``4 – agree``, and ```5 - strongly agree` is used for this study. This study assessed GHRMP using a 12-item that included four items for green selection and recruitment (GSR) and three items for green training and development (GTD) adapted from Khan *et al*. (2021), as well as five items for green assessment and rewards (GARs) adapted from Khan *et al*. (2021). Furthermore, green commitment (GCM) was measured using seven questions adapted from Afsar and Umrani (2020). PEB was assessed using six items adapted from Robertson and Barling (2013) and current study used the modified seven pillars of sustainable leadership questionnaire (SLQ) proposed by Slankis (2006). Furthermore, Al-Zawahreh *et al*. (2019) employed the identical questionnaire in their research. 4. 4. Data analysis and Results

4.1 Demographic information

Table I indicates a fairly gender distribution with males (n = 179) and females (n = 168), which is 51.6% males and 48.4% females. The 31-40 age group predominates (n=134), comprising 38.6% of the participants, while the 41-50 age range (n=97) with 28%. The majority of participants are nurses (n = 254), with 73.2%, while doctors (n = 93) constitute the remaining 26.8%. The majority have 11–15 years of expertise (n = 125), which is 36%, and over 20 years of experience (n = 20), with 5.8%. A substantial percentage of individuals have a bachelor's degree (n = 148) with 42.7%, while those with master's (n = 96) and doctoral degrees (n = 98) represent 27.7% and 28.2%, respectively. A smaller percentage of individuals hold a diploma degree (n = 5), accounting for 5.4% of the total. This profile depicts a workforce that is mostly youthful to middle-aged, well-educated, and experienced, primarily consisting of nurses.

[Insert Table I here]

4.2 Common method bias (CMB)

Research hypotheses were evaluated using numerical data, so it's crucial to check for data bias. Moreover, a survey raises the potential for CMB to influence the data. Nevertheless, Harman's single factor analysis (Podsakoff *et al*., 2012) effectively addresses this problem. Podsakoff *et al*. (2012) states that the first construct in Harman analysis should explain less than 50% of the variance. So, the results indicate that the initial unrotated components reported 31% of the variance, proving that there was no bias in the data.

4.3 Hypotheses testing

4.3.1 Assessing measurement model.

We initially evaluated the factor loadings, Cronbach's alpha (CA), and composite reliability (CR) in order to determine the convergent validity of the measurement model. Each item demonstrated factor loading, CR, and CA values over 0.7, as suggested by Hair *et al*. (2021). When all the average variance extracted (AVE) values exceed 0.5, it indicates that the convergent item-construct structure is sufficiently robust (Hair *et al*., 2017; Tessema *et al*., 2024). However, GCM 7, PEB 6, SL 3, and SL 5 items are delated because their Cronbach's alpha is less than the threshold level. Thus, there are no convergent validity concerns as presented in Table II.

[Insert Table II here]

4.3.2 Discriminant validity.

Second, Table III shows that AVE is higher than the interconstructed association for each concept (Fornell & Larcker, 1981). In response to specific objections of the Fornell-Larcker (1981) criterion, Henseler et al. (2015) introduced the Hetrotrait-Monotrait (HTMT) correlation ratio. The HTMT ratio criteria specified in Table III lead Henseler *et al*. (2015) to suggest values below 0.9. Hence, there is no problem of discriminant validity.

[Insert Table III here]

4.3.3 Collinearity statistics

Finally, we conducted an assessment of multicollinearity by computing the variance inflation factor (VIF) and reporting the findings in Table II above. VIF values below 3.3 suggest the lack of multi-collinearity (Knock and Lynn, 2012). Thus, our data has no multicollinearity issues.

4.4 Assessing structural model

A path coefficient, t-statistics, p-values, the coefficient of determination (R^2), the blindfolding-based cross-verified redundancy measure (Q^2), model fit, and a bootstrapping procedure with 5,000 re-samplings for hypothesis testing are some of the things that the structural model gives us. Table IV summarizes the structural model's findings.

First, all direct influence of the predictor on the dependent variable was examined (Refer Table IV and Figure 2). The finding of hypothesis one indicates that GHRMPs positively and significantly influence PEB (H1: $\beta = 0.427$, $t = 8.442^{***}$, $p < 0.05$). Furthermore, the result of hypothesis two shows that GHRMPs positively and significantly influences GCM (H2: $\beta = 0.462$, $t = 9.048^{***}$, $p < 0.05$). Also, hypothesis three revealed that GCM has a significant and positive influence on PEB (H3: $\beta = 0.257$, $t = 3.891^{***}$, $p < 0.05$). Moreover, the GCM was said to partially mediate the path (GHRMP → GCM → PEB) with the value of (H4: $\beta = 0.119$, $t = 3.404^{***}$, $p < 0.05$). As shown in Hypothesis 5, SL does not moderate the relationship between GCM and PEB (SL x GCM → PEB), as shown by (H5: $\beta = -0.146$, $t = 2.625^{**}$, $p < 0.01$). The sixth hypothesis, H6, found a significant link between SL and GHRMP and PEB. This means that SL acted as a moderator in this relationship (H6: $\beta = 0.097$, $t = 1.847^{**}$, $p < 0.01$). The statistical findings indicated that the employees' years of experience, when used as a control variable, had a notable confounding impact on PEB (Years of experience → PEB: $\beta = 0.085$, $t = 2.146^{**}$, $p < 0.01$).

