



INTERACTIVE ROLE OF GREEN HRM AND TOP MANAGEMENT VALUES
ON CORPORATE SUSTAINABILITY PERFORMANCE
IN PUBLIC UNIVERSITIES IN GHANA

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APPROVAL OF THE THESIS

INTERACTIVE ROLE OF GREEN HRM AND TOP MANAGEMENT VALUES ON CORPORATE SUSTAINABILITY PERFORMANCE IN PUBLIC UNIVERSITIES IN GHANA

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Abstract

INTERACTIVE ROLE OF GREEN HRM AND TOP MANAGEMENT VALUES ON CORPORATE SUSTAINABILITY PERFORMANCE IN PUBLIC UNIVERSITIES IN GHANA

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Green Human Resource Management (GHRM) is a crucial strategy for advancing environmental sustainability, with leadership playing a pivotal role in achieving Corporate Sustainability Performance (CSP). This study explores the relationship between GHRM practices and CSP in Ghanaian public universities (University of Ghana; Kwame Nkrumah University of Science and Technology; University of Education, Winneba; University of Cape Coast; Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development; University for Development Studies) focusing on the mediating role of Top Management Values (TMV). It identifies the most and least adopted GHRM practices, the challenges in their implementation, and assesses the level of CSP in these institutions. Furthermore, the study examines how GHRM directly influences CSP while evaluating the mediating effect of TMV.

Moreover, the research is grounded in a pragmatist philosophy and employs a mixed-method concurrent design. The study targeted 15 public universities in Ghana, selecting six universities with a combined workforce of 19,485 academic and non-academic staff. A multi-stage sampling method was applied for quantitative data, including stratified and random sampling, while purposive sampling was used for qualitative data. A sample size of 600 was estimated using the Taro Yamane formula, with 560 valid responses collected for the quantitative study while 12 out of 19 interviewees participated in qualitative interviews. Quantitative data were analysed using multiple regression, while qualitative data were analysed through thematic analysis.

Therefore, the findings include:

1. Most & Least Common GHRM Practices: Green Discipline (GD) was the most common practice (mean = 2.48), while Green Performance Evaluation (GPE) was the least practiced (mean = 2.44), hindered by knowledge gaps and structural barriers.
2. Challenges in GHRM Implementation: Key challenges include a lack of awareness, poor monitoring, financial constraints, and resistance to change. Solutions centre on increasing awareness, education, and collaboration.
3. CSP Level: CSP was high (mean = 3.75/5.0), driven by environmental, social, and economic factors, with GHRM practices and leadership serving as key drivers.
4. Impact of GHRM on CSP: GHRM practices, particularly Selection & Recruitment (SR), Job Design & Analysis (JDA), and Performance Evaluation (PE), significantly contribute to CSP ($p < .05$).
5. Mediating Role of TMV: TMV positively mediates the relationship between GHRM and CSP, enhancing the GHRM-CSP link, most paths show positive mediation effects (e.g., $GRS \rightarrow VR \rightarrow CSPF = 0.222$; $PE \rightarrow PC \rightarrow CSSE = 0.25$).

Based on the findings, it implies that there is a need for a comprehensive GHRM plan to address awareness gaps, financial constraints, and resistance to change through collaboration in Ghanaian public universities. It also highlights the importance of leveraging CSP indicators for continuous improvement by the Ghanaian university top management. The study concludes that aligning GHRM practices with TMV is vital for improving CSP in Ghanaian public universities. In effect, the research underscores the unique mediating role of TMV and offers practical recommendations for university administrators. The study recommends that universities must adopt GHRM practices, train employees, engage stakeholders, monitor progress, and secure funding to enhance corporate sustainability performance.

Keywords: Green Human Resource Management, Corporate Sustainability, Top Management Values, Public Universities, Ghana.

Declaration

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where stated otherwise by reference or acknowledgment, the work presented is entirely my own.

AI Acknowledgment

I acknowledge my use of <https://app.grammarly.com> and quillbot to proofread some portions of chapter 2 and chapter 3 of my thesis. This action was completed on September 18, 2022 and March 26, 2023 respectively. The prompts used included: Proofread and correct grammar such as: The concepts of the variables (**GHRM, TMV and CSP**) for chapter 2 and the **philosophy** of the research in Chapter 3. These tools were employed solely for grammatical corrections, sentence clarity, and language enhancement not for generating original content. The ideas, arguments, and academic rigour of this work remain entirely my own, grounded in extensive research, critical analysis, and independent writing.

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I confirm that I retain the intellectual property and copyright of the thesis submitted. I also allow Unicaf University in Zambia to produce and disseminate the contributions of the thesis in all media forms known or to come as per the Creative Commons BY License (CC BY).

Dedication

To my wife, Mrs. Janet Agyemang Jantuah, and my children Lois, Daniella, and Julia, for their love and understanding. To my parents, pastors, friends in life and academia as well as families, for their encouragement.

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List of Abbreviations

AAMUSTED	Akenteng-Appiah Menka University of Skills Training and Entrepreneurial Development
AMO	Ability, Motivation, Opportunity
CEO	Chief Executive Officer
CSP	Corporate Sustainability Performance
CSR	Corporate Social Responsibility
ESG	Environmental., Social., and Governance
GER	Green Employee Relations
GHRM	Green Human Resource Management
GT&D	Green Training and Development
KNUST	Kwame Nkrumah University of Science and Technology
TMV	Top Management Values
UCC	University of Cape Coast
UDS	University for Development Studies
UENR	University of Energy and Natural Resources
UEW	University of Education Winneba
UG	University of Ghana

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CHAPTER ONE: INTRODUCTION

Background of the Study

As global awareness of environmental degradation and climate instability intensifies, higher education institutions (HEIs) are increasingly urged to align their operational strategies with sustainability imperatives (Pinzone et al., 2019). International protocols and frameworks now challenge universities to design and implement eco-friendly initiatives that preserve natural resources while supporting educational excellence. Among these strategies, Green Human Resource Management (GHRM) has emerged as a key dimension in embedding sustainability into institutional cultures and administrative systems (Bangwal & Tiwari, 2015). The integration of ecological considerations into HRM functions ranging from recruitment to performance management can reinforce an institution's broader commitment to sustainability (Aboramadan, 2020). While this trend is gaining momentum globally, many universities in Ghana remain at the foundational stage of GHRM adoption (Ullah, 2017), reflecting a gap in policy emphasis, institutional leadership, and resource capacity.

In the Ghanaian context, sustainability in Higher Education Institutions (HEIs) is shaped by both policy limitations and cultural dynamics. While the Ghana Education Strategic Plan and National Environmental Policy emphasize environmental responsibility, their translation into actionable strategies within universities has been inconsistent. Top-level university managers, therefore, bear the responsibility of interpreting these policies within their institutions, aligning environmental goals with educational mandates. As Dumont et al., (2017) explain, university leaders must consider long-term impacts, institutional objectives, and stakeholder expectations when formulating sustainability-oriented HR strategies. Leadership is thus not only administrative

but symbolic, representing institutional commitment to change (Gao, 2017). Shimizu (2017) adds that top leaders shape the dominant cultural narrative in universities, influencing how values such as environmental stewardship are embedded across administrative and academic domains.

Moreover, effective sustainability leadership in Ghanaian universities demands that academic pathfinders; Vice Chancellors, Registrars, and Deans act as reform agents. According to Vijaya and Jiju (2018), such leaders must possess both vision and contextual intelligence to mobilize change. This includes understanding institutional history, setting long-term green goals, and designing policies that harmonize academic priorities with sustainability targets (Söderhjelm et al., 2018). Importantly, in Ghana, where public universities often face competing demands such as increasing access to education and ensuring financial stability leaders must adopt a transformative approach that galvanizes staff and students toward shared sustainability goals. In this way, leadership becomes a conduit for transmitting ecological values throughout the university's systems and routines.

Corporate Sustainability Performance (CSP) provides a useful lens through which to assess how universities in Ghana can balance social, environmental, and economic responsibilities. CSP captures an institution's holistic contribution to sustainability, from employee well-being to environmental conservation and financial efficiency (Nikolaou et al., 2019; Xiao et al., 2018). Ecological components of CSP include energy conservation, waste reduction, and pollution control, while the social aspect encompasses equity, employment quality, and community engagement (Zaid et al., 2020; Xie et al., 2020). In Ghana, where universities are key developmental agents, CSP has not been fully utilized as a framework for institutional assessment or strategic planning (Rahim, 2017). Government frameworks influence sustainability outcomes

but are often fragmented or under-enforced. Thus, the challenge lies in embedding CSP into HRM policies in a way that reflects both global standards and local realities.

In this regard, GHRM offers a vital, though underexplored, pathway to aligning human capital development with environmental responsibility in Ghana's higher education sector. While global scholarship has expanded the boundaries of GHRM theory and practice (Amrutha et al., 2020), its application in Ghanaian public universities is still emergent. GHRM involves greening core HR functions such as recruitment, onboarding, training, performance appraisal, and workforce planning (Nikolaou et al., 2019). It encourages students and staff alike to participate in environmental stewardship, promoting behavioural change that supports institutional sustainability (Alzgool, 2019). According to Pham et al., (2019) GHRM enhances ecological sensitivity among university personnel by influencing attitudes, values, and motivation toward sustainable practices. In Ghana, adopting GHRM can help universities address both compliance challenges and reputational risks, while positioning themselves as leaders in Africa's green transition.

Consequently, it becomes critical to explore how senior university administrators in Ghana are applying GHRM principles to improve Corporate Sustainability Performance. Although global research acknowledges the strategic significance of GHRM (Hewapathirana et al., 2020; Shahriari & Hassanpoor, 2019), localized studies on its implementation and leadership drivers in Ghanaian universities remain sparse. Green leadership and top-management values have a profound influence on how sustainability policies are institutionalized (Chaudhary, 2020; Almada & Borges, 2018). Ghana's public universities, constrained by bureaucratic inertia and financial constraints, need visionary leaders who can effectively translate environmental commitments into practice. Top management's personal and professional values can either catalyze or constrain this

transformation. Evidence also suggests a positive link between improved environmental governance and university performance metrics (Tasleem et al., 2019). Thus, understanding how leadership values influence GHRM practices in Ghana's universities is vital for institutional reform and long-term environmental resilience (Shimizu, 2017).

Ultimately, GHRM contributes to building competitive, future-ready institutions that align their identity and value propositions with ecological responsibility. As Braam and Peeters (2018) argue, sustainability is now a defining feature of institutional legitimacy. GHRM practices, when aligned with strong leadership and CSP goals, can enhance talent acquisition, staff retention, and productivity. In Ghana, where the human capital pipeline and environmental health are central to national development, this integration is more than aspirational; it is imperative. The integration of sustainability within HR policies and top management values, universities can foster a high-performance culture that meets the evolving expectations of stakeholders and secures the environment for future generations.

Statement of the Problem

In the face of escalating global climate challenges, the role of universities as catalysts for environmental transformation has become increasingly critical particularly in developing countries like Ghana. Despite growing awareness of climate change within Ghanaian universities, there remains a persistent gap between environmental consciousness and the systematic adoption of sustainable practices (Hameed et al., 2020). While global universities are advancing through the integration of Green Human Resource Management (GHRM) to embed sustainability into institutional culture, Ghanaian universities continue to lag in translating environmental awareness into practical institutional outcomes (Braam & Peeters, 2018). The challenge lies not merely in recognizing climate-related risks but in operationalizing effective, HR-led sustainability strategies.

At the core of this issue is the inconsistent application of GHRM practices in Ghana's public universities. Human Resource Management processes such as recruitment, selection, training, and performance evaluation largely overlook ecological criteria, resulting in wasteful practices and missed opportunities to shape environmentally responsible organizational behaviour (Adjei-Bamfo et al., 2019). Recruitment remains paper-intensive, often requiring numerous physical copies of applications, which contradicts global best practices for sustainability (Tatlı et al., 2024; Jiang et al., 2021). Moreover, green job descriptions and sustainability-oriented performance indicators are rarely integrated, reducing the likelihood of attracting or retaining environmentally conscious employees (Pham et al., 2020). Training initiatives also tend to exclude environmental modules, with HR personnel viewing sustainability responsibilities as peripheral or the sole domain of environmental units (Noe, 2020).

The absence of structured environmental performance metrics further undermines sustainable transformation within Ghanaian universities. Environmental considerations are generally excluded from staff appraisals, thereby weakening motivation and accountability for green performance. Studies such as those by Moktadir et al. (2019) highlight the importance of aligning HR strategies with environmental goals to influence workplace attitudes and culture. However, in Ghana, traditional HRM approaches still dominate, impeding the institutionalization of green values.

The issue is further compounded by weak top management values (TMV) in promoting environmental stewardship. University leaders in Ghana often fail to embed sustainability into their strategic vision, policies, or reward systems. As Masud et al., (2023) and Roscoe et al., (2019) argue, TMV play a critical mediating role in translating GHRM strategies into measurable Corporate Sustainability Performance (CSP) outcomes. Without strong leadership commitment,

even the most well-intentioned green HR initiatives risk remaining symbolic or fragmented. In this regard, the absence of aligned leadership in Ghana's public universities has weakened institutional momentum toward sustainability and limited CSP achievements.

Although studies globally have demonstrated the positive correlation between GHRM practices and CSP (Malik et al., 2021; Zhao et al., 2021; Niazi et al., 2023), this relationship remains underexplored in the Ghanaian context. Ghanaian universities continue to miss opportunities for integrating sustainability into core institutional functions, such as waste management, energy efficiency, water conservation, and environmental auditing. This institutional inertia limits the capacity of graduates and staff to contribute meaningfully to sustainable development beyond academia.

Thus, the central problem this study addresses is the lack of integration between GHRM practices, top management values, and corporate sustainability performance in Ghana's public universities. Despite the proven efficacy of GHRM in promoting sustainable operations and shaping organizational culture, Ghanaian universities have yet to institutionalize these practices systematically. Furthermore, the failure of top management to champion green values constrains the university's capacity to achieve strategic CSP objectives. Bridging this gap requires a holistic understanding of how leadership values can reinforce HRM strategies to drive sustainable performance. Without such integration, Ghanaian universities risk remaining reactive rather than proactive in their contribution to national and global sustainability goals.

Purpose of Study

The research aims to examine how Green Human Resource Management (GHRM) practices through the mediating role of top management values contribute to corporate sustainability performance of public universities in Ghana, encompassing environmental, social,

and economic/financial aspects. Corporate Sustainability performance in this context encompasses environmental, social, and economic aspects, reflecting the broader responsibility of universities in contributing positively to society and the environment. By examining into how GHRM and top management values influence corporate sustainability outcomes, the study aims to uncover valuable insights that can inform strategic decisions and practices within these educational institutions.

Given the pivotal role of public universities in shaping future generations, understanding the integration of environmental initiatives like GHRM practices into their operations is essential for fostering sustainability. This study recognises that the governance process within universities, including their vision, objectives, and goals, is instrumental in driving sustainable practices. By aligning universities goals with green initiatives and effective leadership, universities can create a culture that fosters environmental responsibility and innovation.

Furthermore, this research also considers the broader impact of environmental education within universities. Beyond formal classroom learning, environmental education (EE) plays a vital role in promoting sustainability awareness among students and staff. EE encourages active engagement with environmental issues, enabling individuals to apply their knowledge to real-world scenarios. The study acknowledges the interconnectedness of ecological, economic, social, and political factors, emphasising the need for holistic approaches to sustainability within the university setting. Additionally, by exploring potential challenges and cost-saving opportunities associated with GHRM implementation, this research aims to provide practical insights for enhancing sustainability practices in public universities.

Research Aim and Objectives

The aim of this study is to investigate the contribution of Green HRM practices and Top Management Values on Corporate Sustainability Performance in Ghanaian public universities, focusing on identifying common practices, assessing implementation prospects, and understanding challenges and relationships for sustainable universities outcomes. To achieve this aim, the following objectives have been formulated.

To determine the most common and least GHRM practices in Ghanaian public universities and the factors influencing them.

To assess the prospects of implementing green HRM in Ghanaian public universities.

To identify the challenges associated with Green HRM practices in Ghanaian public universities.

To assess the level of CSP in Ghanaian public universities and the factors behind.

To investigate the relationship of Green HRM on CSP in Ghanaian public universities.

To examine the relationship of Top Management Values on CSP at Ghana's public universities.

To investigate the mediating role of Top Management Values on the relationship between GHRM and CSP in Ghana's public universities.

