The Impact of Green Human Resource Management (GHRM) on Employees' Environment-Friendly Behavior (EEFB): A Comparative Analysis between Public and Private Universities in Egypt

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Abstract

The interface of global environmental challenges and threats like depletion of natural resources, global warming, pollution and electricity shortage reflect a new era of environmental awareness to safeguard human needs and ensure environmental sustainability within the global higher education sector (Saeed et al., 2018). The aim of this study is to align with global challenges highlighting the application of GHRM practices (Green recruitment and selection, green training, Green performance management, Green pay and rewards and green involvement and relation) on Employees' Environmentally Friendly Behavior (EFFB) in a comparative analysis between practices in public as well as private universities in Egypt. On a global level universities are in the center of promoting sustainability towards 2030 strategy however practically Egypt has been lagging in the implementation of sustainable practices of GHRM in the higher educational sector. So, the present study fills this gap by focusing on a comparative analysis between private and public sector universities in which (EFFB) can be assessed when adopting (GHRM) practices which represent an originality in theoretical level to fill the gap in literature. The research methodology is quantitative analysis using a questionnaire to collect data from the academic and administrative staff employees working in three Egyptian public and three private universities with a sample size of 421 from faculty, administrative staff and support personnel. The findings are directed towards an overall positive significance of GHRM practices on EEFB, however with a stronger impact in private universities than in public ones.

***Keywords**: GHRM, Egyptian Public Universities, Private Universities, Environmental Sustainability, Employees' Environmental-Friendly Behavior EEFB, Administrative Reform.*

Introduction

Green Human Resources Management (GHRM) is the name of the game in our world today as the traditional Human Resources Management practices are fading for a new era stemming from the dynamic changes in the 20th century. Wehrmeyer (1996) had advocated GHRM as a concept in his book titled "Green policies can help to bear fruit", then updated his studies in (2017) for a unified definition of GHRM reflecting on how to engage employees in environmental awareness to subsequently fostering sustainable practices inside the organization. Later, in further attempts to understand the concept, GHRM activities display have been coined by Bebbington (2001) to combine the regular Human Resources Management with the environmental management objectives to create more responsive employees to environmental commitment through several variables creating Human resources strategies towards the five variables of the study: Green recruitment and selection; training; performance management; pay and rewards and involvement and relations (Arora, 2021). These arms of GHRM are the buzzwords that deal not only with environmental issues but also with the development of employees' social wellness (Bhutto & Auranzeb, 2016). Thirsting to (Uddin & Islam, 2015), environmental

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management practices breaded this perspective towards a paradigm shift in administrative reforms studies in public administration field reflecting not only on the development of economic value but the psychological wellbeing of employees as well.

The strategy of 2030 supports the direction of (GHRM) in Public and Private Sector organizations. The magnitude of universities' impact on the environment is vast, as they are characterized by massive resource consumption and waste generation, therefore environmental awareness is inevitable as Bhandari and Raj (2019) described to harness the human power of management, administrative and academic staff to reflect ecological contributions in protection of the environment. According to (Muller et.al, 2010), Governments must incorporate in their strategy of both private and public sector higher education institutions the organizational values of safeguarding the institutions, and train employees to be environmentally conscious through various platforms of Green Workforce, this alleviates its positive profile and increases the intake of its students due to the benefits in the eyes of its stakeholders. For many studies, (Ralph & Stubbs, 2014 & Fissi, Romolini, Gori & Contri, 2021), public and private universities, are incorporating sustainable practices of GHRM as a booster of innovation and societal awareness towards more EEFB in the workplace which lays the groundwork tool of application by creating practices and structural changes that impact the behavior of employees. The Egyptian government efforts are enhancing the "Go-Green" initiatives and the culture of sustainability in most of its institutions especially higher education where employees are helping in delivering a generation awareness in that direction to encompass the service delivery plans and which was emphasized in issuing a law (No.22 of 2020) regulating the process of managing waste in Egypt. While in the Educational sector in June 2020, the subject of Sustainable Management of natural resources was included among the subjects for obtaining a Masters' degree. This was followed by an integrated planning system that helps in the transformation of the Egyptian economy to a green economy and emphasized in 2021 in the Launch of "Your Culture from Your Environment" program in collaboration between Environment, and Culture ministries (HRD, 2021). On the practical level, the study advances the field of research by analyzing administrative reform initiatives towards applying GHRM as one of the sustainability practices crucial for the implementation of 2030 strategy.

The implications from the reflections on higher education adoption of GHRM in Egyptian public sector universities and private universities can be generalized in future research on elementary school education. On the academic level, the study is an attempt to bridge the gap in research on the adoption of GHRM in educational public vs private sector in Egypt and highlighted the importance of aligning GHRM procedures with environmental objectives and involving employees in green initiatives inside the workplace, to promote a culture of environmentally committed behavior. Although the 2030 strategy supports the implementation of the use of GHRM practices in both the private and the public sector of Egypt to focus on employees' success and increase the productivity goal in an efficient way of use of resources, there is a still a lack of these tools in higher education which results in a lack of conceptualization of GHRM as an emerging field of management science. So, the present study fills this gap by focusing on a comparative analysis between private and public sector universities in which environmentally friendly behavior of employees -academic and administrative staff members- can be assessed when adopting GHRM practices. The study aims at highlighting a basic understanding of GHRM concepts, elaborating on GHRM impact on EEFB as a form of sustainable practices to be applied under the initiatives of reforms.

Literature Review:

Green Human Resource Management (GHRM):

Is GHRM a myth or reality? The problem is that while there is a growing need for environmental sustainability practices applying GHRM in governmental institutions of higher education as well as private ones and more commitment to environmental friendliness, on the practical level the implementation of GHRM practices lacks resources, limited training opportunities, and a low commitment to green policies. Moreover, there is a gap of study in the Egyptian higher education sector on the academic level of the effect of GHRM on employees' environmental-friendly behavior in private as well as public universities (Gaber & Fahim, 2018).

Public sector organizations in general are faced with the environmental abuse of resources and a high degree of discrepancy between target employees' green competencies and realistic competence achievement in comparison to private sector as social and psychological aspects of needs and commitment arise in both types of organizations (Almada & Borges, 2017). These in turn will create a dilemma of falling between wealth creation for some institutions and ecological protection. According to (Ren et al., 2018) working towards the goal of GHRM's employee-centered approach is crucial and it needs the help of government strategic plan towards reforming the groundwork by laying policies and structural changes to impact the behavior inside the organization. The reformed environment in turn supports the adoption of GHRM practices, which are necessary for achieving sustainability goals (Hameed, 2020). On the other hand, (Blok, 2014, Nye and Hargreaves, 2010, Cordano et al., 2010; Rioux, 2011), reflected on Psychology studies by investigating the impact of the Theory of Planned Behavior(TBL) to explain environmental behavior consistency in the workplace of several organizations on public and private sector origins. The results showed that the intention to act was the most significant factor behind employees' commitment to GHRM sustainable practices application and the strongest prediction for the employees' environmentally friendly behavior (Ajzen and Fishbein (2004). In that sense, GHRM enhances the causes of environment sustainability and prevent harm (Renwick, Redman1 & Maguire, 2013).