Second, model fit was evaluated and determined using the values of R^2 (see Table IV). The R^2 value showed that GHRMP and GCM can explain 39.8% of the variation in PEB. The R^2 value between GHRMP and PEB is 39.8% and between GHRMP and GCM is 21.3%.

Third, Table IV calculates the Q^2 value to assess predictive accuracy (Geisser, 1974). We recommend that Q^2values be greater than zero to ensure the prediction accuracy of the structural model for a particular endogenous construct (Geisser, 1974; Stone, 1974). The results revealed that the Q^2 values for GCM (0.208) and PEB (0.299) achieved the structural model's high predictive relevance.

Finally, following predictive relevance, model fit analysis was conducted. The model fit was assessed using SRMR and NFI, with SRMR threshold values less than 0.08 and NFI threshold values between 0 and 1 (Goretzko *et al*., 2024). As a result, the study model has a statistical fit (SRMR = 0.032; NFI = 0.977). (Refer to Table IV).

[Insert Table IV here]

[Insert Figure 2 here]

5. Discussion

The current research examines the influence of GHRMP on PEB directly and indirectly through the mediation role of GCM and the moderating role of SL in Ethiopia's private healthcare, utilizing social exchange and attitude theory.

Hypothesis 1 anticipated a positive and significant influence of GHRMPs on PEB. The results supported this hypothesis implying that hospitals with GHRMPs can foster employees` PEB, which is aligned with the findings of Al-Sabi *et al*. (2024) and Nurul Alam *et al*. (2023).

Hypothesis 2 suggested a positive and significant influence of GHRMPs on GCM. The results showed that healthcare organizations with GHRMPs enhance employees' GCM. Prior research by Khan *et al*. (2022) also supports the findings of H2, which demonstrate the influence of GHRMPs on GCM.

Furthermore, the results confirm Hypothesis 3, indicating that GCM plays a crucial role in enhancing PEB within the private healthcare sector. The result is consistent with an earlier study by Nurul Alam *et al*. (2023), which showed that committed employees are interested in PEB and want to implement environmentally friendly practices.

Moreover, GCM's indirect effect was found to be significant and thus supported Hypothesis 4. This result aligns with an earlier study by Al-Sabi *et al*. (2024) and Khan *et al*. (2022), which found that GRHMPs significantly influence employees' GCM and that environmental commitment enhances employees' overall PEB.

The fifth hypothesis examines how SL moderating the link between GCM and PEB. The t-value and p-value indicate that this conclusion is statistically significant, but this article rejects it because the results show a stronger relationship when reducing the amount of SL. Gardner *et al*. (2017) found that the moderating effect of SL the association between GCM and PEB exhibits a suppressive interaction effect, implying a reduction in its effects. Organizational studies frequently observe results of this nature (Gardner *et al*., 2017). This data illustrates that the use of GCM by private hospitals is foreseeable; these approaches resulted in a rise in PEB only among staff with low SL skill but not among their colleagues with high SL. Hence, the results of this investigation contradict social exchange theory.

Hypothesis 6 proposed that SL moderates the association between GHRMP and PEB. Zafar and Suseno (2024) suggested incorporating SL as a moderating variable in the link between GHRM practices and employees' PEB. Our research findings are consistent with SET. Thus, H6 is

supported. Finally, controlling variable was evaluated, which is employee experience, and our research revealed that employee experience has a significant influence on PEB, which is consistent with Zhang *et al*. (2020). The result of our study implies that years of experience can foster green behavior among the employees in the healthcare sector.

A comparative examination with similar research in diverse global healthcare systems would augment the study's findings. Countries such as the United Kingdom and Germany, possessing more sophisticated healthcare infrastructures, have implemented GHRM practices. These methods typically encompass eco-friendly training, sustainable performance management, and employee involvement in sustainability efforts. Analyzing the results of GHRM techniques in these nations alongside those in Ethiopian private hospitals may uncover shared issues and successful strategies.