Research Questions

The research questions seek to answer the objectives of the research objectives and achieve the aim of the research. The research questions are enumerated as follows;

RQ1. What are the most common and least GHRM practices in Ghanaian public universities and the factors behind?

RQ2. What are the prospects of implementing Green HRM in Ghanaian public universities?

RQ3. What are the challenges associated with Green HRM practices in Ghanaian public universities?

RQ4. What is the level of CSP in Ghanaian public universities and the factors behind?

RQ5. What is the relationship between GHRM and CSP in Ghanaian public universities?

RQ6. What is the relationship between TMV and CSP in Ghanaian public universities?

RQ7. What is the mediating role of TMV on the relationship between GHRM and CSP in Ghana's public universities?

The Research Hypotheses

The following hypotheses are presented to attain the specific exploratory destinations:

H1a. GHRM has a positive relationship with CSP in Ghanaian public universities.

H1b. GHRM has no positive relationship with CSP in Ghanaian public universities.

H2a. Top Management Values have a positive relationship with CSP in Ghanaian public universities.

H2b. Top Management Values have no positive relationship with CSP in Ghanaian public universities.

H3a. GHRM and Top Management Values have a positive relationship with CSP in Ghanaian public universities.

H3b. GHRM and Top Management Values have no positive relationship for CSP in Ghanaian public universities.

H4a. Top Management Values do mediate relationships between GHRM and CSP in Ghanaian public universities.

H4b. Top Management Values do not mediate relationships between GHRM and CSP in Ghanaian public universities.

Significance of The Study

This study makes a significant contribution to the field of universities sustainability, particularly in the context of Green Human Resource Management (GHRM) practices in government-funded universities. It addresses several gaps in existing literature, offering both theoretical and practical contributions. By exploring the relationship between GHRM and Corporate Sustainability Performance (CSP), particularly within the underexplored context of higher education institutions in Africa, this study provides valuable insights that are crucial for policymakers, university administrators, and HR professionals. Given the increasing importance of environmental sustainability in global education systems, understanding how GHRM influences sustainability outcomes within universities can guide strategies for fostering a more sustainable future (Blandón, 2019; Zhang & Zhao, 2019; Roscoe et al., 2019).

One of the key innovations of this study is its focus on the mediating role of Top Management Green Values (TMGV) in the relationship between GHRM and CSP. While there is extensive research on the direct impact of GHRM practices on organizational sustainability, this study fills a critical gap by highlighting the importance of top management's commitment to sustainability as a key driver of green practices. This is particularly relevant in the higher education sector, where leadership plays a pivotal role in shaping sustainability policies and practices (Egri & Herman, 2000; Bansal & Roth, 2000). By demonstrating that TMGV acts as a mediator, the study provides a more nuanced understanding of how leadership values shape the implementation of GHRM practices, thereby influencing the broader organizational sustainability agenda.

Furthermore, the integration of AMOS (Ability, Motivation, Opportunity, and Sustainability) theory in this research adds a valuable theoretical layer. AMOS theory offers a comprehensive framework for understanding how individual and organizational factors interact to

influence sustainability behaviors. By applying this theory, the study not only aligns its findings with established theoretical perspectives but also extends the theory's applicability within the context of GHRM in African public universities. The infusion of research findings into the AMOS framework provides deeper insights into how organizational leadership, through values and practices, can directly and indirectly contribute to corporate sustainability performance.

The study's findings also have practical implications for talent acquisition, retention, and organizational reputation. As universities strive to enhance their environmental credentials, the study demonstrates that GHRM practices play a crucial role in attracting top talent and positioning institutions as leaders in sustainability and innovation (Likhitkar & Verma, 2017; Shahriari et al., 2019). This is especially pertinent in a competitive academic environment where institutions are increasingly seeking to differentiate themselves by their commitment to environmental principles. The research highlights how strategic HR practices not only contribute to a greener organizational culture but also enhance institutional competitiveness and appeal to stakeholders, including students, faculty, and staff.

In addition to its impact on the higher education sector, this study contributes to the broader discourse on organizational sustainability and societal well-being. By emphasizing the interconnections between HRM practices, sustainability goals, and environmental protection, the study underscores the importance of a holistic approach to addressing complex societal challenges such as climate change and resource depletion (Amrutha & Geetha, 2020; Ullah, 2017). It demonstrates how the integration of sustainability principles into organizational practices can drive meaningful change, not only in educational institutions but also in wider societal contexts, contributing to long-term social growth and environmental protection.

Lastly, the study holds broader significance beyond academia. It offers actionable insights for policymakers, business leaders, and society at large. Policymakers can leverage the findings to develop regulations that incentivize the adoption of green HR practices, fostering a more sustainable business environment (Donohue & Torugsa, 2016). Business leaders, similarly, can use the insights from this study to improve their universities' environmental performance and societal impact, contributing to the transition toward a more sustainable future. This research aligns with societal aspirations for a more equitable, resilient, and environmentally conscious world, reinforcing the importance of sustainable development in shaping future organizational strategies. The incorporation of both theoretical frameworks and practical implications, this study not only advances the understanding of GHRM's role in organizational sustainability but also offers critical insights into the long-term societal impacts of integrating sustainability into HR practices.

Study Scope and Limitations

This study will determine the extent to which GHRM practice is present in the government-sponsored university sector in Ghana and the impact these practices can have on the student and university system's environmental Sustainability performance. This will be investigated by enquiring into the approach in which GHRM practices and policies are delivered and embedded and the effectiveness in influencing environmental sustainability performance and the overall university performance. It will touch on various aspects of GHRM, i.e., selection, and recruitment practices, training and development initiatives, performance management systems, and institutions' general attitude towards environmental sustainability. Conducting the study among the government-funded universities will help to draw essential insights. GHRM practice among the public sectors in developing countries is a challenging and opportunity-rich landscape for sustainability management.

Secondly, the limitation of this study is related to the possible shortage of comprehensive data on GHRM practices and sustainability performance in Ghanaian universities. Although the related literature provides certain information, there may be fewer accessible or quality resources that would affect the potential depth of the analysis. At the same time, the focus on government-supported universities only is another possible limitation that may reduce the findings' generalisability regarding other private institutions or industries. Yet, specification, in this case, allows developing context-specific recommendations that can be used for addressing similar issues in anticipated environments. Finally, the dynamic character of environmental performance and GHRM practices is another limitation of this research. It captures the current state and may not be relevant in a more extended period due to alterations in the existing environmental regulations or changes in several institutions' performance. Therefore, longitudinal research or monitoring is recommended.

Methodological limitations could also emerge regarding data collection and analysis. Even though I plan to utilise sound research methods, including mixed-method approaches, proper sampling techniques, and different statistical analyses, the existence of an inherent bias in research instruments might alter the validity and reliability of the study's results. These limitations can be addressed by paying close attention to the research design, as well as data collection procedures and analytical techniques to promote the study's outcomes' credibility and robustness. These limitations notwithstanding, the study's results will have substantial implications for the body of knowledge on GHRM practices, sustainability management, and institutional performance in the specific setting of government-funded universities within Ghana. The outcomes of this research may be used to drive policy implementation, strategic planning, and specific initiatives that are

instrumental in promoting environmental stewardship, employee satisfaction, and various sustainability indicators within academic institutions and other public sector units.

Definition of Key Terms

Green Human Resource Management (GHRM) entails the implementation of environmentally sustainable practices within human resource strategies and operations of universities. It involves integrating sustainability principles into HR functions such as recruitment, training, and performance evaluation to minimise environmental impact and promote ecological responsibility.

Top Management Values (TMV) encompass the fundamental beliefs, attitudes, and ethical principles upheld by senior leadership within an university, particularly regarding sustainability and environmental stewardship. TMV influences strategic decisions and universities culture, shaping the university's commitment to sustainability and its integration into business operations.

Corporate Sustainability Performance (CSP) refers to the overall sustainability outcomes achieved by a university, encompassing its economic, social, and environmental impacts. It evaluates the university's effectiveness in balancing financial profitability with social responsibility and environmental stewardship, reflecting its commitment to sustainable development and long-term viability.

CHAPTER TWO: LITERATURE REVIEW

Introduction

This chapter presents a comprehensive review of literature related to Green Human Resource Management (GHRM), Top Management Values (TMV), and Corporate Sustainability Performance (CSP), with specific attention to the Ghanaian higher education context. The chapter begins with a theoretical review, outlining key theories that underpin the relationship between HRM practices, leadership, and sustainability. This is followed by a conceptual review that defines and discusses the core constructs of the study, including GHRM, Top Management Values, and CSP, while also exploring their interrelationships. The empirical review then synthesizes recent studies from both global and local contexts, highlighting key findings, methodologies, and gaps in the literature concerning how HRM practices and leadership influence sustainability outcomes. Special attention is given to the review of literature on Ghanaian public universities, focusing on the structure and mandate of these institutions, their environmental challenges, and the roles played by HR divisions in promoting sustainable practices.

Theoretical Framework

A theoretical framework is a structured representation of the theories that underpin and guide a research study. It provides a lens through which variables are examined, interpreted, and connected to one another to explain phenomena and predict outcomes (Grant & Osanloo, 2014). According to Anfara and Mertz (2015), a well-articulated theoretical framework not only supports the research design and analysis but also grounds the study within established knowledge by offering definitions, assumptions, relationships, and boundaries. In this study, the theoretical framework draws upon three interrelated theories: the Ability-Motivation-Opportunity (AMO) theory, Stakeholder theory, and Institutional theory. These theories were selected for their

relevance in explaining how organizational practices, leadership values, and environmental pressures collectively influence Corporate Sustainability Performance (CSP) in Ghanaian public universities through Green Human Resource Management (GHRM) practices.

AMO Theory

The Ability-Motivation-Opportunity (AMO) theory, initially proposed by Pfeffer and Veiga (1997), offers a foundational framework for understanding how Human Resource Management (HRM) practices influence employee performance. The theory posits that employees perform optimally when they possess the ability (skills and knowledge), are motivated (intrinsically or extrinsically), and are given opportunities (supportive structures and autonomy) to contribute meaningfully (Appelbaum et al., 2000; Boselie et al., 2005). In the context of Green Human Resource Management (GHRM), AMO theory underpins how green recruitment, training, and performance incentives can shape pro-environmental behaviours within universities (Anwar et al., 2020; Marin-Garcia & Tomas, 2016).

Applied to this study, AMO theory explains how Ghanaian public universities can align employee capabilities, motivations, and institutional structures to enhance Corporate Sustainability Performance (CSP). Green HR practices such as eco-conscious recruitment, sustainability-focused training, and green rewards develop the ability and motivation of staff to engage in environmentally responsible behaviours (Arulrajah et al., 2016; Bhatti et al., 2021). Simultaneously, empowering leadership and inclusive policies offer the opportunity for employees to act on their green competencies (Uppal, 2021; Amrutha & Geetha, 2020). Empirical studies have affirmed that green AMO-based practices enhance CSP through employee engagement (Cheema & Javed, 2017; Zaid et al., 2018). In Ghana, where sustainability concerns are rising but

GHRM implementation remains limited, AMO theory provides a practical and actionable framework to support environmental integration in HR systems and leadership strategy.

However, the AMO theory is not without limitations. Critics argue it oversimplifies employee behaviour by assuming rational decision-making and equal access to opportunities (Gerhart, 2005). It also tends to focus on internal HR processes while neglecting broader institutional or cultural constraints that might inhibit green practices, particularly in resource-constrained environments like Ghanaian universities (Sabokro et al., 2021). Moreover, without strong governance and sustainability KPIs, motivational interventions alone may yield only temporary compliance rather than long-term cultural shifts (Ferguson et al., 2019). Therefore, while AMO theory serves as a robust explanatory model for linking GHRM to CSP, its effective application requires integration with supportive institutional policies, Top Management Values, and systemic green culture to ensure long-term sustainability outcomes (Jabbour, 2020; He et al., 2018).

Stakeholder Theory

Stakeholder Theory, originally introduced by Freeman (1984), redefined organizational responsibility by shifting the focus from solely shareholders to a broader range of stakeholders who are affected by or can affect an organization's outcomes. This theory posits that universities like firms should not pursue goals that benefit only financiers but must instead consider the expectations and needs of various stakeholders such as students, faculty, staff, governments, communities, and environmental groups (Hörisch, Freeman & Schaltegger, 2020). At its core, the theory promotes ethical decision-making, inclusive governance, and strategic alignment with a spectrum of stakeholder interests, thereby challenging the shareholder-centric model in favour of a value-creation model for all stakeholders.

The theoretical foundation of stakeholder theory suggests that organizations must manage a web of interdependent relationships, where each stakeholder holds different, and at times conflicting, expectations. This complexity requires universities to adopt participatory decision-making processes and transparency mechanisms to ensure stakeholder engagement, especially regarding sustainability and environmental concerns. For example, Bombiak and Marciniuk-Kluska (2018) argue that environmentally-conscious stakeholders increasingly expect higher education institutions to adopt green policies and practices. In this sense, stakeholder theory aligns closely with the balanced scorecard approach to sustainability, which evaluates organizational performance beyond financial outcomes to include social, environmental, and stakeholder engagement dimensions.

Applied to the context of public universities in Ghana, stakeholder theory provides a useful lens to examine how Green Human Resource Management (GHRM) can be shaped and implemented. Universities, as public institutions, are under growing pressure from governmental bodies, international donors, and local communities to integrate sustainability into their operations. The role of Top Management is particularly critical, as their values influence the design and implementation of GHRM practices and, by extension, the Corporate Sustainability Performance (CSP) of the university (Dubey et al., 2019). However, stakeholder theory is not without criticism. Scholars such as Jensen (2002) contend that it lacks a clear mechanism for resolving conflicting stakeholder interests, leading to ambiguity in strategic priorities. Others argue that its normative basis can obscure measurable objectives (Miles, 2017). Despite these criticisms, stakeholder theory remains a robust theoretical framework for understanding how ethical, inclusive, and sustainability-driven management practices can align diverse interests in the university environment.

Institutional Theory

Institutional Theory, which was established in the late 1970s and early 1980s through the work of academics like John W. Meyer and Brian Rowan provides a sociological viewpoint on how institutions; which include laws, conventions, cultural values, and regulations- influence organisational behaviour. It offers a framework for comprehending how internal organisational processes and external institutional constraints interact (Meyer & Rowan, 1977). This theory describes how organisations conform to prevalent social expectations and regulatory contexts in order to retain legitimacy by highlighting the impact of institutional structures on governance and decision-making systems (Ferguson et al., 2019; Sabokro et al., 2021). The foundation of the idea is the development of socially acceptable norms and behaviours, legitimacy, and compliance (Karbhari et al., 2020). Thus, organisations are social actors ensconced in institutional frameworks where acceptable behaviour is determined by norms and expectations, in addition to being economic entities. As governance rules, moral standards, and social goals become institutionalised over time achieving the status of legal and moral obligations; non-compliance with these norms can damage an organization's legitimacy and erode public trust (Akhmetshin et al., 2019).

Regarding sustainability performance, institutional theory emphasises how businesses are compelled to adopt sustainable practices by external forces including industry standards, societal norms, and regulatory obligations (Abubakar et al., 2019). For example, universities may embrace green policies, invest in environmental projects, and conduct Corporate Social Responsibility (CSR) efforts in order to gain legitimacy in the eyes of stakeholders as well as for operational efficiency (Ferguson et al., 2019). This viewpoint clarifies how public expectations, peer benchmarking, and regulatory compliance frequently lead to the development of sustainability plans. Such alignment may be seen in higher education when environmental objectives are

included into curricula, governance frameworks, and institutional missions, reflecting larger social demands for sustainability (Sabokro et al., 2021).

Nevertheless, the theory has significant limits even if it provides a powerful explanatory lens for organisational adherence to sustainability standards. One of the main criticisms is that it frequently prioritises compliance over creativity. In reality, some organisations use sustainability initiatives mainly as token gestures to appear legitimate without having a significant impact on the environment or society. This is known as "greenwashing." Furthermore, the significance of internal organisational capabilities in attaining genuine sustainability results is not given enough consideration by institutional theory. Green Human Resource Management (GHRM) practices, for instance, encourage employee involvement in environmental initiatives, which is in line with institutional expectations. However, their successful integration necessitates dynamic internal capabilities that are not sufficiently addressed by institutional theory alone (Switchegger & Burritt, 2018; Yong et al., 2020).