The paradigm shifts towards less consumption of energy, the conservation of resources and waste management put GHRM under the limelight to implement sustainable policies as administrative tools to create a more committed behavior of employees towards their environment (Mishra et al., 2022; Lee and Joo, 2020). GHRM is the summation of environmental management and human resource development to enhance the resource performance of organizations. Managing GHRM, according to Lee (2009 & 2021), is the mechanism by which corporations control the development of environmental management strategies towards changing the employees' conduct towards the sustainability of their organization. From a Public and a private sector scope, GHRM highlights the management of environmental sustainability inside its institutions through its human resources. According to Elkington 2018, GHRM application carries in its implementation results for three dimensions of the (TBL) theory of environmental equality, social equity and economic benefits in all activities related to the development and maintenance of organizational systems. GHRM studies focuses on the environmental segment applications in the workplace as a primary aspect of the TBL model (Seuring & Müller, 2008;James et al.,2015). This implies several challenges in the agility of attitudes transformation towards more environmental awareness as there is no guarantee that employees' reflection will be aligned equally to the idea of GHRM.

Therefore, generating a positive culture of environmentally friendly attitude is crucial to sustain the transformation and maintain the solidarity of the organization facing the application of GHRM practices (Shaban, 2019). Marhatta & Adhikari (2013), presented GHRM as the main promotor of environmental sustainability in public and private sector organizations, while Mathapati (2013), highlighted the role of workforce development to complement the use and appreciation of GHRM practices for the action of sustainability. Opatha & Arulrajah (2014), researched the perspective of the government role in embedding the practices of GHRM into most public organizations with its different sectors for the benefit of the employees and the workplace. In 2013, (Renwick et al.) found that green training programs and policies introduced by private sector organizations impact on employees' behavior and yield more involvement in environmentally friendly behaviors at work and reflected on their personal lives more than public ones. Another study by Raziq and Maulabakhsh (2015), compared private sector organizations that prioritize the use of GHRM in fostering environment friendly culture to non-users in the public ones and found that employees in the former have higher levels of environmental awareness and willingness to participate in go-green initiatives. Furthermore Paillé, Chen, and Boiral (2013), emphasized the fact that if top management ruled with a strong commitment to the environment, the employees in return will follow the path in integrating the green values into their daily life and activities in the workplace.

From 2016 till 2022 several assumptions were tested by scholars in different comparative attempts between the application of GHRM in both public and private sector higher education universities. They were reflected on the positive effects of promoting pro-environmental commitment towards a better change of employees' behavior to support the policy of sustainable reform in the educational sector including responses of academic staff as well as administrative and support ones in both public and private universities. Moreover, they acknowledged a positive relationship between employees' friendly commitment towards their environment because of a sustainable organisational climate and higher organisational performance in the private sector more than the public one. Others implied that there are several advancements to old fashioned HRM systems as called by tackling inclusive and responsiveness in education as a part of responsible management education to environment as strategic goals for institutions getting them accreditation and rank (Singh et al., 2019).

Associating Sustainable behavior of employees towards management of their environment in an ecological way is the buzzword in organisational behavior studies for the creation of environmental management initiatives where employees engage in green jobs minimizing pollution (Masri and Jaaron, 2017). Green staffing is becoming under the limelight where job description and design are aligned with an understanding of the pressing environmental issues in educational institutions of higher education. According to Yang (2020), universities must define their boundaries and job duties of their employees according to sustainability policies and be a citizen-oriented in that direction to alleviate burdens of economic disadvantages of ignoring GHRM. Studies of Indonesian governmental entities showed a green inclusion in their strategies reflecting on "Label Green Certificates" by Green Label Indonesia, creating an ecologically friendly employee serving in all institutions including public universities (Hutomo et al.,2020). Sadiq (2024), on the other hand aligned GHRM with sustainable policies as guidelines and practices that promote environmental conservation, resource efficiency, and social responsibility within the organization towards the implementation of GHRM. According to (Mousa and Othman, 2020), GHRM has elevated the meaning of HRM system to a modern understanding where the integration of environmental management is crucial to better performance of organizations. Other studies by (Arulrajah, (2015), Tariq (2016), Salau (2020), Hameed (2020) Fawehinmi (2020), Amrutha (2021) & Srividya (2022), acknowledged that GHRM has positive impact on EEFB in both sectors and its application is a must especially in higher education.

Moreover, (Khan, 2024) explored the relationship between the use of GHRM and sustainable change of employees' behavior towards environmental commitment in Health Public sector in Pakistan. In this direction, sustainable policies of administrative reform encompass the shaping of organisational culture, demonstrating principles of sustainable behavior through motivation and training and engaging in sustainable practices. These policies foster a sense of responsibility towards the environment and stewardship and commitment of employees. Hussein and Younis (2023) in Islamabad Pakistan studied public health hospitals and found that GHRM significantly affects Environmental Performance and Psychological empowerment of employees which increased their retention as they believed in the good cause of services presented to patients. in the healthcare sector. In the UK, The Northwest Construction Knowledge Hub (NWCKH), was a project aiming at reducing the carbon print in the construction sector by reducing the paper used, reducing travel fuel and carbon emission by integrating GHRM into SME's handling construction projects (Shaaban, 2024). The rise towards environmental consciousness among employees was elaborated by (Durmusoglu, 2004), tackling the "freecycle" program which enhances donations of furniture that are no longer used to build a green environment organization.

During the last four decades, the public sector organizations had undergone massive restructuring towards the use of New public Management tools to adjust policies towards more governance and more private sector best practices and strategies (Hood, 1990; Pollitt & Dan, 2011). Since the 70's the direction towards alternative modes of organisational structure have been embedded to move towards more result-oriented performance indicators (Gruening, 2001) and more reflections on environmental influences (Jarvis, 2020). This

activates the capacity of both employees and reflective stakeholders to accept the direction of reform inside these governmental organizations in a graduation of change in the deep core or the secondary aspect of a policy according to situational circumstances for better operationalization (Sabatier & Jenkins-Smith, 1999). On the other hand, there are other perspectives of research that are directed towards the change of either a goal or a setting where the policy is formulated (Cashore & Howlett, 2007).