Moreover, juxtaposing the study's results with studies from other developing nations could provide a more refined comprehension of GHRM implementation in similar settings. India and South Africa may offer significant relations regarding resource limitations and organizational culture. Thus, based on this, the research can offer more thorough recommendations for private hospitals in Ethiopia. It can also enhance the global dialogue on sustainable healthcare practices, providing contextually pertinent views and global awareness.

5.1 Theoretical implications

The present study makes a valuable contribution to the existing body of knowledge on GHRMPs and PEB through multiple avenues. The study's findings support and contribute to the SET and attitude theory. Moreover, this study introduces a novel approach by integrating GCM and SL into an existing GHRMPs and PEB model in private hospitals in emerging economies. Furthermore, the utilization of this study in private hospitals within emerging economies enhances its originality. The result of this research answers the call made by prior researchers and contributes to the literature of healthcare by filling the gap regarding the application of GHRMPs and PEB in the healthcare industry of the emerging economy.

The current research also has a significant theoretical contribution to the GHRMPs in the healthcare sector, utilizing the dual academic paradigms of social exchange and attitude theory. The theoretical ramifications of augmenting pro-environmental behavior via GHRM practices in Ethiopian private hospitals underscore the necessity of incorporating sustainability into human

resource strategies. By implementing GHRM practices such as eco-friendly recruitment, training, and performance monitoring, hospitals may cultivate a culture of environmental accountability among staff.

Furthermore, the present research contributes to the existing body of knowledge by incorporating GSE as a moderator and GCM mediator in the association between GHRMPs and PEB. This addresses a gap in knowledge identified by previous studies. Furthermore, previous scholars such as Gupta and Kaur (2024) and Sachdeva *et al*. (2024) suggested that future researches explore the generalizability of GHRMPs across various sectors. Moreover, Al-Sabi *et al*. (2024) recommended that future research should include GCM in the analysis of the relationship between GHRMPs and PEB. Likewise, Zafar and Suseno (2024) proposed using SL as a moderating variable in the association between GHRMPs and employees' PEB. Hence, the current study answers calls made for additional research and add knowledge to the body of literature.

5.2 Practical implications

First, the current research has practical implications for healthcare administrators and staff who wish to adopt PEB and establish GHRMPs to foster green behavior within the organization. This paper carries significant managerial implications. The practical implication of augmenting pro-environmental behavior and GHRMPs in Ethiopian private hospitals are substantial. Through the implementation of GHRM practices, including eco-friendly recruitment, training, and performance management, hospitals may cultivate a more ecologically aware workforce. This not only results in enhanced sustainability practices inside the organization but also improves the overall quality of healthcare service.

Second, this research illustrates the need for implementing GHRMPs and effective green behavior in private hospitals to guarantee GCM and PEB. Employing personnel committed to environmental consciousness will aid healthcare organizations in achieving their green plan. Employees who prioritize sustainability are more likely to dispose of waste properly, switch off lights, when necessary, use recyclable products, and minimize waste production.

Third, managers and human resource professionals must establish transparent and effective communication channels in order to promote employee engagement in the organization's environmental goals and encourage innovative environmentally sustainable solutions.

Implementing tools like green group discussions and online group functions can facilitate instant collaboration among employees, allowing them to share their thoughts.

Fourth, Policy suggestions must emphasize the incorporation of environmental sustainability into all facets of HR management. This entails formulating green recruitment policies that prioritize candidates with a robust environmental ethos, offering ongoing green training programs to augment employees' environmental awareness and competencies, and instituting green performance management systems that acknowledge and reward eco-friendly behaviors. Furthermore, hospitals want to promote active employee engagement in environmental activities, including waste reduction programs and energy conservation efforts.

5.3 Limitations and future recommendations

In spite of the establishment of substantial assumptions, the current research should not overlook certain limitations. An intrinsic limitation of the cross-sectional study is its vulnerability to bias. A primary drawback of cross-sectional studies is collection of data at a singular moment, which complicates the establishment of causal links. Furthermore, cross-sectional research may be susceptible to recall bias, as individuals might not precisely recollect past behaviors. This constraint may compromise the trustworthiness of the obtained data and the validity of the study's conclusions. Thus, elaborating on the potential limitations of the cross-sectional design and considering longitudinal approaches for future research would add methodological rigor.

GHRMPs will vary across sectors and countries, as well as between developed and emerging economies. As a result, the conclusions of the current study have limited generalizability due to our exclusive focus on one sector (i.e., private healthcare) within a particular region (i.e., Ethiopia). Further studies should aim to validate the conclusions of the present study across various industries and cultural contexts. Moreover, the current study explored the mediation and moderation paradigm by establishing a link between GHRMPs and PEB. To enhance the explanatory capacity of the existing research model, we recommend analyzing the theoretical mediators of corporate social responsibility and green autonomy.