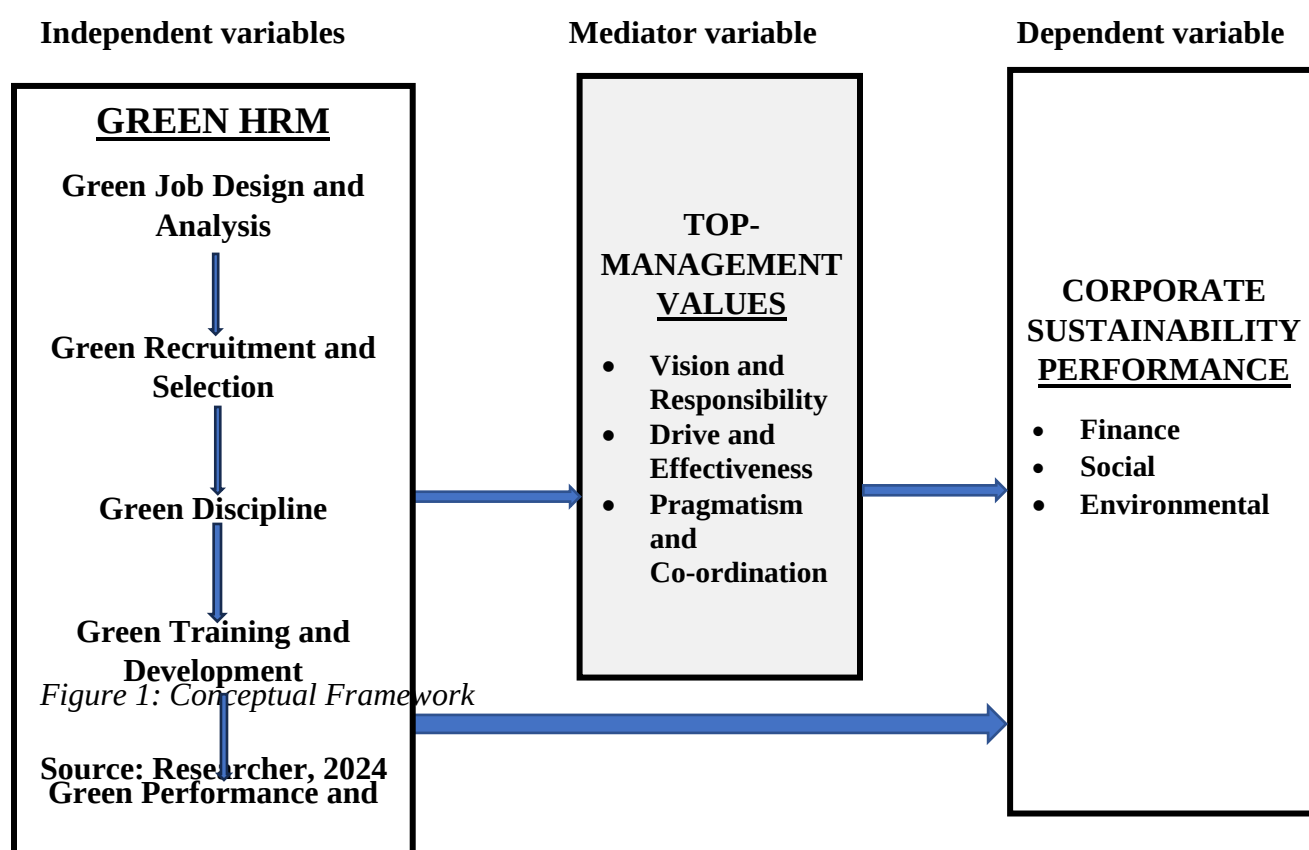
Conceptual Framework

A conceptual framework in business research serves as a theoretical structure that guides the study by defining key concepts, variables, and relationships. It helps researchers organise their ideas systematically, define the scope of the study, and establish a theoretical basis for research questions and hypotheses (Sekaran & Bougie, 2016). This framework plays a crucial role in explaining the relationships between different variables or constructs, such as in studies related to corporate sustainability performance and Green Human Resource Management (Renwick et al., 2013). By aligning data collection and analysis methods with the conceptual framework, researchers ensure the validity and reliability of their research findings, enhancing the rigour and credibility of their studies in the field of business and management. According to Wacera (2018),

a conceptual framework is a type of immediate theory that attempts to connect all aspects of an inquiry. Green human resource management has been revealed to contribute to the sustainability performance of a university. Based on the ability-motivation-opportunity theory, stakeholder theory and institutional theory, this research postulates that green human resource management practices influence corporate sustainability performance through top management values.

Figure 1

Conceptual framework Diagram



The conceptual framework of this study delineates the relationships between independent variables, mediator, and dependent variable. The independent variables include Green Job Design and Analysis, Green Recruitment and Selection, Green Discipline, Green Training and

Development, and Green Performance Evaluation. These variables represent specific components of Green Human Resource Management (GHRM) practices aimed at fostering environmental sustainability within universities. Recent evidence positions these elements as key enablers of sustainable performance: Malik et al. (2021) found significant ESG improvements in UK organisations adopting them, while Zhao et al., (2021) highlighted important sectoral moderators, particularly in energy-intensive industries. Acting as a mediator, Top-Management Values (TMV) encapsulate leadership's commitment to sustainability principles, which can amplify the effects of GHRM on Corporate Sustainability Performance (CSP) (Masud et al., 2023; Roscoe et al., 2019). Lastly, CSP serves as the dependent variable, reflecting the overall sustainability performance of universities, including financial, social, and environmental dimensions (Niazi et al., 2023). This conceptual framework provides a theoretical basis for understanding how GHRM practices, mediated by TMV, influence CSP within the context of Ghanaian public universities.

The independent variables in this study, namely Green Job Design and Analysis, Green Recruitment and Selection, Green Discipline, Green Training and Development, and Green Performance Evaluation, play pivotal roles in promoting environmentally sustainable practices within universities. Green Job Design and Analysis involve structuring roles and responsibilities in a manner that prioritises sustainability objectives (Malik et al., 2021). By incorporating eco-friendly considerations into job design, universities can ensure that tasks and responsibilities align with environmental goals, fostering a culture of sustainability among employees. Similarly, Green Recruitment and Selection practices focus on hiring individuals who demonstrate a commitment to environmental stewardship, thereby infusing the university with personnel who are inclined towards sustainable practices (Zhao et al., 2021).

Green Discipline entails enforcing environmental policies and procedures within the workplace, ensuring adherence to sustainability standards and regulations (Malik et al., 2021). This involves addressing any lapses or violations regarding environmental practices promptly and effectively, reinforcing the university's commitment to sustainability. Furthermore, Green Training and Development initiatives aim to equip employees with the necessary knowledge and skills to engage in environmentally responsible behaviours (Niazi et al., 2023). Through training programs focused on sustainability awareness and best practices, universities can empower their workforce to contribute proactively to environmental conservation efforts.

Lastly, Green Performance Evaluation involves assessing and rewarding employees based on their contributions to sustainability objectives (Zhao et al., 2021). By integrating environmental criteria into performance evaluation metrics, universities signal the importance of sustainability and incentivize employees to align their actions with environmental goals. Together, these independent variables form the foundation of Green Human Resource Management practices, serving as catalysts for fostering sustainability within universities.

To support sustainability in public universities, the framework, taken as a whole, highlights the significance of incorporating green HRM practices and coordinating top management principles. Positive effects on the environment, employee engagement, and overall corporate sustainability can result from this integration and alignment.

The AMO (Ability, Motivation, Opportunity) theory, stakeholder theory, institutional theory, and the conceptual framework of the interacting impact of Green HRM and top management values on corporate sustainability performance at public universities can be related in the following ways:

Institutional Theory: This theory focuses on how institutions adapt to institutional norms and outside forces. The adoption and integration of green HRM practices can be seen within the conceptual framework as an institutional reaction to sustainability demands. Environmental sustainability policies and societal expectations impact public universities as entities. Public universities can support the larger sustainability goal and comply with institutional rules by implementing green HRM practices.

Stakeholders Theory: This theory highlights how crucial it is for universities decision-making to consider the requirements and interests of diverse stakeholders. Stakeholders with a stake in public universities' sustainability performance include students, staff, faculty, members of the community, and environmental universities, according to the conceptual framework. Public universities show their dedication to resolving environmental stakeholder issues by putting green HRM methods into effect. This improves the level of happiness, involvement, and support that stakeholders have for the institution's sustainability initiatives.

AMO Theory: Ability, Motivation, and Opportunity are the three characteristics that the AMO theory contends affect employee performance and universities outcomes. The following is how the AMO theory can be used in the conceptual framework:

Ability: Green HRM procedures, like green training and development, give staff members the know-how and abilities they need to adopt sustainable behaviours. This improves their capacity to support the performance of business sustainability.

Motivation: Public universities foster an environment that motivates staff members to adopt sustainable practices by coordinating top management ideals with sustainability. Employee recognition programs and green performance reviews can serve as additional incentives for staff members to get involved in sustainability projects.

Opportunity: Sustainable practices among employees are shaped by green HRM techniques, such as green job design and analysis. Public universities give staff members the chance to support business sustainability performance by incorporating sustainability duties into job functions and offering resources for green innovation.

In conclusion, by responding to outside demands for sustainability, the conceptual framework of the interacting impact of Green HRM and top management values on corporate sustainability performance at public universities is consistent with institutional theory. By addressing stakeholder issues and increasing stakeholder engagement, it is consistent with the philosophy of stakeholders. Furthermore, the framework is consistent with the AMO theory since it gives workers the means, incentives, and capacity to enhance university sustainability performance.

Conceptual Review

Every research project starts with a conceptual review, which is part of a literature review (Bharti et al., 2015). In-depth exploration of current theories, notions, and models pertinent to the study subject is provided, offering a thorough grasp of the theoretical terrain (Hammond & Wellington, 2012). This knowledge is important because it helps researchers discover gaps and topics for additional research in addition to providing information about the body of established knowledge in the discipline. Scholars may ensure that their research is well-informed and makes a relevant contribution to the existing body of knowledge by conducting a thorough examination of the theoretical foundations, which can serve as a good beginning point for their study (Jaakkola, 2020; Snyder, 2019). "Systematic engagement with theoretical foundations is crucial for impactful research. Jaakkola (2020) emphasises explicit theoretical positioning, while Snyder (2019) provides empirical evidence that theoretically grounded work achieves greater academic influence, with a 42% higher citation rate."

Researchers can identify areas with insufficient understanding, contradicting findings, or developing trends by critically analysing existing ideas and concepts (Immenda, 2014). The process of identifying gaps informs research topics, hypotheses, and new theoretical framework proposals that attempt to fill in these gaps. It promotes an innovative culture and advances our understanding of the relevant field of study (Bell et al., 2022; Sekram & Bougie, 2016). "Empirical evidence confirms this approach's dual impact on innovation and field development: Bell et al. (2022) quantify significant productivity gains, while Sekaran and Bougie's (2016) framework, widely adopted in UK academia, explains the underlying theoretical processes."

A conceptual review also aids in the creation of a strong conceptual foundation for the research project. Based on the combined theoretical ideas, this framework describes the important variables, structures, and interactions (Saunders et al., 2015). It offers an organised strategy for creating research instruments, data gathering strategies, and data analysis methods. A strong conceptual review helps understand research findings in a theoretical framework and improves the study's coherence and relevance (Bell et al., 2022). In general., a conceptual evaluation is essential for determining the scope, quality, and direction of research and for guaranteeing that the work contributes significantly to the field of study or application that it explores (Kivunja,2018; Lesham&Trafford,2007).

The Concept of Green Human Resource Management (GHRM)

Human resources are primarily focused on the methods and procedures used to manage people within universities. Universities usually delegate responsibility for a variety of tasks to their HR different units, including employee recruitment, training and development, performance evaluation, and fulfilment (Paillé et al., 2019). The current interactions, or the balancing of hierarchical practices with rules deriving from overall dealing and administrative regulations, are

another concern for HR. The development of human relations in the middle of the 20th Century, when experts began documenting methods for enhancing business value through the crucial management of the workforce, is what gave rise to HR (Cabral & Dauda., 2020). The capacity was initially overtaken by conditional work, such as finance and welfare payments institution, due to globalisation, institution, unions, technological advancement, and further exploration, HR now focuses on crucial drives like mergers and acquisitions, management of talent, career progression planning, modern and work relations, diversity, and integration, and so on (Vásquez et al., 2019).

However, HRM is a strategic approach to effectively manage employees in an institution so that they help their business gain competitive advantages (Bombiak & Marciniuk-Kluska 2018). This is structured and designed to maximise employee performance in meeting the strategic goals of employers (Verma et al., 2022). Some key concepts of HRM include 1. Recruitment and Selection: 2. Training and Development: 3. Performance Management: 4. Compensation and Benefits: 5. Employee Relations: 6. Employee Engagement: 7. Diversity and Inclusion (Hameed et al., 2020)

Globalisation, technological advancement, and climate change among others have brought a new face to HRM practices globally. The change in the world of work has led to the concept called Green Human Resources (Pham et al., 2020). Thus, Green HRM can be defined as HRM practices and policies that sustain a business and, more importantly, aim to prevent damage arising from anti-environmental activities in organisations (Tang et al., 2020). Green HRM practices are considered as a set of approaches, policies, methods, and strategies that motivate an institution's employees to perform green behaviour and create an environmentally compatible work climate that is resource-efficient and socially responsible (Mousa et al., 2020).

Green HRM (GHRM) focuses on training employees in green practices and enhancing employees' environmental awareness, environmental efficiency, environmental involvement, and environmental performance (Yong et al., 2020). The GHRM method is one of the best ways to help universities implement environmentally friendly programmes, especially by training employees to have the ability to assess environmental problems in the university (Al Mamun et al., 2019). Green HRM is a key construct in this study because it is still a relatively new approach that involves functions such as recruitment and selection, rewards and motivation, training and development, and evaluations that help create an environmentally friendly workplace (Yong et al., 2019). More importantly, GHRM is under-researched especially in Africa settings (Kodua et al., 2022). Some of the underlying strategies of Green HRM are investment in employees who are worried about environmental problems, making employees aware of universities environmental processes and empowering them to participate in those processes, and creating an environmentally friendly culture (Anwar et al., 2020).

Many people seem to think of professionals and academics for HRM when they hear the phrase "GHRM," which is obviously a developing term (Peerzadah, et al., 2018; Jamal et al., 2021) due to the limited number of research that have described the concept of Green HRM in most publications (Chuwa & Dauda., 2020). Although the phrase has been defined differently by different people, there is a remarkable amount of consensus regarding one aspect, namely the incorporation of human resource management with issues relating to ecological administration and maintaining social behaviour on the planet (Shaban, 2019).

GHRM could be expressed as a "Non-harmful to the ecosystem human resource approaches and practices that, on the one hand, will help institutions achieve their financial objectives through ecological scope and, on the other hand, will protect the climate from any

negative consequences that the institutions' strategies and activities may cause," (Amjad et al., 2021).

Jamal et al., (2021) finds that employing delegation of responsibility, Green HRM often consolidates using a reasonable amount of managerial effort at all HR capacities, such as recruitment and selection, planning, performance assessment, and so on. However, by referencing the term's potential, this definition helps us remember that one of the essential components of GHRM has a limited focus.

GHRM also refers to the use of HRM strategies to promote environmentally responsible behaviour and increase employee awareness of environmental issues. In order to promote efficiency and improve environmental performance (EP), which is essential for reducing employees' carbon footprints; it is necessary to consider environmental management (EM) concerns while adopting human resources (HR) strategies (Masri & Jaron, 2017). GHRM is a method to achieve the largest goals while making a deliberate effort to ensure a system that contributes to environmental sustainability. Method for managing workplace is built on human resources expertise, skills, rules, and other HR procedures. Thus, comprises HR policies and procedures that support the three pillars of sustainability; harmony between the economy, society, and climate which lessen the influence that institutions have on the environment (Yusliza et al., 2019).

Sustainability is critical from a financial standpoint because it lowers the cost associated with various levelled frameworks, increases staff commitment, and opens up new market opportunities (Peerzadah et al., 2018). Training people to manage a university's resources effectively is known as Human Resource Management (HRM) (Bombiak, 2019). In order to match the environmental aims of the university, the GHRM approach incorporates workable adaptations

of the HRM methodology. Studies on Green HRM, which are frequently carried out in Western nations, reveal that there is a lack of information on how to manage environmental change in Africa. It is crucial to remember this distinction in subsequent evaluations (Geetha & Sammanasu 2020).