The policies for Environmental sustainability are emerging as a crucial component of public policy formulation under the umbrella of 2030 strategy and environmental threats and challenges (Starik & Marcus, 2000). In a study by (Bozeman, 2007), Public value management (PVM) is the kind of reform that highlights environment commitment as a necessity as it is directed towards revisiting the packaged versions of ideas that have been used in the traditional view of GHRM in public sector institutions vs private one towards creating a new sustainable reform in practice. PVM focuses on public value and anchoring public administration serving the community of different stakeholders (Bryson et al., 2015). Bringing public value of environmental engagement entails the use of PVM analytical lenses as in the earlier work of Pollitt and Bouckaert (2017) aligning motivational culture and transformational leadership in parallel with the government efforts for administering reform initiatives towards the use of GHRM in public sector organizations as in private one's successful endeavors. Several Indicators for Administrative policy reform according to Torfing et al. (2020) were adopted on a private sector level and should be replicated in the public one. These dimensions will vary on real life practices from addressing inclusion and diversity policies in recruitment and selection, to support the value of employees' wellbeing from an involvement and relational perspective, to promoting green use of resources to implement environmental protection and to implement social equity in performance management systems to respect ethical environment (Jackson, 2010). The policies are firstly adaptive as focusing on a specific or marginal component of the policy instruments and it can lead to a newer procedure establishment on a micro level. Secondly, modernizing which entails structural changes and innovation of the administrative system in the chain of command and line of authorities or the characteristics of a ministry organization, specific public service utility or employees' job description but this will take a lot of time and legislative frames. Finally, transformative which deals more with human behavior (which is the focus in this study), introduces change for accepting the dimensions of goals' aspect of reform which reflects on an exponential and transformational type of leadership to take initiatives of change.

Employee Environmentally Friendly Behavior (EEFB) Perspective:

EEFB reflects on the employees adopting Friendly and Environmentally workplace Behavior (Ones & Dilchert, 2012), and the success of any organization depends on its human asset, and their performance is the core and the tool of competition. Therefore, EEFB is a research field that describes the willingness of an employee to protect the environment translated into a consequent behavior of environmental awareness (Saeed et al., 2019). The relationship between applying GHRM and its reflection on the workplace as a sustainability practice together with how well the human asset fulfills its duties and tasks becomes inevitable in today's work settings reflecting on green goals as several studies showed (Scherbaum et al., 2008 & Kim et al., 2019) (Risal, Asyik & Suroso, 2021). EEFB results in a win-win situation that helps to improve the behavioral component of attitudes inside the organization, and it can be translated into lower employee carbon footprints by more direction towards car sharing, virtual interviews, recycling and telecommuting (Jain, 2015).

The educational sector is considered an operational entity that can help in advancing sustainable practices not only in the eyes of its beholders but through other relevant stakeholders as well. So, the centrality of public and private universities in advocating policies that enhance the use of GHRM encouraging employees for a better alignment with EEFB help in achieving responsibility towards campus sustainability including energy, water reduction and conservation. For (Zientara & Zamojska, 2018) and (Gulzar et al., 2022),

academic, administrative and support employees in universities displaying EEFB and commitment will be more engaged in incorporating environmental themes into their curriculum to educate students about them. Therefore, according to (Khan, 2021) higher education is a field that deserves a deeper look into investigating the actual results of the impact of GHRM on EEFB. Earlier, Barney's work in (1991) in studying the (RBV) theory clarified that with what we compete in any institution (HR) is the underlying factor for a higher performance (Wright, McMahan, & McWilliams, 1994). (Steg & Vlek, 2009), discussed that EEFB of employees from a psychological behavioral perspective to cause more benefits to the workplace rather than harm.

The environmental behavior towards sustainability encompasses green behavior from a "green employee" as (Amenumey, 2015) and (Liu et al., 2018) described in their work. Significantly, (Wang & Ones et al., 2018) highlighted those conserving resources within the workplace and acting against their depletion is a responsibility on both the employer to advocate the changes needed by adopting GHRM and on the employees to abide. In 2000, Stern clarified that four types of EEFB exist: on the general level, environmental activism envisioning Greenpeace and community work and donations to environmental causes. On the other hand, on a more private basis, the change in the behavior in the use and the disposal of households' products like recycling patterns and waste management and acting on influencing the pattern of EEFB practices in organizations. According to Zacher (2023), employees' environmental behavior stems from five attitudes configurations that elicit required and voluntary behavior: transforming, conserving, avoiding harm, influencing, initiating and the failure to adopt them intrinsically and extrinsically through strong leadership leads to a counterproductive behavior that harms the organization.

The education institutions in this context must implement green initiatives like less office usage of material resources (Wang, 2019). According to Vicente-Molina 2013, Dumont, 2017, Kim & Gilal, 2019, GHRM adoption in universities leads to EEFB which directly results in positive environmental performance. This is because GHRM acts as a stimulus for an environmentally responsive attitude's development. In western Kenya's public educational institutions, (Guerci et al., 2016 & Jabbour, 2011), found that environmental criteria as GHRM must be embedded into the core of job dimensions as task identity and significance to align with the university sustainable plan of action. By constructing the green initiatives for developing skills of stakeholders in the selection and recruitment process universities can enhance an EEFB' s cultural environment (Nejati et al., 2017).

Aligning GHRM to EEFB and studying the reciprocal impact, governmental efforts can be directed to more adoption of sustainable organizational policies leading to more environmental awareness for employees in public universities as their counterparts in private ones. Prior research (Tang 2018, Renwick 2015 & Chen 2006) suggested that green innovation and organisational performance are linked through GHRM practices. This can be also approached from the Lens of the "AMO Model" where Ability is the training in developing green skills; Motivation is enhancing environmental engagement, and Opportunity is creating a green plan of action inside the organization (Longoni, 2018). The Amo model advocates that applying GHRM practices stems from the motivation plan of the organization aligning with green performance appraisals leading to better opportunities for greener employee empowerment. Moreover, applying for green selection and recruitment stems from matching the abilities of employees to adapt to a better environment of organisational commitment to sustainability (Khan, 2024). Transformational leadership is also a key factor in organizational success and green innovation according to AMO model as top management's commitment is replicated in the behavior of employees in adopting green practices inside the workplace leading to better productivity (Zhang, 2020). The Perceived organizational support (POS) from an employees' perspective related to the organization's appreciation of their green behavior implementation affects their attitudes of positive self-cognition (Temminck, 2015). Moreover, the affective component of attitudes is a necessity to embrace EEFB and relational commitment arising from the emotional bond to organization' s goal (Longoni, 2018).

Hypotheses

The study suggests the following hypotheses.

- H1: It is expected that there is a positive significant relationship between Green Human Resources Management (GHRM) and Employees' Environmental-Friendly Behaviour (EEFB). According to (Muller et.al, 2010), incorporation of GHRM in public and private sector educational universities alleviates its positive profile and increases their intake due to the benefits in the eyes of its stakeholders.
  - H1a: It is expected that there is a positive significant relationship between Green Recruitment and Selection and EEFB. (Shen, 2018) found that Green Recruitment practices enhance employees' job satisfaction level and boost their performance leading to EEFB.
  - H1b: It is expected that there is a positive significant relationship between Green Training and EEFB. Several studies acknowledged eco-friendly green training programs as an enhancement of employees' attitudes to feel like stakeholders of the organization. (Renwick et.al., 2012).
  - H1c: It is expected that there is a positive significant relationship between Green Performance Management and EEFB. A well-designed reward system for compensation can be designed on the merit of a disciplinary ethical pattern of respecting the environment (Renwick et al., 2013).
  - H1d: It is expected that there is a positive significant relationship between Green Pay and Reward and Employees' Environmental-Friendly Behaviour. some studies found that several firms are rewarding their employees with financial incentives for their green behavior and around 8% of UK- based firms follow this pattern (Phillips, 2007).
  - H1e: It is expected that there is a positive significant relationship between Green Involvement and EEFB. An earlier study of (Younis and Mamdouh 2019), concerned with a participatory approach of increasing students' involvement in solid waste management in the department of business administration at the BUE highlighted the positive impact of the awareness of consequences on students' behavioral intentions for waste-sorting which reflects their pattern of engagement and training in that direction.