Furthermore, organizations that embrace sustainable leadership practices can enjoy several advantages. These advantages mostly revolve around safeguarding the natural environment's resources and optimizing resource and energy consumption. Examples of such principles include

pollution mitigation, effective water and energy utilization, the adoption of renewable energy sources, recycling procedure implementation and expense reduction (Suriyankietkaew & Avery 2016). Therefore, managers in the private healthcare sector should prioritize SL.

To strengthen the originality of this research on promoting pro-environmental behavior through GHRM practices in Ethiopian private hospitals, comparative studies with similar situations in other nations and sectors is suggested. For example, examining the application of GHRM practices in private hospitals in nations such as Malaysia and India, which face comparable socio-economic and environmental difficulties. Furthermore, examining GHRM approaches in different areas of healthcare, like public hospitals in Ethiopia or other African countries, might give us a better idea of how GHRMPs used in different business settings.

5.4 Conclusion

In Ethiopia`s private healthcare sector, the current research found a structural relationship between GHRMPs and employees` PEB. It also empirically investigated mediating role of GCM, as well as SL moderating role and the control variable's year of experience. The current research revealed a significant association between GHRMPs and PEB, both directly and indirectly, as well as through the moderating role of SL. The current study enhances social exchange and attitude theories to theoretically support research model. Therefore, it is imperative for healthcare industry managers and supervisors to optimize the application of all aspects of GHRM practices within their organization. Moreover, the results of this research support managers in constructing a strategic vision for long-term development based on sustainable growth, which is of utmost importance for private hospitals, particularly in countries like Ethiopia that are currently grappling with regional and internal instability.

Moreover, improving pro-environmental behavior through GHRM practices in Ethiopian private hospitals illustrates the significant effect of incorporating sustainability into HR policies. By using GHRM strategies like green hiring, training, and performance management, hospitals may create a culture of environmental accountability, which could lead to a big increase in staff members' actions that are beneficial for the environment. This enhances the organization's sustainability practices and improves healthcare delivery and patient outcomes.

References

Adekoya, O. D., Mordi, C., & Ajonbadi, H. A. (Eds.). (2023). *Global Perspectives on Green HRM: Highlighting Practices Across the World*. Springer Nature.

Afsar, B., & Umrani, W. A. (2020). Corporate social responsibility and pro-environmental behavior at workplace: The role of moral reflectiveness, coworker advocacy, and environmental commitment. *Corporate Social Responsibility and Environmental Management*, Vol. *27 No.*1, pp. 109-125.

Agustí, M. A., Aguilar-Caro, R., Galán, J. L., & Acedo, F. J. (2024). Dynamic resource management and slack resources. *Management Decision*, Vol. *62*, No.13, pp. 223-242.

Ahmad, F., Hossain, M. B., Mustafa, K., Ejaz, F., Khawaja, K. F., & Dunay, A. (2023). Green HRM practices and knowledge sharing improve environmental performance by raising employee commitment to the environment. *Sustainability*, Vol. *15*, *No.*6, 5040.

Aljarah, A. (2020). The nexus between corporate social responsibility and target-based customer citizenship behavior. Journal of Sustainable Tourism, Vol. 28, No.12, pp. 2044–2063.

AlKetbi, A., & Rice, J. (2024). The Impact of Green Human Resource Management Practices on Employees, Clients, and Organizational Performance: A Literature Review. *Administrative Sciences*, *14*(4), 78.

Al-Sabi, S. M., Al-Ababneh, M. M., Al Qsssem, A. H., Afaneh, J. A. A., & Elshaer, I. A. (2024). Green human resource management practices and environmental performance: the mediating role of job satisfaction and pro-environmental behavior. *Cogent Business & Management*, Vol. *11*, No. 1, 2328316.

Al-Zawahreh, A., Khasawneh, S., & Al-Jaradat, M. (2019). Green management practices in higher education: The status of sustainable leadership. *Tertiary Education and Management*, Vol. No. *25*, pp. 53-63.

Assefa, Y., Tesfaye, D., Van Damme, W., & Hill, P. S. (2018). Effectiveness and sustainability of a diagonal investment approach to strengthen the primary health-care system in Ethiopia. *The Lancet*, *392*(10156), 1473-1481.

Bull, N. (1951). The attitude theory of emotion.

Blau, P. (1964) Exchange and power in social life (New York: Wiley) Vol.2, p.372

Braithwaite, J., Smith, C. L., Leask, E., Wijekulasuriya, S., Brooke-Cowden, K., Fisher, G., ... & Zurynski, Y. (2024). Strategies and tactics to reduce the impact of healthcare on climate change: systematic review. *bmj*, *387*.