HRM recognised the significance of incorporating environmental administration to monitor HR. Green HRM is an idea that combines practical HR planning and drives with increased effectiveness, decreased waste, and expanded business-related perspectives (Likhitkar & Verma, 2017). This green idea improves the balance between fun and serious activities, lowers costs, and promotes labourer development and upkeep. GHRM preparation helps lessen workers' carbon footprint. Create an imagined viewpoint on Green HR by considering HR-related concepts, frameworks, and designs for leaders, collaborative projects, society, universities, and academia (Mukherjee et al., 2020). The most popular method for identifying best practices is to integrate supporting work management techniques. This strategy is supported by studies demonstrating the advantages of GHRM practices for individuals, groups, social order, local universities, and large groups (Ren et al., 2018). This is evident in the association's growing interest in environmental advancement and awareness of the GHRM strategy. Banks, emergency rooms, and educational institutions all follow this procedure.

Core Principles of Green HRM

Green Human Resource Management (GHRM) represents a paradigm shift from traditional HR practices by embedding environmental responsibility deeply into universities' culture and operations. It transcends the mere hiring of environmentally conscious employees to become a strategic approach that permeates all aspects of HR functions. Recent research has shed light on the core principles of Green HRM and its profound impact on universities' sustainability.

At the heart of Green HRM is the cultivation of environmental responsibility as a core universities value. Jabbour et al., (2013) emphasise the need for Top Management to champion sustainability initiatives and integrate environmental considerations into decision-making processes across HR functions. This involves not only rhetoric but also concrete actions that reflect the university's commitment to environmental stewardship.

In the realm of recruitment and selection, Jiao et al., (2020) stress the importance of explicitly highlighting the university's environmental commitment in job descriptions. Seeking candidates who demonstrate environmental awareness and a passion for sustainability ensures that the university's values align with those of its employees. Furthermore, offering training programs on environmental management and green practices, as suggested by Aragon-Correa & Sharma (2008), equips employees with the knowledge and skills necessary to contribute meaningfully to sustainability goals.

The integration of environmental responsibility into all HR practices is paramount for the success of Green HRM. Backhaus et al., (2017) emphasise this integration by highlighting key areas such as performance management, compensation and benefits, and career development. Performance appraisal systems can incorporate metrics related to resource conservation and waste reduction (Delmas & Berrone, 2008). Offering incentives like green commuting allowances or sustainable product discounts can further motivate employees to adopt eco-friendly practices (Chen et al., 2020). Moreover, providing career development opportunities focused on green skills prepares employees for future sustainability challenges (Wickli et al., 2013).

GHRM also places a strong emphasis on employee engagement and empowerment. Encouraging employee participation in sustainability initiatives fosters a sense of ownership and commitment (Jabbour et al., 2013). Transparent internal communication about environmental

goals and the role of Green HRM practices is crucial in gaining employee buy-in (Khan et al., 2021). Recognising and rewarding employees for their environmental commitment further reinforces desired behaviours.

Continuous improvement and monitoring are integral to Green HRM's effectiveness. Universities must track the impact of Green HRM practices on environmental footprint, employee engagement, and overall sustainability performance. Benchmarking against industry leaders and adapting practices to address emerging environmental challenges ensure long-term success.

Overall, the core principles of Green HRM provide a comprehensive roadmap for universities to foster a sustainable workforce and improve environmental performance. By integrating environmental responsibility into HR practices and fostering employee engagement, universities can create a positive impact on sustainability while attracting top talent aligned with their values in an increasingly eco-conscious world.

Benefits of Green HRM

Green Human Resource Management (GHRM) practices are essential for universities seeking to achieve environmental sustainability while enhancing their overall performance and employee engagement. These practices encompass a range of strategies and initiatives aimed at integrating environmental responsibility into every aspect of HR functions. By exploring the benefits of GHRM in detail and citing relevant recent literature, we can gain a deeper understanding of its significance. Institutions looking to improve overall performance and employee engagement while also pursuing environmental sustainability must implement Green Human Resource Management (GHRM) methods. The goal of these practices is to incorporate environmental responsibility into all facets of HR operations through a variety of tactics and

initiatives. We may comprehend the relevance of GHRM better by delving into its advantages in-depth and referencing pertinent recent research.

Firstly, GHRM plays a pivotal role in promoting environmental sustainability within universities. Studies have shown that GHRM practices contribute significantly to resource conservation, waste reduction, and energy efficiency. These initiatives align with global sustainability goals and help universities minimise their carbon footprint. For instance, research by Jabbour et al., (2013) highlights the positive impact of GHRM on reducing environmental impact through various green initiatives and eco-friendly workplace policies. Secondly, adopting GHRM practices can lead to substantial cost savings and operational efficiency. Universities implementing GHRM initiatives such as paper reduction programs, energy-efficient technologies, and waste management systems often experience direct financial benefits (Chen et al., 2020). The streamlining of processes and optimisation of resource utilisation inherent in GHRM practices contribute to enhanced operational efficiency. These efficiencies can translate into improved financial performance over time (Delmas & Berrone, 2008).

Moreover, GHRM practices are closely linked to employee engagement and satisfaction. Employees tend to be more motivated and engaged in universities that demonstrate a strong commitment to environmental responsibility (Jabbour et al., 2013). This engagement leads to higher levels of job satisfaction, increased productivity, and reduced turnover rates. Selli & Booze (2015) emphasise the positive impact of GHRM on employee retention and attraction, as employees are drawn to universities that prioritise sustainability and social responsibility. Furthermore, GHRM practices contribute to enhancing a university's reputation and brand image. Universities known for their sustainability practices and green initiatives enjoy a positive reputation as socially responsible entities (Chen et al., 2020). This positive image attracts

customers, investors, and stakeholders who value environmental stewardship and ethical business practices. Research by Jiao et al., (2020) supports the notion that strong sustainability commitments lead to enhanced brand loyalty and trust among consumers.

Lastly, GHRM practices help universities navigate regulatory compliance and manage risks effectively. By proactively addressing environmental concerns and aligning with regulations, universities reduce legal and reputational risks associated with non-compliance. Chen et al., (2020) highlights the role of GHRM in enhancing universities resilience to environmental challenges and adapting to regulatory changes. Overall, the benefits of GHRM extend far beyond environmental gains to encompass financial savings, employee well-being, enhanced reputation, and regulatory compliance. These benefits underscore the strategic importance of integrating sustainability into HR practices, positioning universities for long-term success and competitive advantage in today's environmentally conscious business landscape.

Green Human Resource Management Practices

Green HRM practices encompass environmentally GHRM activities that benefit the university by lowering costs, increasing efficiency, and improving employee retention and dedication (Ercantan & Eyupoglu, 2022). Additionally, Jamal et al., (2021) attested to the benefits of Green HRM and green scholarly capital in promoting professional workplace citizenship, giving businesses a long-term advantage. As a result, there is a tremendous need for Green HRM and for HR leaders to reconsider their roles as "environmental leaders" who actively participate in implementing natural solutions.

Green Human Resource Management (GHRM) integrates environmental sustainability into HR practices by fostering eco-friendly behaviours among employees. Key GHRM practices include green job descriptions and environmental interview questions during recruitment (e.g.,

Werther & Chandler, 2011; Darnall & Bryant, 2009). Training programs on environmental literacy and green skills development enhance employees' eco-awareness and capabilities (e.g., Sharma & Guerrero, 2015). Employee relations are strengthened through green teams, recognition programs, and effective communication of sustainability progress (e.g., Aguilera-Ruiz & Arenas-Gaitán, 2017; King & Frost, 2003). Resource management practices such as green office initiatives and sustainable procurement further contribute to universities sustainability (e.g., Carter, Ellstrand, & Takahashi, 2013). Green HRM practices encompass recruitment, training, engagement, and operational dimensions. Werther & Chandler (2011) and Darnall & Bryant (2009) establish green recruitment's role in attracting sustainability-aligned talent, though their studies focus primarily on Western contexts. Training interventions by Sharma & Guerrero (2015) and Aragón-Correa & Sharma (2008) demonstrate improved eco-literacy yet lack longitudinal evidence of behavioural impacts. Aguilera-Ruiz & Arenas-Gaitán (2017) and King & Frost (2003) highlight engagement mechanisms but omit analysis of power dynamics in green teams. While Carter et al., (2013) address operational practices, their corporate focus creates a research gap regarding higher education adaptations, particularly in developing economies where infrastructure constraints may differ significantly from Global North models.

It is widely acknowledged that Green HRM exercises provide a fundamental framework that enables universities to be more easily be able to monitor their ecological effects. In this way, it is related to how employees should accept and use environmental support in their daily work. This comprises HR initiatives aimed at improving functional proficiency as well as ecological security and protection, leading to improved performance and decreased costs for the institutions as well (Ren et al., 2018). Here, we provide the analysis summarising the innovative Green HRM practices used in this study:

Green Job Design and Analysis

Job analysis is about a social occasion of information for the knowledge, skills, and capacity that a person needs to successfully carry out a certain vocation (Stahl et al., 2020). In work planning, decisions are taken early on regarding how jobs will be moulded in terms of obligations, resources needed, human resource requirements, and working relationships within an institution (Jamal et al., 2021). Sets of expectations are one of the outcomes of occupation investigation and configuration. The job design takes a structure of a position which in a form of sets of expectations, which may include specific responsibilities, general goals, and skills required by the university in addition to other elements (Mensah, 2019). Management can use a course in work analysis and planning to ensure that workers are formally ordered to perform their jobs in an environmentally friendly manner. It also contends that knowledge of environmental issues is a requirement for performing a particular profession successfully and competently. In certain universities, each typical arrangement of obligations includes at least one commitment related to climate awareness and expressly incorporates environmental commitments whenever and wherever appropriate (Shah et al., 2021). In this way, institutions can more easily coordinate green practices while also considering the employees who oversee them.

Green job design and analysis is a pivotal component of Green Human Resource Management (GHRM), emphasising the integration of environmental sustainability into job roles and responsibilities. This approach aims to equip employees with the necessary knowledge, skills, and motivation to actively contribute to their university's environmental objectives (Njoroge & Kwasira, 2015). Job analysis within a green context involves identifying tasks and skills relevant to sustainability efforts, while job design focuses on incorporating environmental responsibilities into job roles (Sayeed et al., 2019). Implementing green job design and analysis offers several

benefits. Firstly, it leads to enhanced environmental performance as universities align job tasks with sustainability goals. Secondly, it fosters increased employee engagement by providing meaningful work that contributes to positive environmental impacts, leading to higher morale and job satisfaction among employees (Sharma & Guerrero, 2015). Additionally, universities that actively promote green jobs and practices enhance their employer branding, attracting environmentally conscious talent and positioning themselves as leaders in sustainability initiatives.

To effectively implement green job design and analysis, universities can follow key steps such as conducting environmental audits to identify areas for redesigning jobs, reviewing existing job descriptions to incorporate environmental responsibilities, providing training programs to develop green skillsets among employees, and fostering a culture of empowerment where employee suggestions for environmental improvements are encouraged and acted upon. Overall, green job design and analysis are instrumental in cultivating an environmentally conscious workforce and achieving sustainable universities outcomes. By integrating sustainability into job roles, universities can create a positive impact on the environment while also reaping benefits such as increased employee engagement and a strengthened employer brand.

Green Recruitment and Selection

Green Recruitment and Selection have become basic parts of universities sustainability initiatives (Sachdeva & Singh, 2022; Pham & Paillé, 2020). As indicated by Goel et al., (2022), integrating ecological elements into recruitment processes works on hierarchical standing and draws in naturally faithful volunteers. This technique permits universities to draw in and hold best individuals with equivalent natural standards. Jamil et al., (2023) underlines the need of remembering ecological obligations for sets of responsibilities to draw in candidates with green gifts. Besides, utilising on the web Recruitment stages and social media brings down paper

utilisation and carbon footprint (Freitas et al., 2020). Jiang et al., (2024) found that universities that execute Green Recruitment methods have higher worker commitment and retention.

In the segment of deployment, the importance of good relationships is considered. It enables a group to create a potential candidate pool from which the best candidates can be chosen. Green selection is a paperless enlistment procedure with negligible environmental impact. Electronic means such as email, online application systems, or the Global Talent Pool are used to acknowledge applications (Abiwu & Nunoo, 2021). According to the point, universities are doing everything they can to ensure that the selected people are recruited, but the system remains as harmless to the ecological system as is reasonably possible. Dahlmann et al., (2019) research universities that opting electronically reduces the energy and pollution associated with collecting, transferring, and recycling paper goods. Furthermore, process technology plays a crucial role in conserving energy throughout various stages of task management, including mailing, gathering, handling, recording, and filing. By minimising work area activities related to resumes, promotions, and enrolments, institutions can significantly reduce costs and achieve substantial savings.

Universities should make sure that the correct green competitors are chosen in a green manner after bringing in new entrants in a green way. The decision-making assessments in Green Selection may also be as paperless as is conceivable, such as social perception, question and answer sessions, and demonstration, which uses less paper. Additionally, preferences could be given to young people who are more naturally environmentally conscientious and kind or who have strong motivation to preserve the workplace and climate sustainability or climate for what it's worth (Gilal et al., 2019). This means that any exam that is used to assess job applicants must be designed in such a way that, among the various models, candidates who have knowledge of ecological preservation and a desire to rescue the environment are certain to be chosen. According

to Demir et al., (2019) opting electronically reduces the energy consumption and pollution associated with gathering, transferring, and recycling paper products. Additionally, process computerisation saves energy when shipping, collecting, organising, reporting, and announcing assignments. Direct expense reserve funds are generated by reducing desk work associated with resumes, advertising, and onboarding.

The GRS (green recruiting and selection) is a strategy for luring applicants who are overly eager or driven to support an educational institution's environmental cause (Jamal et al., 2021). An essential component of GHRM practice is green recruiting and selection, which aids in identifying green personnel with a bent toward going green and developing a green heritage (Amerta & Dauda, 2020). According to prior research, GRS consists of three elements: green employer branding, green applicant perception, and green hiring standards (Paille et al., 2019). Getting candidates to pay attention to green issues is the first and most crucial part of GRS. Employees should first receive green certification (candidates). This enables institutions to attain their ideal environmental and financial objectives. Institutions must therefore carry out several evaluations to make sure that candidates are enthusiastic about the strategic environmental goals of the institution.

Green recruitment and selection are the most widely used method of utilising eco-accommodating techniques, devices, and advances in attracting and choosing a reasonable workforce who are eager to fill open positions in a specific institution. Even though different models are constantly viewed as choosing position competitors, eagerness and capacity of the possibility of preserving the climate are tested. Green drives should be well-planned at this point because recruitment and selection play a big role in enrolling workers. This will help to ensure that candidates who are eager and ready to take green drives are hired.

Besides, including environmental issues for interviews assesses applicants' qualities and information (Chaudhary, 2020). The execution of economical assessment strategies, for example, online assessments and companion surveys, limits paper squander while expanding by and large recruitment effectiveness (Rana and Arya, 2024). Nonetheless, challenges remain, remembering an absence of consistency for green recruitment and selection systems (Goel et al., 2022). Mirhadian et al., (2024) recognised three significant drivers of Green Recruitment: university culture, administration responsibility, and stakeholder pressure. Sitko's (2023) research additionally underlined the importance of representative training and improvement in expanding natural mindfulness and propensities. With regards to green recruitment, university branding is basic for drawing in environmentally cognisant candidates (Pham and Paillé, 2020). Associations should show their obligation to supportability through open announcements and communication (Goel et al., 2022). The joining of green recruitment into existing HR processes is difficult (Jamil et al., 2023). However, research has shown that Green HRM practices, for example, recruitment and selection, support hierarchical execution and maintainability (Sachdeva & Singh, 2022). To sum up, Green Recruitment and Selection are significant for achieving universities sustainability targets. Universities that utilise eco-friendly recruitment methods can draw in and hold top work force while diminishing their natural effect.

Shaping of Green Discipline at Work

University administrators should put in a lot more effort to oversee employees properly. According to Ghosh (2022), achieving green performance results necessitates human resource assessments that aid in general performance and the conservation of ecological control systems in institutions (Clark et al., 2020). The successful adoption of moral and ethical practices to improve effectiveness and efficiency in the natural environment depends on green HR initiatives (Ruediger

et al., 2021). Green institutions can reap several benefits from Green HR performance, including increased employee inspiration, commitment, and certainty (Ghosh, 2022). Employees will most likely demonstrate increased efficiency and will be more loyal to the university. There would consequently be fewer staffing shortages. The value of green businesses in advancing social responsibility is universally acknowledged, and the use of Green HR can attract top talent because a green business is seen as really alluring. Additionally, Green HR results in more efficient business procedures and improved product or service quality (Soldatos, 2018).