Conceptual Study Framework:

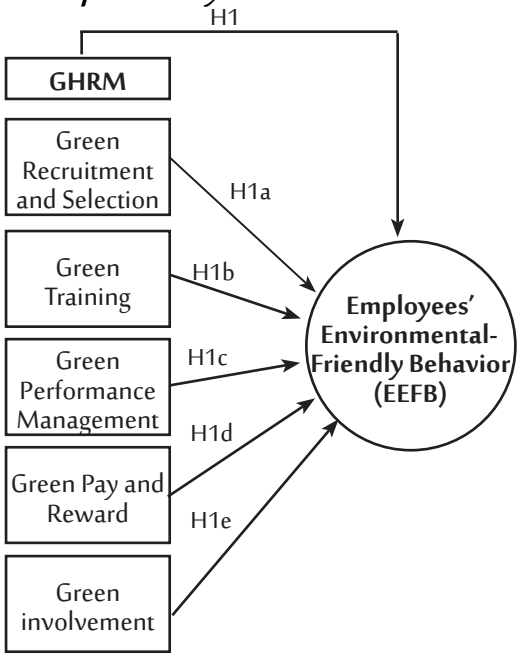

Figure 1: Conceptual Framework

Research Questions

These hypotheses align with research scope tackling the following questions and relationships: What is the relationship between GHRM variables and EEFB in public as well as private sectors universities in Egypt? What are the key areas of GHRM that contribute to a better employees' environmental friendly behavior in publicas well as private sectore universities in Egypt? How can GHRM practices influence employees' environemental friendly behavior in public and private universities in Egypt ? What is the relationship between GHRM and employee empowerment among in universities under study in Egypt? And how can we suggest a reform policy for Egyptian educational sector using GHRM as a form of sustainable practice to encourage employees' environmentally friendly behavior?

The Problem of the Study

is that Egypt has been lagging in the implementation of sustainable practices of GHRM in the higher educational sector. Therefore, the present study originality stems from the attempt to fill this theoretical and

practical gap by focusing on a comparative analysis between private and public sector universities in which (EEFB) can be assessed when adopting (GHRM) practices.

Research Objectives

The aim of this study is to highlight the application of GHRM procedures (Green Recruitment and Selection, green training, green performance management, green pay and rewards and green involvement and relation) on employees' environmentally friendly behavior (EEFB) in a comparative analysis between practices in public as well as private universities in Egypt, towards administrative reform in the higher educational sector. It highlights a basic understanding of GHRM concepts, elaborate on GHRM as a form of sustainable practices to be applied under the new public administration conceptualization.

Research Methodology

This study is based on primary data that is collected from a questionnaire to evaluate the effect of GHRM practices on EEFB. Quantitative approach has been adopted by using several statistical techniques, namely, descriptive statistical analysis, correlation, reliability, validity and regression analysis to assess the existence of direct effects of GHRM practices on EFFB in both public and private universities in Egypt as a part of comparative study of their effects in both sectors.

Research Design and Sample Selection

A quantitative questionnaire was disseminated depending on: OCBE scale from Boiral and Paillé (2012). The scale includes 10 items in total measured by a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. The 10 items are divided into: (1) eco-initiatives consisting of 3 items, (2) eco-civic engagement consisting of 4 items, and (3) eco-helping consisting of 3 items (Degheidy, 2021). Moreover, it also used EEEB scale from Kim et al. (2019) which includes 7 items measured by a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree (Degheidy, 2021).

Population and Sample

The population for this research includes employees working at both public and private universities across Egypt. This diverse group encompasses faculty, administrative staff, and other support personnel, making it an ideal population to explore how (GHRM) practices influence EEFB. The inclusion of both public and private universities ensures that the study captures a wide range of organizational cultures, HR practices, and environmental awareness levels.

Sample Size Calculation

Given the large unknown population size of university employees across Egypt, a convenience sampling method was selected for this study due to practical considerations, including time constraints, limited resources, and the accessibility of participants. Since the population of university employees is large and widely dispersed across Egypt, it was more feasible to select participants who were easily accessible and willing to participate. The method ensures the feasibility of the study and cost-effectiveness while still yielding relevant and meaningful results.

The sample size for this study is 421 participants, following statistical guidelines for survey research. This sample size ensures that the study has sufficient power to detect meaningful relationships between (GHRM) practices and EEFB, while also minimizing the risk of sampling errors. Given the large and diverse population of university employees in Egypt, a sample size of 421 allows for more accurate and reliable results. It enables generalization of the findings to the broader population, providing a representative view of how GHRM practices influence environmental-friendly behavior across both public and private universities.

Sample Size Characteristics:

Egypt university number classification as follows: has 27 public, 27 private, 20 semi-private, 10 technologies, and six foreign universities, serving a total of 3.6 million students. To ensure diversity in the sample, six universities were selected, three from the public sector and three from the private sector. The chosen universities are representative of Egypt's major educational institutions, located in different geographic regions, and offering diverse HR practices. The selected public universities include Cairo, Ain Shams, and Alexandria. For the private sector, universities such as The American University in Cairo , German University in Cairo , and The British University in Egypt were selected. These universities were chosen based on accessibility, willingness to participate, and the diversity of their workforce. In addition, factors of different age intervals, gender, both academics and non-academics were considered. Data was collected through structured questionnaires distributed to the employees of these selected universities. The questionnaire aimed to assess employees' perceptions of GHRM practices and EEFB. The respondents were given ample time to complete the survey, ensuring comprehensive data collection. This approach ensures that the findings reflect the environmental behaviors of employees from a broad spectrum of university settings, both public and private.

Research Variables and Measures- Conceptualization of the Variables Under Study that Constitute the Hypotheses:

Green recruitment and selection: According to Marumbu, (2024), Green recruitment and selection reflect the environmental community as a major stakeholder of the organization and positively impact employees' performance in productivity, retention and outcome. Websites for advertising job positions can be used to attract employees to organizations that reflect the importance of the environment, and the green mind set for the hired human labor. The green employee characteristics reflect in the minimization of waste in printed material and the willingness to recycle products used in the office space, efficiently using electric power and technology as web portals for onboarding of documents and using an online recruitment system can help in reducing carbon impact. The suggested practice by some researchers is to use the internet for recruitment activities to reduce extensive paper documentation of the process (Shabaan,2024).

1- **Green performance management:**

Green performance management describes how employees are encouraged to work effectively on skills development to achieve organisational goals. War for talent in this perspective is considered according to Renwick et al. (2013) to attract employees that favor an eco-friendly environment for work and clustering a cohesive culture to raise environmental performance with a design for a rewards system that favors green practices at work.