Burawat, P. (2019). The relationships among transformational leadership, sustainable leadership, lean manufacturing and sustainability performance in Thai SMEs manufacturing industry. *International Journal of Quality & Reliability Management*, Vol. *36, No.* 6, pp.1014-1036.

Chang, Y. Y., Chiang, F. Y., Hu, Q., & Hughes, M. (2024). From green HRM to SDG success: pathways through exploratory innovation and developmental culture. *Review of Managerial Science*, 1-31.

Chen, Y. S., Chang, C. H., & Lin, Y. H. (2014). Green transformational leadership and green performance: The mediation effects of green mindfulness and green self-efficacy. *Sustainability*, Vol. *6*, No. 10, pp. 6604-6621.

Christensen, A. I., Ekholm, O., Glümer, C., & Juel, K. (2014). Effect of survey mode on response patterns: comparison of face-to-face and self-administered modes in health surveys. *The European Journal of Public Health*, *24*(2), 327-332.

Cosby, D. (2014). Sustainability program leadership for human resource development professionals: A competency model. Journal of Organizational Culture, Communications & Conflict, Vol. 18, No. 2, pp. 79–86.

Cochran, W. G. (1977). Sampling techniques (3rd ed.). New York: John Wiley & Sons.

Elkington, J., & Heitz, J. (2014). The breakthrough challenge, 10 Ways to connect today's profits with tomorrow's bottom line. San Francisco: Jossey-Bass.

Fawehinmi, O., Yusliza, M. Y., Wan Kasim, W. Z., Mohamad, Z., & Sofian Abdul Halim, M. A. (2020). Exploring the interplay of green human resource management, employee green behavior, and personal moral norms. *Sage Open*, Vol. *10*, No. 4, 2158244020982292.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, Vol. *18, No.*1, pp. 39-50.

Gardner, R. G., Harris, T. B., Li, N., Kirkman, B. L., & Mathieu, J. E. (2017). Understanding "it depends" in organizational research: A theory-based taxonomy, review, and future research agenda concerning interactive and quadratic relationships. Organizational Research Methods, Vol. 20, No.4, pp. 610–638.

Garavan, T., Ullah, I., O'Brien, F., Darcy, C., Wisetsri, W., Afshan, G., & Mughal, Y. H. (2023). Employee perceptions of individual green HRM practices and voluntary green work behaviour: A signalling theory perspective. *Asia Pacific Journal of Human Resources*, Vol. *61*, No.1, PP. 32-56.

Geisser, S. (1974). A predictive approach to the random effect model. Biometrika, Vol. 61, No. 1, pp. 101-107.

Gulseven, O., Al Harmoodi, F., Al Falasi, M., & ALshomali, I. (2020). How the COVID-19 pandemic will affect the UN sustainable development goals?. *Available at SSRN 3592933*.

Gupta, R., & Kaur, S. (2024). A 2-1-1 multi-level perspective of understanding the relationship between green human resource management practices, green psychological climate, and green employee behavior. Corporate Social Responsibility and Environmental Management. https://doi.org/10.1002/csr.2778.

Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, Vol. *1*, No. 2, pp. 107-123.

Hair, J. F., Astrachan, C. B., Moisescu, O. I., Radomir, L., Sarstedt, M., Vaithilingam, S., & Ringle, C. M. (2021). Executing and interpreting applications of PLS-SEM: Updates for family business researchers. *Journal of Family Business Strategy*, Vol. *12*, No. 3, pp. 100392.

Haldorai, K., Kim, W. G., & Garcia, R. F. (2022). Top management green commitment and green intellectual capital as enablers of hotel environmental performance: The mediating role of green human resource management. *Tourism Management*, Vol. *88*, 104431.

Hameed, Z., Khan, I. U., Islam, T., Sheikh, Z., & Naeem, R. M. (2020). Do green HRM practices influence employees' environmental performance? *International Journal of Manpower*, Vol. *41*, No.7, pp. 1061-1079.

Han, H., & Hyun, S. S. (2017). Drivers of customer decision to visit an environmentally responsible museum: Merging the theory of planned behavior and norm activation theory. *Journal of Travel & Tourism Marketing*, Vol. *34*, No. 9, pp. 1155-1168.

Hargreaves, A. (2007). Sustainable leadership and development in education: Creating the future, conserving the past. European Journal of Education, Vol. 42, No. 2, pp. 223–233.

Hasan, A., Zhang, X., Mao, D., Kashif, M., Mirza, F., & Shabbir, R. (2024). Unraveling the impact of eco-centric leadership and pro-environment behaviors in healthcare organizations: Role of green consciousness. *Journal of Cleaner Production*, Vol. *434*, 139704.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, Vol. *43*, pp. 115-135.