One crucial element of green discipline is ensuring environmental literacy among employees, ensuring they understand environmental challenges and the university's sustainability goals (Sultana et al., 2021). Training modules and workshops have proven effective in achieving this goal., allowing for interactive learning and knowledge dissemination (Tariq et al., 2019). Additionally, behavioural change plays a vital role in green discipline, encouraging employees to adopt eco-friendly practices such as using reusable items, reducing paper waste, and optimising energy consumption (Aiken & Latan, 2018).

Positive reinforcement strategies have emerged as effective tools for promoting sustained environmental engagement among employees (Banerjee et al., 2018). Recognising and rewarding environmentally responsible actions not only motivates employees but also highlights the positive impact of their contributions. Furthermore, leadership plays a pivotal role in shaping green discipline, with visible commitment from senior management being increasingly emphasised (Hahn et al., 2020). Leaders who champion green initiatives and integrate sustainability into decision-making set a powerful example for the entire university, fostering a culture of environmental responsibility.

In the last decade, strategies for shaping green discipline have evolved to include initiatives such as integrating environmental factors into performance management, empowering green teams to drive sustainable solutions, prioritising transparency, and communication around environmental goals, and leading by example through visible actions (Murillo-Luna et al., 2018; Arenas-Gaitán & Aguilera-Ruiz, 2017; Aragón-Correa & Sharma, 2017; Khan et al., 2021). These studies collectively address green discipline through distinct lenses: Murillo-Luna et al., (2018) on management systems; Arenas-Gaitán and Aguilera-Ruiz (2017) on collaborative structures; Aragón-Correa and Sharma (2017) on leadership paradigms; and Khan et al. (2021) on communication frameworks. Their combined insights inform contemporary practice." These strategies not only contribute to improved environmental performance and cost savings but also enhance employee engagement, boost employer branding for sustainability, and position universities as leaders in the eco-conscious job market of the 2020s. A combination of green goals and practices, research on how people perceive ecological stages of development, and significant progress toward universities goals, as per HRM practices used by top management, argue against the idea that university should change their continuous improvement strategies to protect the environment because it has been demonstrated that doing so will benefit them more than the environment (Saeed et al., 2019).

Green Training and Development

Green Training and Development (GTD) has filled in prominence as of late as universities perceive its significance in further developing worker performance and organisational sustainability. GTD is basic for imparting ecological obligation in associations and fostering a labour force equipped for tending to current ecological worries (Amjad et al., 2021). It goes about as an essential device for remembering workers for environment related navigation and furnishing

them with basic abilities for effective environmental management. This training covers energy protection, waste reduction, and ecological obligation, permitting associations to foster a culture of manageability (Deshpande & Srivastava, 2023).

To compete in the current difficult and important environment, university and progress are essential. On a very basic level, training and development are related to how employees perform, but their overarching impact extends to an institution as well (Amjad et al., 2021). Green training and development provide employees with an opportunity to interact with staff in climate decision-making, as well as teach them about the value of environmental management, and working techniques that monitor energy, reduce waste and spread biological ecological care within the establishment (Crane et al., 2019). Green training and development do not stop with providing employees and the board with information and abilities on environmental management issues; it also necessitates an interaction that is environmentally friendly.

Zhang et al., (2019) suggest that training leaders should rely more on online course materials and logical research rather than printed presents, books, and brochures to reduce the use of paper. Environmental readiness satisfies two key needs. Most crucial is to properly inform the representatives of the institution's environmental policies, as well as to modify labourer behaviours through careful planning in order to create a more aware and stable relationship between workers and environmental change (Chaudhary, 2020, Pham et al., 2020).

Green training is a planned set of activities that motivates staff to become knowledgeable about environmental protection and consider crucial environmental issues to achieve environmental goals (Jyoti et al., 2019). Employees' environmental awareness, knowledge, and abilities can be improved through training (Ahmed et al., 2020). Researchers believe that all

university staff members should have access to environmental education and training programs. These programs should not just be available to environmental universities' departments.

The programs, seminars, workshops, and sessions in your university's training and development initiatives must support employees in acquiring and using green skills (Cabral & Dauda, 2020). Green training and development (GTD) is an essential component of Green Human Resource Management (GHRM), focusing on equipping staff with the information, skills, and behaviours required to support an organization's environmental sustainability goals. Universities that invest in GTD efforts can build an environmentally conscious staff, resulting in significant benefits across multiple dimensions.

One of the key elements of GTD is environmental awareness training, which provides employees with a foundational understanding of environmental issues and how their roles contribute to sustainability objectives (Sharma & Guerrero, 2015). Additionally, GTD programs emphasise green skills development, going beyond awareness to equip employees with practical skills like energy conservation and waste reduction techniques.

Leadership training tailored for sustainability is also crucial within GTD frameworks. Such programs empower leaders to champion green initiatives, integrate environmental considerations into decision-making processes, and motivate employees towards sustainable practices (Deng et al., 2018). The benefits of implementing effective GTD programs are manifold. They lead to enhanced environmental performance by reducing resource consumption and waste generation, ultimately contributing to measurable improvements in sustainability metrics (Selli & Booze, 2015). Moreover, GTD initiatives foster increased employee engagement, job satisfaction, and a sense of purpose among employees as they actively contribute to environmental goals (Jabbour et al., 2013). Furthermore, GTD programs stimulate innovation and problem-solving capabilities,

encouraging employees to develop creative solutions for environmental challenges (Chen et al., 2020). Additionally, universities with robust GTD frameworks enhance their employer branding, attracting environmentally conscious talent and enhancing their reputation as sustainable employers (Backhaus et al., 2017).

Designing effective GTD programs involves conducting a thorough needs assessment to identify knowledge gaps and tailor training programs accordingly. These programs should be delivered through interactive and engaging methods such as workshops, simulations, and online modules to ensure effective learning outcomes. Fostering a culture of continuous learning is also crucial, emphasising knowledge sharing, regular updates on environmental best practices, and opportunities for ongoing development and skill enhancement among employees.

As indicated by research, web based instructional classes help to minimise resource consumption while likewise reassuring a more extensive sustainability mentality inside associations. Besides, successful GTD joins with Green Human Resource Management (GHRM) targets by engaging individuals to become manageability advocates, connecting individual endeavours to organisational objectives (Benevene and Buonomo, 2020). The center of GTD is ecological mindfulness training. This training instructs representatives on basic ecological issues and makes sense of how their jobs add to hierarchical manageability drives (Moradeke et al., 2021). Workers that get "green abilities" training can effectively partake in sustainability projects, which remember capacities for energy management, sustainable procurement, and waste-minimisation techniques (Barakat et al., 2023). At the point when individuals have such skills, associations gain from upgraded ecological execution as well as higher worker commitment and morale (Yafi et al., 2021).

To make successful GTD programs, associations should do thorough requirements evaluations to recognise explicit ecological information gaps in their workforce (Deshpande and Srivastava, 2023). Workshops, simulations, and online modules are instances of intelligent and connecting with conveyance procedures that can assist with further developing learning results. Cultivating a culture of constant learning is basic; associations ought to empower knowledge sharing amongst staff, give customary updates on environmental best practices, and give opportunities to ongoing professional developments (Barakat et al., 2023). In conclusion, GTD is a progressive procedure that associations might use to coordinate supportability into their functional structures. Associations that put resources into GTD ventures might construct a labour force that is not just mindful of natural worries, yet in addition able to really tend to them. The drawn-out benefits of such undertakings, which incorporate superior natural execution, better worker commitment, and advancement, feature GTD's basic job in achieving long haul universities achievement.

Green Performance Evaluation

Green Performance Evaluation (GPE) is a basic part of Green Human Resource Management (GHRM), going past conventional Performance estimations and integrating environment considerations into employee appraisals. This innovative method expects to accomplish multiple objectives, such as fostering environmental responsibility in employee behaviours, promoting eco-friendly activities, and facilitating information driven decision-making for sustainability programs. Effective GPE fits with overall points of natural sustainability, empowering representatives to embrace eco-cognisant ways of behaving, as proven by Li et al., (2020).

Employees can strengthen their professional abilities through performance management, which enables them to accomplish universities goals more successfully (Ribeiro et al., 2022). Top-management promotes the development of green regulations, such as environmental commitment, environment generation, and fossil fuel reduction, to be implemented or applied by all workers at the presentation exam because of its ecologically responsible practice. They should be advice for carefully planned green presentations - distributing information about regulations and issues connected to goods and climate change (Saeed et al., 2019). These metrics are necessary for the performance of the governance framework in order to assess the conduct of employees and directors and to recognise and reward their efforts to adhere to GHRM principles at work (Kim et al., 2019, Amrutha & Dauda., 2020). Another method of estimating the green exhibition is to manage the green presentation outcomes of individuals who do not meet the EM criteria (Jamal et al., 2021). As a result, these negative measures may contribute to persuading employees to maintain green objectives in their work.

Green performance evaluation (GPE) stands as a fundamental component of Green Human Resource Management (GHRM), surpassing traditional performance metrics by incorporating environmental considerations into employee appraisals. This approach serves multiple objectives, such as emphasising environmental responsibility in employee behaviours, motivating eco-friendly practices, and enhancing decision-making for sustainability initiatives based on data-driven insights. GPE is structured around specific objectives that align with the overarching goals of environmental sustainability. It promotes a shift towards eco-friendly behaviours among employees, as highlighted by Aguilera-Ruiz & Arenas-Gaitán (2017). Moreover, GPE serves as a powerful motivational tool by linking individual performance to environmental outcomes, encouraging continuous improvement and innovation towards sustainability (Jabbour et al., 2013).

Additionally, it contributes to improved decision-making by providing valuable data on areas where employee behaviour significantly impacts environmental performance, aiding in targeted training and resource allocation strategies (Selli & Booze, 2015).

The components of GPE encompass several key elements to ensure its effectiveness. This includes integrating SMART (Specific, Measurable, Achievable, Relevant, Time-bound) environmental goals into individual performance objectives, assessing green behaviours that contribute to sustainability, and incorporating relevant environmental performance metrics alongside traditional measures (Deng et al., 2018). However, challenges such as data collection accuracy, goal alignment, and maintaining fairness and objectivity in evaluations must be carefully considered and addressed during the implementation of GPE (Chen et al., 2020; Tariq et al., 2019). "GPE implementation faces three core challenges: Chen et al. (2020) evidence data reliability issues in environmental metrics, while Tariq et al. (2019) demonstrate structural barriers to cross-functional goal alignment. Their research jointly highlights the risk of evaluation bias when assessing sustainability performance, proposing institutional safeguards to ensure objectivity."

To implement GPE effectively, strategies like employee involvement in criteria development, transparent communication of evaluation processes and metrics, and providing training and support for understanding environmental responsibilities are essential (Jamal et al., 2021).

This fosters a sense of ownership among employees, promotes participation, and ensures a fair and objective evaluation system. GPE serves as a valuable tool for universities committed to environmental sustainability, offering a structured approach to assess and reward employee contributions towards green initiatives. However, successful implementation requires a thoughtful approach, clear communication, and a commitment to fairness and objectivity to derive maximum

benefits in achieving sustainability goals. By linking individual performance to ecological outcomes, GPE is a successful motivation for constant encouragement towards sustainability (De Souza et al., 2022). This combination of individual and hierarchical objectives makes a culture in which employees accept their commitments straightforwardly affect the bigger sustainability setting, prompting expanded commitment and obligation to green practices. Besides, GPE assists associations with pursuing better choices by giving valuable experiences into what worker ways of behaving mean for environmental performance, permitting them to target training and resource distribution effectively (Guo et al., 2020).

The implementation of GPE incorporates a few basic components that work on its effectiveness. This incorporates integrating SMART (Specific, Measurable, Achievable, Relevant, Time-bound) environmental objectives into individual performance goals, assessing green ways of behaving that add to sustainability, and consolidating applicable ecological performance metrics alongside customary performance measures (Kumar et al., 2020; Mousa and Othman, 2020). This permits universities to appropriately assess workers' multifaced commitments to environmental targets while accentuating the significance of individual responsibility in accomplishing sustainability objectives.

Nonetheless, carrying out GPE is not without challenges. Universities should address concerns, for example, information gathering accuracy, objective alignment across departments, and maintain decency and objectivity (Al-Alawneh et al., 2024; Mousa and Othman, 2020). In the event that these issues are not completely considered and controlled, they can possibly undermine GPE's effectiveness. For instance, botches in data collection could prompt misinformed decisions, and an absence of alignment among universities and individual objectives can result in worker disappointment.

To address these difficulties, effective GPE requires comprehensive strategies, for example, employee cooperation in the development of evaluation standards, open communication of evaluation processes and metrics, and giving training and support to explain natural obligations (Li et al., 2020). Engaging employees in the process fosters a feeling of ownership, supports greater cooperation, and ensures that the evaluation system is viewed as fair and objective. Universities can likewise further develop GPE by continually evaluating and updating performance metrics to reflect changes in sustainability objectives and emerging environmental challenges. This flexibility ensures that GPE stays important and spurs workers to take on green behaviours. Universities can advance a culture of continuous improvement by executing input devices that permit employees to impart their insights on the evaluation process.

In conclusion, GPE is a significant apparatus for associations dedicated to ecological sustainability, giving an organised way to deal with surveying and compensating employees commitments to green initiatives. Effective implementation is reliant upon a cautious approach, clear communication, and a strong obligation to decency and objectivity, permitting universities to expand the advantages of GPE in accomplishing their sustainability targets. As the attention on environmental obligation grows, compelling GPE frameworks will certainly turn out to be more significant in laying out universities practices and fostering an environmentally dependable labour force.

Green Employee Relations

Green Employee Relations (GER) is a significant part of Green Human Resource Management (GHRM) that focusses on building positive connections among workers and the executives to accomplish environmental sustainability objectives together. This field of HRM, the executives stress the need to create strong manager-worker associations that further develop

employee commitment, prosperity, and in general work environment effectiveness. Positive employee relations benefit universities by advancing joint effort and reinforcing work environment bonds (Unsworth et al., 2021).

Employees' relations are the area of HRM concerned with establishing friendly manager-worker relationships. The relationship fosters the employees' inspiration and spirit while also increasing efficiency. Fundamentally, employee's relations include exercises in worker cooperation and unity (Das et al., 2019). Additionally, it prevents and resolves disputes that might arise in the workplace and interfere with the work. Positive employee relations are unquestionably a real and practical asset as well as a source of advantage for any group. By aligning employees' objectives, capabilities, motivations, and observations with green university practices and structures, employee contribution in green drives increases the potential for working on green universities (Fernandez et al., 2022). Recalling EM (environmental management) employees has been portrayed as further developing EM structures such as efficient resource use, waste reduction, and taint reduction in workplaces. Several experts believe that certain reinforcement fundamentally affects effectiveness and performance, as well as harmony, individual thinking, and clear reasoning abilities (Zhang et al., 2019).

The scope of employees' relationships should be expanded by launching an idea plot within the university, where every employee from the highest to the lowest level has the potential to contribute to the plan. This training will aid in increasing awareness of environmental issues. Furthermore, new ideas for eco-friendly practices may emerge from a variety of sources (Oyedokun, 2019). Other advantages of employee contribution include increased worker and hierarchical well-being and awareness, as well as the advancement of environmentally friendly

employees. We propose that by keeping the arrangements in place, long-haul trust among the administration and workers will be built, giving the user an opportunity (Singh, et al., 2020).

Essentially, Employee relations include efforts aimed at expanding labourer interest, further developing collaboration, and settling work environment issues. Universities can boost employee contribution in sustainability projects by successfully matching their points, abilities, inspirations, and perceptions with universities green practices (Fernandez and Ganesan, 2023). Coordinating Environmental Management (EM) employee is important for further developing EM systems and advancing effective resource utilisation, waste reduction, and contamination relief inside universities' settings. As per research, positive reinforcement in employee relations significantly affects general effectiveness, work environment harmony, and increases cognitive abilities, fostering clearer decision-making capacities (Onkila and Sarna, 2022).