2- **Green training:**

GHRM training programs are a priority in educating employees about the value of environmental sustainability and it includes energy as well as water conservation, paperless environment, recycling and reducing waste, power conservation and carpooling to save gasoline. Intensive programs of training focus on their abilities to enhance their environmental awareness (Gill, 2021).

3- **Green pay and reward:**

These terminologies for compensation are a possible tool for promoting GHRM applications and supporting environmental activities inside public sector organizations as well as private ones. Aligning the strategic approach for pay and reward, organizations use salaries as a competitive tool to attract environmentally friendly employees and rewards with packages of benefits parallel to respecting the environment (Gill, 2012).

4- **Green involvement and relation:**

According to (Suleman, 2023), employee environmental involvement and relation refers to an ultimate commitment to the organization eco-friendly practices. A positive employer-employee relation and involvement leading to employees' environmental commitment is an ultimate result of employees' participation in green initiatives. The interpersonal relation results in an atmosphere of environmental management that emphasizes the efficient use of resources, the reduction of waste and the air purification from pollution (Cherian, 2012). In Taiwan, Karatepe et al. (2022) explored GHRM enhancement of employees' perceptions of the environment, which results in a high degree of participation, accountability and pro-environmental practices eliciting EEFB. Several community services committees in several universities held a monthly pattern of tree planting and garden maintenance to increase the collaboration and the harmony of the management and staff within the organization framework.

5- **Statistical data analysis techniques:**

The methodology for this study utilizes descriptive statistics to summarize and interpret the data collected through the questionnaire. Descriptive statistics, such as mean, standard deviation, coefficient of variation, and frequency distributions, will be used to describe the central tendency, spread & variability of responses. The mean will indicate the average response, while the standard deviation will show the variation in responses. Frequency distributions will identify the most common responses, offering insight into trends and patterns. These descriptive analyses will help provide an overview of employees' perceptions of GHRM practices and their environmental-friendly behaviors across the sample (Ren & Hussain, 2022; Munawar et al., 2022; AlKetbi & Rice, 2024).

Correlation analysis is used in this study to examine the strength and direction of the relationships between (GHRM) practices and EEFB. By applying correlation analysis, we can identify whether and to what extent the variables are associated with changes in employees' environmental behavior. This method allows for the exploration of linear relationships between variables without assuming causal effects, making it ideal for understanding how different GHRM practices are linked to employee behaviors. The results can inform organizations about which GHRM practices have the most significant influence on fostering environmental awareness and sustainable behaviors (Dumont, 2017; Chaudhary, 2020; Hameed, 2020).

Reliability and validity are crucial for ensuring the quality and trustworthiness of the data collected in this study. Reliability is the consistency and stability of the measurement tools used, ensuring that the questionnaire produces consistent results when administered repeatedly. To assess reliability, cronbach's Alpha is used, with values above 0.70 indicating acceptable internal consistency across the survey items. Validity ensures that the questionnaire accurately measures what its intended aiming in this case, the impact of GHRM practices on EEFB. Content validity aligns the survey questions with the research objectives, while construct validity is supported using established measures of GHRM and employee behavior. Both reliability and validity are critical for drawing meaningful conclusions and ensuring that the study results are applicable to the broader population (Farrukh et al., 2022; Pham et al., 2020; Leal Filho et al., 2023).

Moreover, regression analysis is employed in this study to examine the relationship between (GHRM) practices (EEFB). Its primary objective is to estimate the average change in the dependent variable resulting from a one-unit increase in a specific independent variable, while keeping all other independent variables constant (in the case of multiple regression). By using regression analysis, the study can assess not only the strength and direction of these relationships but also determine the coefficients, significance levels, and R-squared values to quantify the effect of each GHRM practice on EEFB. The p-values indicate whether the relationships are statistically significant, and the R-squared value provides insight into the proportion of variance in EEFB explained by the GHRM practices. Regression analysis is crucial for understanding the predictive power of these practices, helping organizations identify which specific HR strategies most effectively foster sustainable behaviors among employees (Nisar et al., 2021; Kim et al., 2019; Kim & Lee, 2021).

Results

Demographics

Table 1: Demographics

Gender	Count	Percentage
Male	175	41.6
Female	246	58.4
Total	421	100

The gender distribution of respondents in the study reveals that 58.4% are female (246), while 41.6% are male (175), reflecting a slight female majority in the sample. This diversity provides an opportunity to explore potential gender-based differences in how employees perceive and respond to (GHRM) practices and their subsequent environmentally friendly behaviors. The higher proportion of female respondents may also indicate gender trends within the organizations surveyed, which could influence the study's outcomes. This balanced representation strengthens the ability to draw insights between GHRM and employee behavior across genders.

Classifying respondents by study factors

Table 2: Classifying Respondents by Study Factors

Age	Public Universities		Private Universities		Total
	Academic Staff	Admin Staff	Academic Staff	Admin Staff	
Less than 20	10 (7.1%)	5 (2.4%)	20 (4.8%)	5 (1.2%)	40 (9.5%)
20-30	70 (16.6%)	20 (4.8%)	29 (6.9%)	6 (1.4%)	125 (29.7%)
31-40	60 (14.3%)	20 (4.8%)	40 (9.5%)	10 (2.4%)	140 (33.3%)
41-50	40 (9.5%)	15 (3.6%)	20 (4.8%)	5 (1.2%)	80 (19%)
Above 50	30 (7.1%)	6 (1.4%)	5 (1.2%)	5 (1.2%)	46 (10.9%)
Total	210 (50%)	66 (15.7%)	114 (27%	31 (7.4%)	421 (100.0%)

The table highlights the distribution of academic and administrative staff across public and private universities, revealing trends and disparities. Academic staff dominate the workforce (76.5%), with public universities contributing 50%, indicating their broader educational focus. Administrative staff form a smaller portion (23.5%), and public universities again lead (15.7%), while private universities operate leaner administrative frameworks, emphasizing efficiency but potentially limiting capacity. Most universities fall into the "20-30" and "31-40" staff size categories, comprising over 60% of institutions. Public universities dominate these categories, favoring moderately sized teams. In contrast, "less than 20" and "above 50" categories are less common (20.4%). Private universities are more prominent in the smallest category, reflecting their smaller institutional sizes. Public universities consistently employ more staff, aligning with their larger scale and research missions, while private universities prioritize efficiency, particularly in administrative operations, though with scaling limitations.