Iqbal, Q., Ahmad, N. H., Nasim, A., & Khan, S. A. R. (2020). A moderated-mediation analysis of psychological empowerment: Sustainable leadership and sustainable performance. *Journal of Cleaner Production*, Vol. *262*, 121429.

Irani, F., Kilic, H., & Adeshola, I. (2022). Impact of green human resource management practices on the environmental performance of green hotels. *Journal of Hospitality Marketing & Management*, Vol. *31*, No. 5, pp. 570-600.

Islam, M. N., Furuoka, F., & Idris, A. (2020). Employee championing behavior in the context of organizational change: a proposed framework for the business organizations in Bangladesh. *Journal of Asia Business Studies*, Vol. *14*, No. 5, pp. 735-757.

Jattamart, Aungkana, and Achaporn Kwangsawad. "What awareness variables are associated with motivation for changing risky behaviors to prevent recurring victims of cyberbullying?" *Heliyon* 7, no. 10 (2021).

Lambert, S. (2011). Sustainable leadership and the implication for the general further education college sector. Journal of Further and Higher Education, Vol. 35, No. 1, pp. 131–148.

Karatepe, T., Ozturen, A., Karatepe, O. M., Uner, M. M., & Kim, T. T. (2022). Management commitment to the ecological environment, green work engagement and their effects on hotel employees' green work outcomes. *International Journal of Contemporary Hospitality Management*, Vol. *34, No.* 8, pp. 3084-3112.

Khan, K., Shams, M. S., Khan, Q., Akbar, S., & Niazi, M. M. (2022). Relationship among green human resource management, green knowledge sharing, green commitment, and green behavior: A moderated mediation model. *Frontiers in Psychology*, Vol.*13*, 924492.

Khan, M. S., Ahmad, Z., & Khan, F. (2021). Impact of Green Human Resource Management Practices on Sustainable Performance: The Mediating Role of Green Climate and Green Employee Empowerment. *Turkish Online Journal of Qualitative Inquiry (TOJQI) Vol*. *12*, pp. 1381-1397.

Khan, N. U., Bhatti, M. N., Obaid, A., Sami, A., & Ullah, A. (2020). Do green human resource management practices contribute to sustainable performance in manufacturing industry? *International Journal of Environment and Sustainable Development*, Vol. *19, No.* 4, pp. 12-432.

Khorram-Manesh, A. (2023). Global transition, global risks, and the UN's sustainable development goals–A call for peace, justice, and political stability. *Global Transitions*, *5*, 90-97.

Knock, N and Lynn, G.S. (2012). Lateral Collinearity and Misleading Results in Variance-Based SEM: An Illustration and Recommendations. Journal of the Association for Information Systems, Vol. 13, No. 7, pp. 546-580.

Kuo, Y. K., Khan, T. I., Islam, S. U., Abdullah, F. Z., Pradana, M., & Kaewsaeng-On, R. (2022). Impact of green HRM practices on environmental performance: The mediating role of green innovation. *Frontiers in Psychology*, Vol. *13*, 916723.

Leal Filho, W., Luetz, J. M., Thanekar, U. D., Dinis, M. A. P., & Forrester, M. (2024). Climate-friendly healthcare: reducing the impacts of the healthcare sector on the world's climate. *Sustainability Science*, *19*(3), 1103-1109.

Lee, S. C., Huang, S. Y., Hu, L., & Chang, T. W. (2023). Why Do Employees Show Pro-Environmental Behaviors? A Perspective of Environment Social Responsibility. *Behavioral Sciences*, *13*(6), 463.

Lew, S., Tan, G. W. H., Loh, X. M., Hew, J. J., & Ooi, K. B. (2020). The disruptive mobile wallet in the hospitality industry: An extended mobile technology acceptance model. *Technology in society*, Vol. *63*, 101430.

Li, W., Bhutto, T. A., Xuhui, W., Maitlo, Q., Zafar, A. U., & Ahmed Bhutto, N. (2020). Unlocking employees' green creativity: The effects of green transformational leadership, green intrinsic, and extrinsic motivation. Journal of Cleaner Production, Vol. 255, 120229.

Luu, T. T. (2023). Reducing unethical pro-organizational behavior in the hospitality sector through socially responsible human resource practices and responsible leadership. *Journal of Sustainable Tourism*, Vol. *31*, No. 3, pp. 706-734.

Meng, J., Murad, M., Li, C., Bakhtawar, A., & Ashraf, S. F. (2022). Green lifestyle: A tie between green human resource management practices and green organizational citizenship behavior. *Sustainability*, Vol. *15*, No. 1, pp. 44.

Merga, B. T., Balis, B., Bekele, H., & Fekadu, G. (2022). Health insurance coverage in Ethiopia: financial protection in the Era of sustainable development goals (SDGs). *Health Economics Review*, *12*(1), 43.