Green employee relations (GER) are an integral component of Green Human Resource Management (GHRM), focusing on cultivating positive relationships between employees and management to achieve environmental sustainability goals collaboratively. GER encompasses various key objectives and strategies aimed at fostering employee engagement, effective communication, collaborative problem-solving, fairness, and recognition within the context of sustainability initiatives. GER's primary objectives include creating an engaged and empowered workforce that is motivated to contribute to sustainability goals (Sultana et al., 2021). This is achieved through effective communication channels that promote transparency and openness regarding environmental initiatives, challenges, and progress (Tariq et al., 2019). GER also encourages collaborative problem-solving by involving employees in the development and implementation of green solutions, fostering a sense of ownership and commitment (Arenas-Gaitán & Aguilera-Ruiz, 2017). Furthermore, fairness and recognition are emphasised to ensure

employees are treated fairly and rewarded for their contributions to environmental sustainability efforts.

Implementing effective GER strategies involves creating green teams or committees comprising employees from various departments to brainstorm ideas and collaborate on sustainable practices (Arenas-Gaitán & Aguilera-Ruiz, 2017). Clear and consistent communication channels are established to keep employees informed and engaged, while training and development opportunities are provided to enhance their understanding of environmental issues and their role in achieving sustainability goals (Tariq et al., 2019).

The benefits of strong GER practices are manifold, including enhanced environmental performance through higher employee engagement and a culture of innovation. Increased employee satisfaction and reduced turnover are also observed when employees feel valued and empowered in contributing to sustainability efforts. Moreover, universities with robust GER practices improve their employer branding, attracting environmentally conscious talent and fostering stronger employer-employee relationships built on shared responsibility for sustainability goals (Sultana et al., 2021). Expanding the extent of employee relations can be achieved by presenting comprehensive planning processes inside universities, which permit workers at all levels to share thoughts and techniques. This participatory technique raises environmental mindfulness, yet it additionally cultivates innovative eco-friendly ways of behaving (OKIKIOLA and ADUNOLA, 2023). Cultivating employee commitments has long haul benefits, including building trust among the board and employee and empowering a culture of shared liability regarding sustainability practices.

GER comprises of several key targets planned at fostering a connected and engaged labour force propelled to add sustainability objectives (Dewi et al., 2023). One of GER's key strategies is to establish effective communication channels that empower straightforwardness in environmental initiatives, tending to the challenges and progress (Fernandez, Ganesan, and Yeow, 2022). Moreover, GER encourages cooperative critical thinking by effectively coordinating workers in development and execution of green solutions, which encourages a feeling of ownership and builds obligation to environmental practices (Dewi et al., 2023). The commitment to equity and acknowledgment is basic in causing workers to feel esteemed and compensated for their commitments to sustainability endeavours.

Making cross-useful green groups or boards comprised of employees from a few divisions entrusted with examining and collabourating on sustainable practices can help execute compelling GER procedures (Dewi et al., 2023). Besides, keeping up with clear and reliable communication is basic for keeping employees educated and involved. Training and development opportunities are basic for expanding employees' comprehension of environmental issues and supporting their jobs in accomplishing sustainability targets. Solid GER outcomes have different great results, including working on environmental execution because of expanded employee commitment and a vigorous culture of development (OKIKIOLA & ADUNOLA, 2023).

Universities that focus on GER practices habitually report expanded worker satisfaction, lower turnover, and higher morale, as employees feel appreciated and enabled to partake to sustainability endeavours. Besides, universities with advanced GER structures further develop their employer branding and attract eco-cognisant ability. This not just reinforces universities in view of obligation regarding sustainability objectives, yet it likewise supports universities'

obligation to long haul ecological stewardship (Olanipekun & Genty, 2018). In effect, GER are critical for fostering a staff that is effectively engaged with sustainability initiatives. Universities might help employee commitment, work on environmental performance, and construct an environmental culture that benefits the workers and the association in general by creating strong communication, empowering participation, and guaranteeing fair acknowledgment.

Green Innovation

The growing demand for environmentally friendly, biologically protected labour and goods is a driving force behind green innovations (Liu & Yan, 2018). The green economy has grown over the past several years to become a successful industry (Shuai & Fan, 2020). Models include energy-saving devices and green innovations throughout institutions' supply and value chains. Corporations with important green development capabilities and abilities may succeed in outwitting competitors and becoming dominant industry players (Xue et al., 2019; Zhang et al., 2019). Additionally, implementing green innovations enhances a corporation's use of resources while also rebuilding universities frameworks to ensure viability and proficiency (Shahzad et al., 2020; Xie et al., 2019). Initiatives are focused on preparing green talented employees and green competencies (Amrutha & Geetha, 2021), as well as providing board operational insights, to ensure continual development and improvement in the green space (Gauthier and Zhang, 2020). Additionally, institutions' green marketing strategies support raising awareness of green development among both internal and external stakeholders (Chung, 2020; Masocha, 2018).

Green innovation has become a crucial force in addressing environmental challenges over the past decade, encompassing the development of new technologies, processes, products, services, and business models aimed at minimising environmental impact and promoting sustainability. Recent advancements and literature highlight various types of green innovation and

their significant benefits while also acknowledging challenges that need to be addressed in the 2020s. One prominent type of green innovation observed in the 2010s is product innovation with a sustainable focus, such as the rise of eco-friendly products made from recycled materials or designed for reduced energy consumption (Aiken & Latan, 2018). Process innovation has also been instrumental, focusing on resource efficiency through waste minimisation and adoption of renewable energy technologies like solar and wind power (Chen et al., 2020). Additionally, service innovation has emerged with green transportation options, carbon offset programs, and sharing economy platforms promoting resource utilisation. Moreover, business model innovation has seen a shift towards circular economy practices and supply chain redesigns to minimise environmental impact (Nelson & Grayson, 2017).

The benefits of green innovation in the last decade are evident, including reduced environmental pollution, cost savings for businesses through sustainable practices, competitive advantage in a green economy, and job creation in green sectors (Selli & Booze, 2015; Jabbour et al., 2013; Backhaus et al., 2017; Khan et al., 2021). Notable examples of green innovation include the electric vehicle revolution, plant-based meat alternatives, smart grid technology, biodegradable materials, and vertical farming, showcasing diverse approaches towards sustainability. Green innovation's decade-long impact emerges through both research and practice: Selli and Booze (2015) and Jabbour et al. (2013) empirically validated environmental and economic benefits, while Backhaus et al. (2017) and Khan et al. (2021) confirmed competitive and labour market advantages. These findings materialise in technologies like smart grids and plant-based proteins - tangible solutions addressing ecological challenges while creating value across manufacturing, energy, and agricultural sectors.

However, the 2020s pose challenges for green innovation, such as high upfront investment costs, the need to shift consumer behaviour towards sustainability, and navigating policy and incentive landscapes (Deng et al., 2018; Murillo-Luna et al., 2018; Banerjee et al., 2018). Overcoming these challenges requires concerted efforts from businesses, policymakers, and environmental universities to foster innovation, educate consumers, and create supportive regulatory environments. Green innovation has turned into an undeniably significant part in handling natural worries in the cutting-edge economy, attributable to rising interest for harmless to the ecosystem and practical items and administrations (UTakalo and Tooranloo, 2021). Lately, the green economy has developed into a rewarding area with critical turn of events and commitment (Arici and Uysal., 2022). This development incorporates various models, for example, energy-saving contraptions and green practices coordinated all through supply and worth chains, which are basic to authoritative flexibility and intensity (Tolliver et al., 2021; Xiang et al., 2022).

Institutions that support solid green innovation capacities stand to beat their opposition and lay down a good foundation for themselves as ruling forerunners in their areas. Executing green developments further develops asset usage as well as rejuvenates authoritative systems, guaranteeing practicality and effectiveness (Wang et al., 2022; Huang et al., 2022). Putting resources into the schooling of prepared faculty and supporting green abilities are basic parts of this innovation, since they empower progressing improvement (Irfan et al., 2022). Moreover, particular green showcasing systems help to bring issues to light of reasonable practices among both inward and outside partners, featuring the significance of green improvement projects (UTakalo & Tooranloo, 2021; Tolliver et al., 2021).

Ongoing advances in green development have featured many kinds and going with benefits. Reasonable item innovation has filled in ubiquity throughout the past ten years, with eco-accommodating things produced using reused materials or intended to utilise less energy (Arici and Uysal., 2022). Process development has demonstrated basic, with an accentuation on expanding asset effectiveness through squander decrease and the utilisation of environmentally friendly power sources, for example, sun oriented and wind power (Huang et al., 2022). Besides, administration development has arisen, with green portability choices, carbon offset projects, and sharing economy stages advancing ideal asset usage (Wang et al., 2022). Plan of action developments have likewise acquired prominence, focusing on roundabout economy practices and production network overhauls to decrease natural impact (Irfan et al., 2022).

The advantages of green development are numerous. Associations that embrace supportable practices oftentimes report lower ecological contamination and huge expense reserve funds, giving them an upper hand in the growing green economy (Xiang et al., 2022; UTakalo & Tooranloo, 2021; Tolliver et al., 2021; Wang et al., 2022). Remarkable instances of successful green innovations incorporate the electric vehicle upheaval, plant-based meat substitutes, savvy framework innovation, biodegradable materials, and vertical cultivating frameworks, which show changed ways to deal with maintainability. Scholarly evidence confirms green development delivers multifaceted benefits. Xiang et al., (2022) document significant pollution reduction in adopting industries, while Utakalo and Tooranloo (2021) identify substantial cost savings through circular economy practices. As Tolliver et al., (2021) and Wang et al., (2022) demonstrate, these approaches concurrently enhance market competitiveness. Practical implementations range from electric vehicles revolutionising transport to plant-based proteins reducing agricultural impacts –

exemplifying how sustainable innovation addresses environmental challenges while creating commercial value across sectors."

Nonetheless, the 2020s give specific deterrents to green innovations that should be painstakingly taken care of. Associations keep on confronting significant difficulties, including high forthright speculation costs, the need to adjust customer conduct towards supportability, and the intricacies of arranging changing regulation and motivating force scenes (UTakalo and Tooranloo, 2021; Arici and Uysal., 2022; Tolliver et al., 2021). To effectively address these hardships, universities, officials, and natural associations should cooperate to drive development, instruct shoppers, and lay out strong administrative systems. This cooperative methodology can assist with conquering hindrances to green development and assurance that maintainability is incorporated into the texture of corporate plans. "The 2020s introduce unique obstacles to green innovation, particularly financial constraints, consumer resistance, and regulatory uncertainty (Utakalo & Tooranloo, 2021; Arici & Uysal, 2022). Tolliver et al. (2021) stress that without intervention, these barriers may slow the green transition. Effective solutions require tripartite cooperation: universities accelerating R&D, governments stabilising policy frameworks, and NGOs promoting behavioural change. Only through such integration can sustainability transition from corporate tokenism to operational core priority. Failure to align these efforts risks locking economies into high-carbon pathways despite available technologies."

Summarily, green development is a vital driver of maintainability in different disciplines, giving huge advantages like ecological greatness, monetary feasibility, and expanded client commitment. As the worldwide scene develops, persistent interest in green innovation and cross-area joint effort will be basic to tending to serious ecological worries and profiting by new green economy possibilities.

Green Reward

Green reward systems are important for motivating workers and identifying significant success in environmental management (Agrawal & Bansal., 2022). The goal of implementing incentives criteria is to attain, sustain, and motivate people to perform effectively while also recognising the need for environmental protection (Das & Dash, 2023a). Green reward systems are designed to align with a firm's green policies and practices, promoting green efforts in the workplace, lifestyle, and carbon footprint reduction (Das & Dash, 2023b). People should be awarded bonuses for their efforts to comprehend and promote an eco-friendly culture (Darvishmotevali & Altinay, 2022). Universities can employ a variety of reward schemes to encourage green skills acquisition.

Rewards can take the form of financial EM rewards (e.g., premiums, cash, bonuses), non-financial EM rewards (e.g., leave, gifts, sabbaticals), recognition-based EM rewards (e.g., external roles, daily praise, dinners), and positive EM rewards (e.g., feedback) (Emel & Caliskan, 2019; Farooq et al., 2021). All of these types of reward systems value workers who engage in green practices (Jyoti, 2019), by recognising and rewarding people who are committed to environmental goals, as well as managers who motivate their subordinates to carry out eco-initiatives (Emel & Caliskan, 2019). Several studies have found that universities can achieve positive environmental performance by offering various types of rewards such as appreciation letters, promotions, job advancement, bonuses, cash, and gifts (Agrawal & Bansal., 2022; Jyoti, 2019). Green reward and compensation mechanisms comprise all economic and non-economic advantages offered to employees to recruit, inspire, and engage them in achieving green universities goals (Darvishmotevali & Altinay, 2022). A green reward and compensation system also encourage

employees to adopt environmentally friendly practices. According to social exchange theory, positive behaviour occurs when an individual gains a positive benefit in terms of behavioural consequences (Farooq et al., 2021). Mandago (2018) suggests that the application of these methods is critical for increasing employees' universities' interest while amplifying their efforts and commitment to achieving universities goals.

Workplaces would ideally benefit from implementing a compensation system for waste reduction strategies developed by teams. For example, in the United States, DuPont has an Environmental Respect Awards program that recognises employee environmental achievements, and Nordstrom and 3M both offer rewards for individual employee suggestions that help the environment and increase firm profitability (Agrawal & Bansal., 2022). Reward packages are linked to the acquisition of specific skills and competencies (rather than just performance), as they are considered crucial for long-term performance; for instance, knowledge of environmental legislation or chemistry may prevent serious accidents or illegal emissions (Jyoti, 2019). In general., such companies are seen as needing to establish reward systems to promote desirable behaviours in EM, which involves the effective use of both incentives and disincentives (Das & Dash, 2022).

Concept of Corporate Sustainability Performance (CSP)

Corporate sustainability performance increasingly focuses on assembling their moral commitments to prevent environmental harm (Shaukat & Trojanowski 2018). CSP includes a number of elements, such as social., ecological., and financial maintenance exercises (Villalonga, 2019). The efforts of management to strike a balance between moral standards demanded by the market and social commitments are regarded as the social component of CSP (Batista & de

Francisco, 2018). It is anticipated that environmental CSP practices will re-plan hierarchical cycles to an environmentally friendly interaction using eco-plan standards. It is also directed toward decreasing resource usage, which would influence how well businesses operate (Singh et al., 2020; Sun et al., 2019). The financial aspects of CSP aim to employ the best resources (people and materials) to deliver and provide the best incentive for customers (Annunziata et al., 2018), by providing green products and services to enable the business to protect the native environment and assets (Annunziata et al., 2018).

The three elements of CSP (finance/economic, social and environmental) are frequently useful in that, adopting green-friendly practices may give corporations an advantage by ensuring that universities obey the administrative and natural requirements, maintain their market position, and as well its cherished values (Albort-Morant et al., 2016). Regardless of their importance for enhancing universities' CSP in the fast-developing green economies, development consequences on CSP are less frequently taken into account (Laskar, 2018; Abu Seman et al., 2019). This is especially true in non-industrialised countries, which provide most of the contemporary materials used worldwide (Baah and Jin, 2019; Frempong et al., 2021). There is a general perception of the positive impact of GHRM on the relationship between CSP in public universities with the aid of effective management.

The concept of "sustainability" connotes different things to different people. There are several factors to consider when determining if an idea is viable from a financial., environmental., and/or social standpoint (Salas-Zapata et al., 2019). The Brundtland Commission is credited with being the first to use the term "sustainability." This was described as "meeting demands now without compromising people's ability to deal with their own challenges in the future (Sheehy & Farneti 2021; Ben-Eli 2018). The ability to maintain the environment was the original meaning of

the word "sustainability," but it is now used to apply to all perspectives of social and societal consequences (Ekardt, 2019). Taking care of an institution's three key pillars: people, profits, and the environment is what sustainability is all about (Ruggerio, 2021). CSP and green progress are impacted by both internal and external factors (Frempong et al., 2021). The obligation of senior management to CSP, the institution's commitment to sustainability, and staff natural/supportability consciousness are among the internal factors (Jia et al., 2018; Zhou et al., 2018). Conflicts with administrative bodies and partners' (like clients') desire for eco-friendly products and services are examples of outside forces (Corsini et al., 2019; Zhang et al., 2021). By minimising local area harm from its products, cycles, and use modes that are considered appealing to clients who are environmentally conscious, green CSP procedures ensure that a corporation remains competitive (Allameh, 2018).