Descriptive statistics for variables of study

The data offers insights into the implementation of (GHRM) practices and their impact on (EEFB). **Green Recruitment and Selection** (mean: 4.21, SD: 0.41, CV: 10.27) is consistently applied, indicating organizations' active efforts to integrate environmental criteria into hiring. This alignment fosters eco-conscious values among employees, forming the foundation for sustainable workplace practices. **Green Training** (mean: 4.35, SD: 0.21, CV: 20.71) is the highest-rated dimension, showcasing its importance in equipping employees with sustainability knowledge and skills. However, the moderate variability indicates inconsistent implementation, potentially affecting its impact. **Green Performance Management** (mean: 4.33, SD: 0.18, CV: 24.06) links environmental goals to evaluations, motivating employees to engage in eco-friendly behaviors. Despite its high mean, the high CV suggests disparities in application, pointing to inconsistent alignment of environmental objectives with performance metrics. **Green Pay and Reward** (mean: 3.91, SD: 0.27, CV: 14.48)

Table 3: Descriptive Statistics for Variables of Study

Dimension	Mean	SD	Minimum	Maximum	CV*
Green Recruitment and Selection	4.21	0.41	1	5	10.27
Green Training	4.35	0.21	1	5	20.71
Green Performance Management	4.33	0.18	1	5	24.06
Green Pay and Reward	3.91	0.27	1	5	14.48
Greem Involvement	4.12	0.63	1	5	6.54
GHRM	4.21	0.35	1	5	12.03
EEFB	3.82	0.44	1	5	8.68

*CV stands for coefficient of variation.

is less emphasized, with lower scores and variability reflecting uneven application. Strengthening this dimension by directly tying rewards to eco-friendly actions could significantly enhance employee motivation. **Green Involvement** (mean: 4.12, SD: 0.63, CV: 6.54) has the highest variability, suggesting inconsistent engagement of employees in sustainability initiatives. Overall, GHRM (mean: 4.21, CV: 12.03) positively influences EEFB (mean: 3.82, CV: 8.68), but inconsistencies in training, performance management, and involvement highlight the need for more standardized practices to maximize GHRM's impact on environmentally friendly behaviors.

Correlation Analysis

Correlation analysis examines direction and strength of the linear relationship between the two variables. The null hypothesis assumes no linear relationship, which is rejected if the p-value is below the significance level. The correlation coefficient's sign indicates direction: positive for a direct relationship and negative for an inverse one. Its absolute value determines strength: 0–0.5 (weak), 0.5–0.7 (moderate), and 0.7–1 (strong).

Table 4: Correlation Analysis:

	EEFB	Green Recruitment and Selection	Green Training	Green Performance Management	Green Pay and Reward	Greem Involvement	GHRM
EEFB	1						
Green Recruitment and Selection	0.568 (0.000)*	1					
Green Training	0.554 (0.001)*	0.552 (0.010)**	1				
Green Performance Management	0.635 (0.002)*	0.362 (0.025)**	0.851 (0.022)**	1			
Green Pay and Reward	0.715 (0.000)*	0.254 (0.021)**	0.772 (0.000)*	0.571 (0.001)*	1		
Greem Involvement	0.692 (0.000)*	0.447 (0.004)*	0.417 (0.013)**	0.577 (0.004)*	0.652 (0.000)*	1	
GHRM	0.724 (0.003)*	0.699 (0.007)*	0.841 (0.002)*	0.771 (0.001)*	0.682 (0.024)**	0.672 (0.031)**	1

*. **.*** denotes 1%, 5%, 10% level of significance.

The correlation analysis reveals positive relationships between **EEFB** Employees' environmentally friendly behavior) and various GHRM practices, with the strength of these relationships varying across different areas. **Green Recruitment and Selection** ($r = 0.568$, $p = 0.000$) shows a moderate positive correlation, indicating that as EEFB increases, the implementation of green recruitment practices strengthens. A similar trend is observed for **Green Training** ($r = 0.554$, $p = 0.001$), suggesting that more environmental education leads to a greater emphasis on green training initiatives within organizations. The relationship with **Green Performance Management** ($r = 0.635$, $p = 0.002$) is stronger, indicating a more substantial impact of EEFB on the adoption of Green Performance Management practices.

Green Pay and Reward exhibits the strongest positive correlation ($r = 0.715$, $p = 0.000$), suggesting that environmental education has a significant impact in shaping green pay and reward systems. **Green Relation and Involvement** ($r = 0.692$, $p = 0.000$) also shows a strong positive link, with higher EEFB levels associated with greater employee involvement in sustainability initiatives. Finally, the overall **GHRM** ($r = 0.724$, $p = 0.003$) reveals the highest correlation, indicating that comprehensive **GHRM** practices are closely linked to EEFB. All correlations are statistically significant, with p-values below 0.05, demonstrating that the relationships are not due to random variation. These results reflect the importance of EEFB in promoting GHRM practices, with the strongest relationships observed in **Green Pay and Reward** and **GHRM**. This suggests that incorporating GHRM into the higher education sector plays a key role in increasing the EEFB (Das, Hadi et al., 2023; Deepak, 2017; Sarfo, 2024 & Ly, 2022)

Reliability and Validity

Table 5: Reliability and Validity

Variable	Number of Statements	Reliability Cronpach's Alpha	Intrinsic Validity
Independent variable 1 - Green Recruitment and Selection	3	0.742	0.785
Independent variable 2 -Green Training	3	0.722	0.743
Independent variable 3 -Green Performance Management	4	0.749	0.652
Independent variable 4 -Green Pay and Reward	3	0.824	0.791
Independent variable 5 -Greem Involvement	3	0.822	0.801
GHRM – Overall	16	0.814	---
Dependent variable – EEFB	17	0.847	---
Questionnaire – Overall	33	0.931	---

The table presents data on the reliability and validity of various study variables, both independent and dependent, as well as the overall reliability of the questionnaire. The Cronbach's alpha values indicate strong internal consistency for each variable. The independent variables range from 0.722 (Green Training) to 0.824 (Green Pay and Reward), all exceeding the 0.7 threshold for acceptable reliability. Green Pay and Reward (0.824) and Green Involvement (0.822) exhibit the highest reliability, reflecting strong internal consistency. The overall (GHRM) variable, which aggregates several HRM practices, has a reliability of 0.814, demonstrating good consistency. The dependent variable (EEFB), has a Cronbach's alpha of 0.847, indicating high internal consistency. The questionnaire achieves remarkable Cronbach's alpha of 0.931, showcasing excellent reliability and confirming the survey's ability to consistently measure the intended constructs. Intrinsic Validity: The intrinsic validity values assess how well the items within each variable represent the intended concept. Most variables demonstrate strong intrinsic validity, with values ranging from 0.652 to 0.791. Green Performance Management has the lowest intrinsic validity (0.652), suggesting that its items may not measure the concept as accurately as other variables. However, Green Recruitment and Selection, Green Pay and Reward, and Green Involvement all exhibit strong intrinsic validity, with values above 0.785, indicating accurate measurement. Overall, the questionnaire is highly reliable, with the only concern being the lower intrinsic validity for Green Performance Management. This suggests that the tool is mostly effective for measuring GHRM and environmental education, though further review of Green Performance Management's items is recommended.

Results based on regression analysis for an overall impact (model 1) and classified by both public and private universities (model 2&3 respectively)

Discussion Model 1

In model 1, the regression analysis results indicate that each GHRM practice significantly influences EEFB (Employees' environmentally Friendly Behavior). The coefficients for the independent variables are all positive, suggesting that higher levels of GHRM practices are associated with increased environmentally friendly behavior. Specifically, **G. Pay and Reward** has the highest coefficient at 0.625, followed by **Green Involvement** at 0.595, **G. Performance Management** at 0.526, **G. Recruitment and Selection** at 0.425, and **G. Training** at 0.447. All p-values are less than 0.05, indicating that these relationships are statistically significant. Notably, **G. Involvement** ($p = 0.000$) shows the strongest significance, highlighting its critical role in fostering environmental education. The narrow confidence intervals for the coefficients further support the robustness of these findings.