Mwita, K. (2019). Conceptual review of green human resource management practices. *East African Journal of Social and Applied Sciences*, Vol. *1*, No. 2, pp. 13-20.

Nawangsari, l. C., Permana, D., & Halim, H. A. (2023). Promoting employee green behavior through green knowledge management, green innovation & green commitment for corporate sustainability. *The Seybold Report*, Vol. *18*, No. 108, pp. 980-993.

Naz, S., Jamshed, S., Nisar, Q. A., & Nasir, N. (2023). Green HRM, psychological green climate and pro-environmental behaviors: An efficacious drive towards environmental performance in China. *Current Psychology*, *42*(2), 1346-1361.

Noor Faezah, J., Yusliza, M. Y., Ramayah, T., Teixeira, A. A., & Alkaf, A. R. (2024). Mediating role of green culture and green commitment in implementing employee ecological behaviour. *Journal of Management Development*, Vol. *43*, No. 3, pp. 253-282.

Nurul Alam, M., Mashi, M. S., Azizan, N. A., Alotaibi, M., & Hashim, F. (2023). When and how green human resource management practices turn to employees' pro-environmental behavior of hotel employees in Nigeria: the role of employee green commitment and green self-efficacy. *Journal of Quality Assurance in Hospitality & Tourism*, 1-28. https://doi.org/10.1080/1528008X.2023.2249233.

Paillé, P., & Valéau, P. (2021). "I don't owe you, but I am committed": Does felt obligation matter on the effect of green training on employee environmental commitment? *Organization & Environment*, Vol. *34*, No. 1, pp. 123-144.

Peng, Y.; Cheng, B.; Tian, J.; Zhang, Z.; Zhou, X.; Zhou, K. How, when, and why high job performance is not always good: A three-way interaction model. J. Organ. Behav. 2024, 45, 81–96

Perez, J. A. E., Ejaz, F., & Ejaz, S. (2023). Green transformational leadership, GHRM, and proenvironmental behavior: An effectual drive to environmental performances of small-and medium-sized enterprises. *Sustainability*, *15*(5), 4537.

Pham, N. T., Tučková, Z., & Phan, Q. P. T. (2019). Greening human resource management and employee commitment toward the environment: an interaction model. *Journal of Business Economics and Management*, Vol. *20*. No. 3, pp. 446-465.

Pham, N. T., Vo-Thanh, T., & Tučková, Z. (2022). Green human resource management in hotels in developing countries: A practice-and benefits-related conceptual framework. In Environmental sustainability in emerging markets: Consumer, organisation and policy perspectives (pp. 151-176). Singapore: Springer Nature Singapore. pp. 151-176.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual review of psychology*, Vol. *63*, No. 1, pp. 539-569.

Rahman, S. H., Khanam, D., Adyel, T. M., Islam, M. S., Ahsan, M. A., & Akbor, M. A. (2012). Assessment of heavy metal contamination of agricultural soil around Dhaka Export Processing Zone (DEPZ), Bangladesh: implication of seasonal variation and indices. *Applied sciences*, Vol. *2*, No.3, pp. 584-601.

Ranjbari, M., Esfandabadi, Z. S., Zanetti, M. C., Scagnelli, S. D., Siebers, P. O., Aghbashlo, M., ... & Tabatabaei, M. (2021). Three pillars of sustainability in the wake of COVID-19: A systematic review and future research agenda for sustainable development. *Journal of cleaner production*, *297*, 126660.

Robertson, J. L., & Barling, J. (2013). Greening organizations through leaders' influence on employees' pro-environmental behaviors. *Journal of organizational behavior*, Vol. *34*, No. 2, pp. 176-194.

Sachdeva, G., Taneja, S., & Gupta, R. (2024). The mediating role of green human resource management: analyze the impact of green commitment and intellectual capital in hotel environmental performance. *Energy Efficiency*, Vol. *17*, No. 5, pp. 49.

Saeed, B. B., Afsar, B., Hafeez, S., Khan, I., Tahir, M., & Afridi, M. A. (2019). Promoting employee's pro-environmental behavior through green human resource management practices. *Corporate Social Responsibility and Environmental Management*, Vol.*26*, No. 2, pp. 424-438.

Slankis, E. (2006). Sustainable thinking, sustainable leadership-the new EQ. Leadership.

Sheehy, B., & Farneti, F. (2021). Corporate social responsibility, sustainability, sustainable development and corporate sustainability: What is the difference, and does it matter? *Sustainability*, Vol. *13*, No. 11, p. 5965.

Stone, M. (1974), "Cross-validatory choice and assessment of statistical predictions", Journal of the Royal Statistical Society, Vol. 36 No. 2, pp. 111-147.