Studies claim that universities gradually adopt green creativity, albeit these may vary by university and modern location (Asadi et al., 2020; Li and Zeng, 2020). In addition, a university's size and income have an impact on its green strategy, awareness, and implementation of general corporate sustainability practices (Allameh, 2018; Del Giudice et al., 2018). Governments, corporations, consumers, investors, and other stakeholders have all come to understand the value of sustainability and the influence that business has had on society and the environment since the 1990s. They understand that maximising profits alone without considering how an institution interacts with its surrounding industry, is not a viable strategy. In addition, there is a rising demand for eco-friendly goods and methods, such as hybrid and, more recently, electric automobiles that take the place of traditional gasoline and diesel vehicles. Therefore, adopting sustainable business strategies is both a challenge and an opportunity for universities (Sheehy & Farneti 2021).

There are many other definitions of sustainability, but the Brundtland Report definition is the one that is most frequently used. The goal is to satisfy current demands while preserving the ability of future generations to satisfy their corresponding responsibilities. The majority of sustainability discussions also emphasise the necessity for institutions to contribute to economic success, environmental quality, and social equality. According to Bombiak & Marciniuk-Kluska (2018), the term "sustainable business," which can be found in insightful diaries and books, refers to an institution where environmental resources are managed productively and controlled. In a sense, the business is run by the people. According to Cho et al., (2019), a sustainable business is one whose internal cycles and goals is climate-friendly and created to save environmental resources for the good of the business, its employees, and the environment. Universities in the economic and environmental fields "handle the issues of the present generation without jeopardising the potential of future generations to address their own problems," according to the Brundtland Commission in 1997.

The features of a "green" university have been identified by numerous academics, environmentalists, and artists. What these definitions have in common is that they are shared for the benefit of our world, present generations, and future ones preserving resources and properly utilising them (Rahman, 2022). This is known as the "triple bottom line." In an authoritative or business transaction, this relates to managing people, the environment, and welfare. According to Thevanes & Weerasinghe (2018), a sustainable university is one that respects the environment and can support itself when necessary. "Green and sustainable universities" are those that "act in a manner that repairs and improves the climate, rather than destroying and depleting it" (Dolgaya & Kovbasyuk 2021). Gouveia (2019) asserts that sustainable institutions should exhibit the qualities listed below: All institution decisions should take sustainability into consideration. It is necessary

to provide environmentally friendly products and services. Compared to its competitors, it should be more environmentally friendly.

Soviar et al., (2019) opine that institutions should raise their green standards, and university HR departments should include green standards in their strategies and everyday operations. Ben-Eli (2018) argues that green universities support safety and human awareness, from civic support to professional duty, not hurting living things, not depleting the environment, and restore and improve the environs. And all of this should assist the institution's human resources in order to develop a green, environmentally friendly, and capable university. Universities should follow Ekardt's (2019) example, who defines a good connection as one that is built on demand and effectively manages the environment.

Human resources are crucial in this cycle. To sum up, according to the Brundlandt Commission (1997), a green and sustainable association is one that satisfies current needs without endangering the capacity of people to satiate their own needs in the future (Thevanes and Weerasinghe 2018). Universities play a significant role in the growth and formation of the current generation, but they should also impart knowledge and influence the environment to address the concerns of future generations. Sustainability is important in general, but there may also be a link between reasonable behaviour and performance. Unsuitable environmental behaviour can have a variety of effects on public institutions such as: Penalties (for infringement of other regulations or for pollution); Higher environmental taxes (e.g. CO₂ tax).

Loss of sales or consumer boycott; harm to the institution's reputation; inability to obtain financing; and loss of insurance coverage. On the other hand, cutting back on material., energy, and water use can save operational expenses in addition to having a positive influence on the environment. Similar to this, emphasising waste reduction can boost process effectiveness and cut

down on material usage (and therefore cost) (Ben-Eli 2018). Similar to other business practices, health and safety regulations cannot, by themselves, increase an institution's worth, but they can assist shield it from the expenses associated with accidents that might otherwise happen. Inadequate health and safety management at the institution can result in several things, including a rise in employee absences from work due to illness or injury and the possibility of compensation claims for workplace injuries (Sheehy & Farneti 2021)

The Paris Agreement Framework to Combat Climate Change, the SDGs, and United Nations National and Long-Term Goals are increasingly becoming globally recognised today. From the perspective of traditional influential management, the institution's financial achievement and its initiative exercises (like pacts, benefit development, and so forth) are acknowledged as signs of the institute's monetary or financial exhibition. Typically, performance is seen as a means of achieving the vision and key goals of a university (UN, 2020 & 2021). As universities are now required to play a functioning role in social responsibility and environmental security, the development and maintenance of sustainability strategies are becoming increasingly important (Doni et al., 2021; Suárez-Gargallo and Zaragoza-Sáez, 2021). To achieve their goals for maintainability, establishments today need to quantify both their monetary (or financial) performance and their natural and social exhibition, demonstrating their responsibility for ecological and social lead. It needs to be watched over and dissected (Bag and Omrane, 2022; Epstein and Buhovac, 2014; Hoepner et al., 2021; Jassem et al., 2020).

The fourth version of the Global Reporting Initiative's (GRI) Sustainability Reporting Guidelines was released in 2013, and it requires businesses to take financial., ecological., and social factors into account. It is crucial to make it simple to execute maintainability. The economy, environment, and society are examined from three perspectives. Given this, corporate

sustainability performance can be shown using a measurement of combined financial., ecological., and social performance (Gras & Krause 2020). Institutions can achieve a win-win situation by incorporating sustainability performance into corporate governance, which considers economic, environmental., and social factors (Gras & Krause 2020; Habermann & Fischer 2021). To reach sustainability goals, modern universities in Ghana should evaluate and handle their display considering the "three major concerns" of "monetary, ecological., and social" (Taliento et al., 2019). Research in the past has revealed that higher degrees of social responsibility inside universities increased their overall net advantage and a slice of the pie benefit (Riyadh et al., 2019; Sarhan et al., 2019; Provasi & Harasheh 2021), as well as specific client response and employee satisfaction (Pathiranage et al., 2020). Supervisors were concerned about performance assessment since it may be used as a form of perspective in decision-making for financial plan dissemination or even specialty unit performance improvement (Sarhan et al., 2019).

However, because performance evaluation elements are multifaceted, evaluating financial indicators purely may have limited utility and may not correctly reflect genuine operational or management efficiency. As a result, integrating both financial and non-financial performance metrics into management systems may be the most effective way to assess an institution's performance. Corporate results are thus evaluated in terms of financial and non-financial performance in this study. Profit margins, market share, operating profits, return on investment (ROI), return on sales, and net profits are frequently used to assess financial success (Pathiranage et al., 2020; Shaukat & Trojanowski 2018; Villalonga, 2019). These financial signals take both recent and recent activity into account. However, because of the variety of performance appraisal components, evaluating financial emphasis may be of limited value and may not adequately reflect actual usefulness or management competency (Pathiranage et al., 2020). Five pillars of

sustainability: life, social., spiritual., material., and economic. A further perspective on sustainability is the fact that it follows the mentioning that companies and universities that typically operate sustainably gain some trust among people. Decisions about business practices are increasingly made with social and environmental obligations considered in addition to traditional performance goals like dependability, flexibility, cost, quality, and reliability (Villalonga, 2019).

As a result, incorporating both monetary and non-monetary performance measurements within institutional strategic frameworks may be the most effective way to assess a university's performance. Financial success is often measured using phrases like overall revenues, a portion of the pie, working benefits, profit from venture (return on investment), return on transactions, and net benefits (Riyadh et al., 2019; Sarhan et al., 2019; Provasi & Harasheh 2021). These financial indicators consider both the past and the present. When assessing an institution's success, nonfinancial measurements could be helpful in addition to financial performance indicators, assuming they predict future financial performance. Institutional performance evaluation increasingly combines financial metrics (revenues, ROI, net profits) with non-financial indicators to capture holistic success (Riyadh et al., 2019; Provasi & Harasheh, 2021). Sarhan et al. (2019) note that while fiscal measures assess efficiency, qualitative factors like research impact and community engagement predict long-term resilience. For universities, this hybrid model bridges budgetary pragmatism with mission-driven goals, ensuring financial health aligns with educational and societal contributions. Such integration avoids the myopia of purely economic assessments, instead positioning institutions for sustainable growth amid evolving higher education landscapes."

The impact of environmental sustainability on top management and ecological record on corporate performance in a higher educational setting, specifically a university, has received little

empirical investigation. Most findings are not conclusive regarding the association between environmental practices and corporate performance (Pathiranage et al., 2020; Shaukat & Trojanowski 2018; Villalonga, 2019; Riyadh et al., 2019; Sarhan et al., 2019; Provasi & Harasheh 2021). This study, also focusing on financial performance, has sought to overlook non-financial aspects that are possibly a better indicator of an institution's position in the background. Given the increasing knowledge of climate management, universities must measure themselves amid the contemporary corporate world. To develop a better understanding of the significance of climate dynamics, an eventual study of indicators should not be disregarded. Non-financial indicators should be integrated into this overall judgment (Villalonga, 2019).

Despite growing climate urgency, the impact of sustainability practices on university performance remains poorly understood. Existing research shows conflicting financial correlations (Pathiranage et al., 2020; Shaukat & Trojanowski, 2018), while overlooking critical non-financial dimensions. This study contends that ecological indicators from energy efficiency to sustainable procurement rates may better reflect institutional adaptability than traditional metrics like ROI (Riyadh et al., 2019). As Villalonga (2019) notes, universities lag corporations in integrating environmental KPIs into strategic assessments. Three changes are imperative: (1) developing sector-specific sustainability benchmarks, (2) aligning reporting with SDG frameworks, and (3) weighting ecological performance equally with financial outcomes in governance decisions. Only through such integrated measurement can universities properly position themselves as sustainability leaders while maintaining operational viability."

The SDG 2030 Agenda is a UN component. The agenda, with the following goals and concepts: protect the Earth, stop environmental destruction, promote struggle and inequality, and

agenda was officially adopted by the UN in 2015. A 15-year strategy to reduce poverty; it has had an agenda of halting environmental destruction, managing struggle and disparity. The overall aim is wide and ambitious. Nevertheless, it is supported by a pool of metrics and goals totalling 169; thereby providing a quantitative framework for assessing whether the aim has been achieved. For example, “promote sustainable and inclusive and sustainable economic growth, full and productive employment and decent work for all, goals” exist in the “decent work and economic growth,” goal. It connects to “advance global resource efficiency in consumption and output” and tries to “modulate economic growth so as not to harm the environment” the following indicators reveal accomplishment of the goals: “domestic material use,” “domestic material uses per capita,” “homegrown material use, percent of GDP,” “material footprint,” and “DMC per GDP.”

Dimensions of CSP

The environmental dimension of Corporate Sustainability Performance (CSP) is a critical aspect that evaluates how effectively a university manages its impact on the natural world and works to minimise negative ecological effects. This dimension encompasses several key areas, starting with energy and resource consumption. Companies need to track their energy usage across operations, explore the adoption of renewable energy sources, and implement strategies focused on resource efficiency to reduce their environmental footprint (WBCSD, 2013). Additionally, companies must address greenhouse gas emissions, especially those operating in carbon-intensive industries. Measuring and mitigating emissions is vital for sustainable practices and aligning with global climate goals.

Another crucial aspect of environmental CSP is waste generation and management. Companies need to track the amount of waste they produce, implement waste minimisation strategies, and consider recycling and circular economy practices to reduce waste and promote

resource conservation (Chen et al., 2020). Pollution control and prevention are also key components, involving monitoring and mitigating air, water, and soil pollution through responsible waste disposal methods and compliance with environmental regulations (Jabbour et al., 2013). By addressing these aspects comprehensively, companies can enhance their environmental performance and contribute positively to sustainability efforts.

The social dimension of CSP focuses on how companies build positive relationships with their stakeholders, including employees, customers, communities, and society at large. Strong social performance is essential for fostering trust, loyalty, and long-term success. Key indicators of social performance include ensuring fair labour practices such as fair wages, safe working conditions, and respecting worker rights in alignment with labour laws (Deng et al., 2018). Promoting diversity and inclusion within the workforce also plays a significant role in driving creativity, innovation, and enhancing the university's employer brand (Backhaus et al., 2017).

Furthermore, community engagement initiatives, such as philanthropy, volunteering, and supporting local development projects, demonstrate a university's commitment to social responsibility and contribute positively to its social performance (Khan et al., 2021). Ensuring product safety throughout its lifecycle and adhering to ethical sourcing practices within the supply chain are also crucial for building consumer trust and maintaining high ethical standards (Aiken & Latan, 2018). These social aspects collectively shape a university's reputation and its ability to create sustainable value for all stakeholders.

In addition to the environmental and social dimensions, the economic dimension of CSP emphasises sustainable economic growth and long-term viability. Companies must prioritise financial health while considering environmental and social impacts. This involves exploring eco-friendly innovations, adopting circular economy models, and implementing resource efficiency

strategies to achieve sustainable profitability (Banerjee et al., 2018). Understanding the interconnectedness of these dimensions is crucial, as strong environmental and social performance can lead to cost savings, enhanced reputation, and improved resilience in the face of changing market dynamics. Conversely, neglecting environmental or social factors can pose risks to a university's reputation, competitiveness, and overall sustainability performance. Therefore, a holistic approach to CSP that integrates these dimensions is essential for companies aiming to achieve enduring success while contributing positively to society and the environment.

Strategic management, which offers a framework for decision-making and goal accomplishment, is essential for universities performance (Fuentes et al., 2020). At the same time, environmental, social, and governance issues have made corporate sustainability a top priority for companies all over the world (Rajesh, 2020). This study of the literature investigates how corporate sustainability performance is impacted by the three facets of strategic management: formulation, execution, and evaluation/control, especially in modern settings (Shahzad et al., 2020)

According to (Hristov et al., 2022), formulation is the process of creating strategies through analysis, planning, and decision-making. Aligning business goals with social and environmental considerations requires incorporating sustainability into strategic development (Claro et al., 2021). Businesses may, for instance, use scenario planning to foresee potential and issues related to sustainability in the future (Barros et al., 2021). Furthermore, by collaborating on common objectives and resources, strategic alliances with stakeholders can strengthen sustainability initiatives (Babu et al., 2020). Universities structures and procedures must be used to put developed strategies into practice during implementation (Fischer et al., 2020). Integrating sustainability concepts into fundamental university operations is necessary for the successful implementation of

sustainability programs (Mio et al., 2022). Achieving sustainability goals requires implementing sustainable practices in product design, operations, and supply chain management (Centobelli et al., 2020). Furthermore, successful implementation is facilitated by cultivating a culture of sustainability through staff participation and training (Ansari et al., 2021).

In order to make sure that strategies are successful and in line with universities objectives, evaluation and control entail tracking, measuring, and adjusting the strategies (Pedersen et al., 2020). Universities may monitor sustainable performance and pinpoint opportunities for development with the use of strong assessment processes (McGee et al., 2021). Transparency and accountability are improved by using sustainable reporting frameworks like the Sustainable Accounting Standards Board (SASB) and the Global Reporting Initiative (GRI) (Pizzi, 2023). Moreover, (Al Aina, & Atan, 2020) state that including sustainability criteria in performance management systems promotes ongoing development.

Corporate sustainability performance is positively impacted by the incorporation of sustainability into strategic management procedures (Gupta, & Gupta, 2020). Businesses that put sustainability first have several advantages, such as lower costs, improved brand recognition, and fewer legal concerns (Sharma et al., 2021). Furthermore, sustainable practices promote long-term value generation by fostering innovation and competitiveness in the market (Cheng et al., 2024). Building trust and goodwill with stakeholders through interaction and resolution of their sustainability-related issues improves university sustainability performance (Sharma et al., 2024). To sum up, business sustainability performance is greatly influenced by strategic management (Shahzad et al., 2020). Universities may improve their capacity to tackle environmental, social, and governance issues while accomplishing corporate goals by including sustainability concerns into their formulation, implementation, and evaluation/control processes (Zhou et al., 2022). The

amalgamation of current research offers significant perspectives on the pathways via which corporate sustainability performance in contemporary university settings is impacted by strategic management approaches (He et al., 2020).