The model's **R-squared** value of 0.657 suggests that approximately 65.7% of the variance in EEFB is explained by the five green HRM practices, which demonstrates substantial explanatory power. Additionally, the **F-statistic** of 114.25 with a p-value of 0.000 confirms the overall significance of the model, indicating that the relationship between GHRM practices and EEFB is statistically meaningful and not chance inhibited. This strong model fit highlights the importance of GHRM practices in enhancing environmental education within organizations and the value of integrating sustainable GHRM strategies for enhancing business sustainability which reflects earlier work reflecting on theories as triple bottom line and planned behavior and models such as AMO adopted in line of this study (Ajzen,2004; Shaaban, 2019; Yang 2020). It

also reflects on work related to earlier studies focusing on this generalized effect of GHRM on EEFB by Khan (2021); Vicente-Molina et al. 2013, Dumont , 2017, Kim, 2019 and Gilal et al., 2019.

Table 6: - Regression Analysis for Estimating Direct Effects of Independent Variable Dimensions on Dependent Variable for an Overall Impact Model 1

Dependent Variable - EEFB	Coefficient	P-value	95% Confidence Interval		R-Squared	F-statistic	Hypothesis	Accept /Reject
			Lower	Upper				
Green Recruitment and Selection	0.425	0.025**	0.395	0.562	0.657	114.25 (0.000)*	**H1a**	Accept
Green Training	0.447	0.042**	0.387	0.557			**H1b**	Accept
Green Performance Management	0.526	0.011**	0.492	0.596			**H1c**	Accept
Green Pay and Reward	0.625	0.004*	0.587	0.672			**H1d**	Accept
Greem Involvement	0.595	0.000*	0.545	0.612			**H1e**	Accept

Table 7: Regression Analysis for Estimating Direct Effects of Independent Variable Dimensions on Dependent Variable Classified by Public and Private Universities. (Model 2&3)

	Model 2 - Public Universities				Model 3 - Private Universities			
	Coefficient	P-value	95% Confidence Interval		Coefficient	P- value	95% Confidence Interval	
			Lower	Upper			Lower	Upper
Green Recruitment and Selection	0.411	0.032**	0.312	0.522	0.645	0.000*	0.634	0.698
Green Training	0.452	0.004*	0.374	0.536	0.652	0.022**	0.649	0.710
Green Performance Management	0.527	0.012**	0.462	0.589	0.738	0.017**	0.705	0.758
Green Pay and Reward	0.588	0.007*	0.466	0.701	0.791	0.002*	0.771	0.825
Green Involvement	0.612	0.002*	0.501	0.692	0.765	0.057***	0.734	0.801
F-Statistic	112.22	0.000*	--	--	245.63	0.000*	--	--
R-Squared	0.526				0.688			

*. **.*** denotes 1%, 5%, 10% level of significance

Discussion Model 2 - Public Universities

Model 2 demonstrates that GHRM practices have a significant effect on public universities, as all variables show p-values below the 0.05 threshold, indicating strong statistical significance. The coefficients range from 0.411 for G. Recruitment and Selection to 0.612 for G. Involvement, suggesting that these practices moderately influence HR processes in public institutions. Notably, G. Pay and Reward (0.588, p = 0.007) and G. Involvement (0.612, p = 0.002) are the most influential variables, reflecting the growing importance of sustainability in compensation and employee engagement. The F-statistic of 112.22 (p = 0.000) further support the model's overall significance. With an R-squared value of 0.526, the model explains 52.6% variability in GHRM practices, indicating reasonable match. These results highlight that public universities are making strides toward adopting GHRM, though the magnitude of their impact is moderate (Almada, 2017) and (Mischra et al., 2022).

Discussion Model 3 - Private Universities

Model 3 shows an even stronger statistical significance across all GHRM variables, with most p-values well below 0.05, indicating a significant effect of GHRM practices in private universities. The coefficients are higher across the board compared to Model 2, with G. Recruitment and Selection (0.645, p = 0.000) and G. Pay and Reward (0.791, p = 0.002) standing out as particularly impactful. While most variables exhibit strong significance, G. Involvement (0.765, p = 0.057) is only marginally significant. The model's F-statistic of 245.63 (p = 0.000) confirms its robustness and strong overall fit. With an R-squared value of 0.688, the model explains 68.8% of the variability in GHRM practices, indicating a high level of predictive accuracy. These findings suggest that private universities are more proactive and successful in embedding sustainability within their HRM processes than public institutions which fortifies results of Renwick, (2013) and Raziq (2015).

Discussion of Comparative analysis between Models:

The study presented a comparative analysis between public and private higher education institution to hypothesize the impact that GHRM has on EEFB and filled the gap in earlier research regarding the focus on Egyptian context (Das, 2023; Hadi, 2023; Deepak,2017; Sarfo, 2024 & Ly, 2022). Comparing the two models reveals that GHRM practices have a stronger impact in private universities than in public ones reflecting the work of (Arulrajah, (2015), Tariq (2016), Salau (2020), Hameed (2020) Fawehinmi (2020), Amrutha (2021) & Srividya et al. (2022).

Model 3 shows consistently higher coefficients, indicating that private institutions place greater emphasis on sustainable GHRM practices. For instance, **G. Recruitment and Selection** has a coefficient of 0.645 in private universities compared to 0.411 in public universities, suggesting that sustainability is a stronger focus during recruitment in private institutions. Similarly, **G. Pay and Reward** has a more pronounced impact in private universities (0.791) than in public universities (0.588), indicating that sustainability is more deeply integrated into compensation frameworks in private institutions. Additionally, Model 3's higher R-squared value (0.688) compared to Model 2 (0.526) suggests that private universities have a more comprehensive approach to GHRM, possibly driven by a competitive need to align with sustainability trends and attract environmentally conscious talent which aligns with Singh (2019) and Gaber and Fahim (2018). Also, earlier studies (Jabbour et al., 2010) have suggested that GHRM is crucial for creating a green innovative culture with more deliberate initiatives which help employees to become more friendly towards their environment. Many others implied that the Egyptian government must take GHRM practices into consideration when it comes to public universities as implied by the Egyptian Sustainable Development Strategy plan to align with the global trend of environmentalism (Mostafa, 2023).

Implications

The implications from the reflections on higher education adoption of GHRM in Egyptian public sector universities and private universities can be generalized in future research on elementary school education. Although the 2030 strategy supports the implementation of the use of GHRM practices in both the private and the public sector of Egypt to focus on employees' success and increase the productivity goal in an efficient way of use of resources, which directs efforts towards administrative reform, there is a still a lack of these tools in higher education which results in a lack of conceptualization of GHRM as an emerging field of management science. Therefore, efforts should be directed towards green building paperless office, resource efficiency and conservation of energy, waste reduction and recycling (Shoeb, 2015).