Suriyankietkaew, S., & Avery, G. (2016). Sustainable leadership practices driving financial performance: Empirical evidence from Thai SMEs. Sustainability, Vol. 8, No. 4, pp. 1–14.

Tabesh, A. R., Chowdhury, M. M. H., Quaddus, M. A., Sianaki, O. A., & Khan, E. (2024). The influence of agility on green purchasing practices: the role of supplier governance and

supplier relationships. *Journal of Business & Industrial Marketing*, Vol.*39*, No. 9, pp. 1969-1983.

Tabachnick, B.G. and Fidell, L.S. (2007). Using Multivariate Statistics. 5th ed. Pearson Education, Inc., New York, NY, U.S.A.

Tadesse, A. W., Gurmu, K. K., Kebede, S. T., & Habtemariam, M. K. (2021). Analyzing efforts to synergize the global health agenda of universal health coverage, health security and health promotion: a case-study from Ethiopia. *Globalization and Health*, *17*(1), 53.

Teimouri, R. B., Arasli, H., Kiliç, H., & Aghaei, I. (2018). Service, politics, and engagement: A multi-level analysis. *Tourism management perspectives*, *28*, 10-19.

Tessema, D. H., Nuhu, J. A., Obeng, H. A., & Assefa, H. K. (2024). The relationship between total quality management, patient satisfaction, service quality, and trust in the healthcare sector: the case of ethiopian public hospitals. *Uluslararası Anadolu Sosyal Bilimler Dergisi*, Vol. *8*, No. 1, pp. 164-176.

Tessema, D. H., Yesilada, F., Aghaei, I., & Ahmed, J. N. (2024). Influence of perceived service quality on word-of-mouth: the mediating role of brand trust and student satisfaction. *Journal of Applied Research in Higher Education*.

Thenmozhi, S., Nirmala, E., & Bhuvaneswari, K. (2021). The Relationship Between Green Human Resource Management Activities and Corporate Commitment: An Overview. *Turkish Journal of Computer and Mathematics Education*, *12*(11), 5828-5834.

Tian, H., Zhang, J., & Li, J. (2020). The relationship between pro-environmental attitude and employee green behavior: the role of motivational states and green work climate perceptions. *Environmental Science and Pollution Research*, *27*(7), 7341-7352.

Utino, L., Birhanu, B., Getachew, N., & Ereso, B. M. (2023). Perceived quality of medical services at outpatient department of public hospitals in Dawro Zone, Southern Ethiopia. *BMC Health Services Research*, Vol. *23*, No.1, pp. 1-10.

Walle, A. D., Demsash, A. W., Adem, J. B., Wubante, S. M., Shibabaw, A. A., Mamo, D. N., ... & Ferede, T. A. (2023). Exploring facilitators and barriers of the sustainable acceptance of e-health system solutions in Ethiopia: A systematic review. *PLoS One*, *18*(8), e0287991.

Walsh, S. J., O'Leary, A., Bergin, C., Lee, S., Varley, Á., & Lynch, M. (2024). Primary healthcare's carbon footprint and sustainable strategies to mitigate its contribution: a scoping review. *BMC health services research*, *24*(1), 1630.

Willaby, H. W., Costa, D. S., Burns, B. D., MacCann, C., & Roberts, R. D. (2015). Testing complex models with small sample sizes: A historical overview and empirical demonstration of what partial least squares (PLS) can offer differential psychology. *Personality and Individual Differences*, *84*, 73-78.

Xie, J., Bhutta, Z. M., Li, D., & Andleeb, N. (2023). Green HRM practices for encouraging pro-environmental behavior among employees: the mediating influence of job satisfaction. *Environmental Science and Pollution Research*, *30*(47), 103620-103639.

Xu, L., Cherian, J., Zaheer, M., Sial, M. S., Comite, U., Cismas, L. M., ... & Oláh, J. (2022). The role of healthcare employees' pro-environmental behavior for De-carbonization: an energy conservation approach from CSR perspective. *Energies*, Vol. *15*, No. 9, pp. 3429.

Zafar, H., & Suseno, Y. (2024). Examining the Effects of Green Human Resource Management Practices, Green Psychological Climate, and Organizational Pride on Employees' Voluntary Pro-Environmental Behavior. Organization & Environment, 1086026624124153.

Zhang, W., Xu, F., & Wang, X. (2020). How green transformational leadership affects green creativity: Creative process engagement as intermediary bond and green innovation strategy as boundary spanner. Sustainability, Vol. 12, No. 9, p. 3841.

Zihan, W., Makhbul, Z. K. M., & Alam, S. S. (2024). Green human resource management in practice: Assessing the impact of readiness and corporate social responsibility on organizational change. *Sustainability*, *16*(3), 1153.