Administrative reform is not treated as a specific public policy in its own definition. It is the tool and the way to create specific administrative policy falling under any of the models of public administration reform. Theoretically, it should be treated as a continuous process, and an encompassing phenomenon as called by some scholars (Capano, 2021) that carries a complex implementation on the going path of challenges. This arises from the fact that intense changes of administrative policies must go parallel with the reform, which encompasses the actual shift in the behavior and actions of planners and implementers of the transition towards change. In other words, several government institutions are still following traditional paradigms which are not parallel with the transformations on social, political, economic and especially environmental levels under the 2030 strategy formulation regarding GHRM incorporation. As the results of the study have got positive significance related to the variable discussed but the application still needs an overwhelming increase by outlined objectives, identifying stakeholders, giving legislative support, highlighting effective communication, efficient resource allocation, capacity building and training, feedback and adjustments to monitor progress are inevitable in this direction.

Research Limitations

Although this research studies the impact of GHRM on EEFB, there are some limitations in this research's variables that could be tackled in future studies from the perspective of other influential factors such as technology, culture and awareness. With respect to the literature review, few studies linked GHRM practices with higher education sector accordingly there is still scarcity in research regarding this topic. Moreover, many studies focused on international experience rather than national experience. The Research sample was a convenience sample that included faculty administrative staff and other support personnel from universities in greater Cairo and Alexandria, maybe if the sample is drawn from other smaller cities the results are expected to be different. Also, the researcher believes that if future samples are drawn from other public universities that serve lower cluster of students a variation in results would occur. The researcher was limited by the fact that emphasis was limited to higher education sector and not on other levels like elementary schools or technical institutes where a different cultural context and age bracket can result in different environmental behavior. Moreover, a typology for suggested policies for higher education reform based on more GHRM practices was limited in action regarding the incorporation of responsible management practices among staff in public universities reflecting on budget constraints.

Conclusion and Recommendations for future research

The study concludes that governments as policy makers should enforce the already existing sustainability policies in public educational institutions to bridge the gap between its private counterparts by integrating GHRM as an environmental initiative into their functional processes and operations (Suleman, 2022). These policies will in turn enhance employees' retention, environmental protection and leverage public image of the public educational sector acting for resources efficiency (Deshwal, 2015). By incorporating GHRM practices into the working strategies of Public and private Sector universities, employees as well as academic and support staff can cultivate a culture of sustainability and a greener future of resource efficient deployment. Challenges encountered in the process of implementing GHRM in the educational public and private Sector in Egypt will stem from resistance embedded in the behaviors and attitudes of unawareness of the benefits of such direction. Lack of motivation and the unsupportive culture will stress HR practitioners for being accountable for not implementing GHRM in their plans of reforms and loosing what (Opatha, 2019) defined as green outcome. The future of GHRM appears promising as the integration of Green Management into HRM practices is long overdue in higher education institutions, and it is crucial to help career development of all practitioners in higher education fields and sustaining workforce retention in front of challenges of sustainability to produce EEFB (Norton, 2015 & Zhou, 2019). The research recommends the use of the transformative policy for reform (Torfing et al., 2020), as it is more aligning with changed into human behavior's attitudes and cultural conception towards the implementation of the GHRM.

Recommendations for future studies can be directed into deeper research into employees' insights into environmental sustainability understanding. This can be done qualitatively through focus group interviews, observations, and personal interviews of specific users in more private and public universities to generalize an administrative reform policy to help the implementation of GHRM practices. Also, more focus on support staff in public universities must be researched as they constitute a big proportion of facilitators for the application of GHRM daily practices routine and ease the process of implementation and therefore raising their level of awareness is crucial. In fact, propositions of GHRM could further be investigated through social and environmental psychology theories, and can use the Resource view-based theory as a framework of study to highlight the capacity of organizations in enduring the costs of applying GHRM as a sustainability practice Finally, organizational culture can be a mediator in further studies to investigate the relationship between the adoption of a value like GHRM and employee's environmental friendly behavior (EEFB) using more organizational factors such as attitudes of team structures, policies, leadership agility, and motivational plans towards environmental sustainability.

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Appendix, Questionnaire:

How does Green Human Resource Management Affect Employees' Environmentally Friendly Behavior?

	Demographics				**Scale**				
Age	Less than 20	20-30	31-40	41-50	Above 50				
Gender	Male	Female							
Work Role	Academic Public University Staff	Academic Private University Staff	Administrative Public University Staff	Administrative Private University Staff	State-owned University's Academic Staff	State-owned University's Administrative Staff	Public Sector Organization-employee	Private Sector Organization-employee	Others

Green Human Resources Management (GHRM)

Item	**Scale**				
We attract green job candidates who use green criteria to select jobs.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
We use green employer branding to attract green employees in the organization.					
Our organization recruits employees who have green awareness.					
Training programs in environment management are developed to increase environmental awareness, skills and expertise of employees.					
Training has been integrated to create the emotional involvement of employees in environmental management.					
We have green knowledge management (link environmental education and knowledge to behaviors to develop preventative solutions).					
We use green performance indicators in our performance management system and appraisals.					
Our organization set green targets, goals and responsibilities for managers and employees.					
In our organization, managers set objectives on achieving green outcomes included in appraisals.					
In our organization, there are dis-benefits in the performance management system for non-compliance or not meeting environment management goals.					
We make green benefits (transport/travel) available rather than giving out pre-paid cards to purchase green products.					
In our organization, there are financial or incentives for the use of less polluting cars.					
Our organization has recognition-based rewards in environment management for staff (public recognition, awards, paid vacations, time off, gift certificates).					
Our organization has a clear developmental vision to guide the employees' actions in environment management.					
In our organization, there is a mutual learning climate among employees for green behavior and awareness.					
In our organization, there are several formal or informal communication channels to spread green culture.					
In our organization, employees are involved in quality improvement and problem-solving on green issues.					
We offer practices for employees to participate in environment management, such as newsletters, suggestion schemes, problem-solving groups, low-carbon champions and green action teams.					
Our organization emphasizes a culture of environmental protection.					

Employee Environmental-friendly Organizational Behaviour

Item	**Scale**				
Our organization has recognition-based rewards in environment management for staff (public recognition, awards, paid vacations, time off, gift certificates).	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Our organization recruits' employees who are aware of green awareness.					
Our organization has a clear developmental vision to guide employees' actions in environmental management.					
In my work, I weigh the consequences of my actions before doing something that could affect the environment.					
I voluntarily carry out environmental actions and initiatives in my daily work activities.					
I encourage my colleagues to express their ideas and opinions on environmental issues.					
I would feel guilty about not supporting the environmental efforts of my organization.					
I strongly value the environmental efforts of my organization.					
I pay close attention to water leaks.					
I am informed of my organization's environmental initiatives.					
I volunteer for projects, endeavors, or events that address environmental issues in my organization.					
I feel personally attached to the environmental concern of my organization.					
I really feel as if my organization's environmental problems are my own.					
I spontaneously give my time to help my colleagues take the environment into account in everything they do at work.					
I actively participate in environmental events organized in or by my organization.					
I recycle materials at work.					