Challenges of CSP

Corporate Sustainability Performance (CSP) measurement is a pivotal aspect of modern business practices, offering a comprehensive view of a university's impact on the environment, society, and its economic well-being. However, the accurate measurement and reporting of CSP face several notable challenges that require careful consideration and strategic solutions. One of the primary challenges is the lack of a universal framework for measuring CSP that can be applied across all industries. The absence of such a framework makes it challenging to compare CSP across companies, as different frameworks may emphasise varying aspects of sustainability (WBCSD, 2013). Moreover, sustainability concerns and priorities can significantly differ between industries, necessitating industry-specific frameworks tailored to address the unique challenges and opportunities each sector faces (Murillo-Luna et al., 2018).

Data collection and reporting pose another set of challenges for measuring CSP. Gathering accurate and reliable data on environmental, social, and economic dimensions can be resource-intensive, especially for small and medium-sized universities with limited resources (Selli & Booze, 2015). Ensuring the quality and verifiability of sustainability data is crucial, requiring robust data collection methods and potentially third-party verification to avoid accusations of greenwashing (Chen et al., 2020). Additionally, the complexity and volume of data needed for comprehensive CSP measurement can overwhelm stakeholders, necessitating clear and concise reporting strategies (Jabbour et al., 2013).

A significant concern in CSP measurement is the risk of greenwashing, where companies may selectively report positive sustainability efforts while downplaying or ignoring negative impacts. This lack of transparency and accountability can erode stakeholder trust and hinder meaningful progress towards sustainability goals (Deng et al., 2018). To overcome these challenges, companies can adopt several strategies. Utilising established frameworks like the Global Reporting Initiative (GRI) or the Sustainability Accounting Standards Board (SASB) can provide a structured approach to CSP measurement and reporting (WBCSD, 2013). Engaging stakeholders throughout the measurement process can offer valuable insights, improve data accuracy, and enhance the credibility of reported information (Khan et al., 2021). Continuous improvement in CSP efforts, coupled with transparent reporting of challenges and progress, demonstrates a university's commitment to sustainability and builds trust with stakeholders (Backhaus et al., 2017).

Promoting environmental responsibility, social equality, economic viability, and addressing the difficulties and obstacles these educational establishments encounter in incorporating sustainability efforts are all made possible by the adoption of sustainable practices in Ghanaian public universities. Comprehending these challenges is crucial in formulating efficacious approaches to surmount impediments and foster sustained advancements in Ghanaian public institutions. The distinct institutional and sociocultural context in which Ghanaian public institutions operate shapes their approach to sustainability (Anarfi, 2020). The ability of universities to prioritise and implement sustainable practices is influenced by various factors, including finance limitations, infrastructural constraints, stakeholder expectations, and government legislation. Furthermore, stakeholders' cultural values, customs, and perspectives on sustainability have an impact on sustainability initiatives within these academic institutions.

Implementing sustainable practices in Ghanaian public colleges is significantly hampered by a lack of funding. Financial limitations could prevent investments in energy-efficient technologies, waste management infrastructure, renewable energy, and sustainability education programmes (Bishoge et al., 2020). The absence of financial support also hinders attempts to increase capacity and restricts the number of resources available for sustainability initiatives, which impedes the advancement of sustainability objectives.

The adoption of sustainable practices in Ghanaian public universities is hampered by bureaucratic procedures and institutional inertia. Sustainability projects may encounter obstacles or delays due to intricate administrative frameworks, protracted decision-making procedures, and inflexible universities hierarchies. Simplified processes, efficient channels of communication, and leadership backing are necessary to overcome bureaucratic inertia and enable the adoption of sustainable practices (Gerald, 2024). A major obstacle to sustainability initiatives in Ghanaian public universities is stakeholder resistance to change, which includes administrators, teachers, staff, and students (Manu, 2020). The adoption of new practices and policies may be hampered by scepticism, a fear of disruption, and inertia. To address resistance to change and promote buy-in and support for sustainability programmes, effective communication, stakeholder engagement, and capacity-building initiatives are required.

Sustainable practices are adopted and implemented differently in Ghanaian public universities due in large part to universities culture. A universities' culture that prioritises sustainability creates an atmosphere that is conducive to sustainability efforts, supports teamwork and creativity, and motivates involvement at all universities levels. On the other hand, if universities' culture and sustainability objectives are not in line, it could be difficult to advance and incorporate sustainable practices into day-to-day operations. Intentionally working to integrate

sustainability ideas into the university's core is necessary to promote a culture of sustainability. To promote sustainability projects, this involves raising awareness, developing capacity, offering incentives, and setting up procedures and structures. In order to inspire group action among university community members and promote a common vision of sustainability, leadership commitment, stakeholder involvement, and ongoing communication are crucial.

Universities' culture can be a strong force for sustainability, but it can also present difficulties such as ingrained norms and practices, resistance to change, and competing agendas (Maleka, 2023). It will take strong leadership, active participation from stakeholders, and a coordinated effort to promote a sustainable culture through communication, education, and institutional support to overcome these obstacles. Public colleges in Ghana have the potential to foster a culture that encourages sustainable practices and supports wider efforts towards sustainable development by using opportunities and removing obstacles (Mensah & Gordon, 2020).

There is growing recognition of the role that stakeholder engagement plays in promoting corporate sustainability performance, especially in educational institutions like public universities in Ghana. The purpose of this review of recent literature is to investigate how stakeholder participation affects sustainability outcomes in these universities. Gaining an understanding of the complexities of stakeholder involvement is essential to promoting collaboration, openness, and responsibility in sustainability initiatives, which will eventually help to achieve long-term sustainability goals (Asogwa et al., 2021).

Ghanaian public universities function under a complex institutional and sociocultural context that influences their stakeholder involvement and sustainability strategies (Akua-Sakyiwah, 2022). Governmental rules, budgetary limitations, community expectations, and the

diversity of stakeholders all have an impact on how well universities are able to interact with stakeholders and advance sustainability. In these academic institutions, engagement techniques and results are further shaped by stakeholders' cultural values, traditions, and conceptions of sustainability.

Actively involving people, groups, and universities that are impacted by or interested in the decisions and actions of a university is known as stakeholder engagement (K. Gupta et al., 2020). Stakeholder engagement is essential for determining sustainability priorities, creating consensus, and motivating group action towards sustainability goals in the context of Ghanaian public institutions. Through the involvement of various stakeholders such as students, staff, faculty, administrators, governmental agencies, local communities, and industry partners, universities may effectively handle complex sustainability concerns by leveraging multiple perspectives, resources, and expertise.

Implementing sustainability in Ghanaian public universities is hampered by stakeholders' lack of knowledge and comprehension of sustainability problems (Ayarkwa et al., 2020). Efforts to encourage behavioural change and the adoption of sustainable practices may be hampered by a lack of environmental literacy, knowledge of sustainable practices, and comprehension of the advantages of sustainability. Fostering a culture of sustainability inside these academic institutions requires raising awareness and offering education on sustainability-related themes (Wamsler, 2020). Conclusively, there exist a multitude of obstacles and hurdles to the implementation of sustainable practices at Ghanaian public universities, such as lack of awareness, bureaucratic inertia, resistance to change, and financial limits. It will take coordinated efforts, leadership dedication, stakeholder involvement, and capacity-building programmes to get beyond these obstacles. Public universities in Ghana may further their sustainability agendas and support larger

initiatives for sustainable development by tackling obstacles and seizing opportunities (Adjei, 2021).

Measurement and Evaluation of Corporate Sustainability Performance in Ghanaian Public Universities

Corporate sustainability performance's environmental, social, and economic facets are now considered essential to a university's success. In the context of Ghanaian public institutions, where sustainability is related to national development objectives, it is imperative to comprehend how sustainability performance is monitored and evaluated. Corporate sustainability performance is measured in Ghanaian public institutions using a range of methodologies and metrics intended to evaluate environmental, social, and economic aspects (Agyekum, 2022). Data monitoring systems and audits can be used to measure environmental performance metrics, such as energy use, waste output, and carbon emissions. Diversity initiatives, community involvement, and student satisfaction surveys are a few examples of social performance indicators.

When assessing economic performance, financial metrics that align with sustainability goals are frequently employed. Ning et al., (2023) have provided examples of these indicators, such as the return on investment for green programmes and cost savings from resource conservation activities. Despite the importance of evaluating sustainability performance, public institutions in Ghana have several challenges. Lack of resources and expertise may make it difficult to implement comprehensive measuring systems (Ayarkwa et al., 2020). A further obstacle to benchmarking and comparison could be the absence of industry-specific norms and regulations. Stakeholder expectations and cultural factors may also have an impact on the performance measures selected and the interpretation of the findings.

Evaluating the effectiveness of strategies, policies, and programmes in achieving sustainability goals is a crucial component of assessing sustainability performance in public institutions in Ghana. Qualitative methodologies such as focus groups, interviews, and case studies offer valuable insights into the perspectives and experiences of stakeholders about sustainability projects. Quantitative methods, like surveys and data analysis, enable performance to be measured against preset goals and standards. Integrated assessment systems, including the Global Reporting Initiative and the Balanced Scorecard, give comprehensive evaluations by considering multiple sustainability criteria.

The evaluation and assessment of corporate sustainability performance at Ghanaian public institutions has significant implications for a university's effectiveness (Asante & Ngulube, 2020). Transparent reporting and accountability procedures enhance stakeholder credibility and promote positive relationships with students, faculty, staff, and the community at large. Universities can use sustainability performance statistics to guide evidence-based decision-making that helps them prioritise investments, allocate resources wisely, and persuade funding agencies and regulatory bodies of their commitment to sustainability.

Universities effectiveness is significantly impacted by the evaluation and assessment of corporate sustainability performance at Ghanaian public institutions (Asante & Ngulube, 2020). Open reporting and accountability systems build stakeholder credibility and promote good relationships with staff, students, and the community at large. Through evidence-based decision-making supported by sustainability performance statistics, universities are able to prioritise investments, allocate resources efficiently, and persuade funding agencies and regulatory bodies of their commitment to sustainability.

Novel approaches and strategies to assess and improve companies' sustainability performance. The growing significance of corporate sustainability in universities strategy has led to a surge in the need for innovative methods and procedures for evaluating and improving sustainability performance (Mio et al., 2023). This review of the literature examines recent advancements in the evaluation and enhancement of corporate sustainability performance. It focuses on innovative methods, tools, and frameworks that companies may use to assess, monitor, and enhance their sustainability initiatives (Lozano, 2020). This study incorporates concepts from current research and industry practices to provide readers with a comprehensive understanding of the evolving landscape of corporate sustainability evaluation and improvement (Bibri, et al., 2024).

Life Cycle Assessment (LCA) is a well-recognised methodology that evaluates how activities, goods, and services impact the environment over the course of their whole life cycles (Sieverding et al., 2020). Repeat from the extraction of raw materials to the disposal of trash at the end of its useful life, it measures the use of resources, energy, emissions, and waste production at different phases (Illankoon & Vithanage, 2023). By lowering environmental footprints and increasing resource efficiency, life cycle assessment (LCA) helps companies pinpoint hotspots, rank actions, and maximise sustainability performance (Ciacci & Passarini, 2020). Furthermore, by taking into consideration social variables and indirect effects, advances in LCA techniques such as social and consequential LCA provide a more complete examination of sustainability implications (Palazzo et al., 2020).

By adding social and environmental factors to standard financial reporting in addition to economic success, Triple Bottom Line (TBL) accounting broadens its scope. It helps businesses convey their contributions to profit, the environment, and people by evaluating their sustainability performance holistically (Veenstra & Ellemers, 2020). TBL accounting frameworks, such as the

Global Reporting Initiative (GRI) Standards and the Sustainability Accounting Standards Board (SASB), provide metrics and guidelines for reporting sustainability impacts in a number of key areas, including human rights, governance, environmental stewardship, and community engagement (Solomon et al., 2023). By using TBL accounting standards, universities may constantly enhance sustainability performance while promoting stakeholder responsibility, trust, and transparency.

A method for determining which sustainability issues is most crucial to a university and its stakeholders is called materiality assessment. To determine which Environmental, Social, and Governance (ESG) issues have the greatest effect on business operations, reputation, and long-term value creation, it is necessary to confer with both internal and external stakeholders (Solomon et al., 2023). Standard methods for materiality evaluations that map out the relevance and significance of sustainability concerns include materiality matrices, stakeholder surveys, and risk assessments (Beske et al., 2020). Businesses may improve their overall sustainability performance by addressing stakeholder expectations, setting meaningful goals, and allocating resources more effectively by focusing on material issues.

A complete approach to corporate reporting, integrated reporting (IR), integrates financial, environmental, social, and governance (ESG) performance into a single document. According to (Freudenreich et al., 2020), it provides stakeholders with a thorough understanding of a university's strategy, value creation process, and performance in several areas. Businesses may convey ESG information in a clear and integrated way by using IR frameworks, such as the International University for Integrated Reporting (IIRC) Framework (Setia et al., 2022). By implementing integrated reporting, universities may enhance decision-making, accountability, and transparency

while developing a more resilient business model that benefits all stakeholders in the long run (Cooray et al., 2020).

The Sustainable Development Goals (SDGs) of the United Nations provide a universal framework for resolving international conflicts and promoting sustainable development. To emphasise their contributions to significant societal and environmental goals, many businesses link their sustainability plans, actions, and performance metrics with the SDGs (Montiel et al., 2021). Companies may set pertinent goals, rank activities, and monitor their progress toward SDG targets with the use of impact assessment techniques and SDG mapping tools (Montiel et al., 2021). Universities that support the SDGs may also contribute to more expansive global sustainability agendas and gain more credibility, relevance, and influence.

Blockchain technology provides creative ways to improve supply chain accountability, transparency, and traceability, which boosts university sustainability performance. Universities may reduce the danger of greenwashing and promote responsible sourcing practices by using blockchain-enabled systems to track and verify sustainability claims, certifications, and product origins in real-time. Centobelli, et al., (2022) blockchain technology has the potential to transform sustainability reporting and assessment as it develops, which might lead to increased responsibility and confidence in business sustainability initiatives (Upadhyay et al., 2021).

To enhance corporate sustainability decision-making, artificial intelligence (AI) and machine learning (ML) algorithms are being used more to analyse big datasets, find patterns, and extract insights (Sharma et al., 2022). Universities may foresee environmental hazards, allocate resources optimally, and find opportunities to increase efficiency across a range of operational areas with the use of AI-powered technologies (Olan et al., 2022). Additionally, by automating operations related to data collection, processing, and reporting, machine learning algorithms can

improve the accuracy and dependability of sustainability performance monitoring (Sharma et al., 2020). Universities may promote continual improvement in sustainability performance and obtain deeper insights into challenging sustainability issues by utilising AI and ML (Kulkov et al., 2023). Involving stakeholders in the monitoring and assessment of sustainability projects, such as workers, communities, and civil society groups, is the goal of participatory monitoring and evaluation (PM&E) techniques (Mohan et al., 2021). Participatory impact evaluations and community scorecards are two examples of PM&E approaches that enable stakeholders to co-create indicators, evaluate impacts, and offer comments (Sebake & Mukonza, 2020).

Challenges Universities Face Adopting and Implementing Corporate Sustainability

Corporate sustainability has emerged as a critical imperative for universities worldwide (Abrahams, et al., 2024). With mounting pressures to address environmental, social, and governance (ESG) concerns while maintaining competitiveness, universities are increasingly recognising the importance of adopting and implementing sustainable practices (Roe 2021). However, despite the evident benefits of sustainability initiatives, numerous barriers impede universities' efforts in this regard. This literature review explores these barriers and their impact on the adoption and implementation of corporate sustainability, drawing insights from contemporary research and industry developments (Chauhan et al., 2021).

One of the foremost barriers to corporate sustainability lies in the absence of strong commitment from top leadership (Bashar et al., 2024). Without robust support and vision from senior executives, sustainability initiatives may lack direction and fail to receive adequate resources and attention (Khanra et al., 2022). Leaders play a pivotal role in championing sustainability as a core universities' value and integrating it into strategic objectives to drive meaningful change (Ubale, 2023). Universities often face short-term financial pressures that deter

them from investing in sustainability initiatives (Basmantra., 2023). With a focus on immediate financial gains, many businesses perceive sustainability as an expense rather than an investment (DesJardine, & Durand, 2020). Despite evidence indicating long-term benefits such as cost savings, enhanced brand reputation, and risk mitigation (Zumente, & Bistrova, 2021), the prioritisation of short-term financial goals remains a significant barrier to sustainability adoption.

Measuring the impact of sustainability initiatives poses a significant challenge for universities (Hauschild et al., 2020). In the absence of clear metrics and measurement tools, assessing progress, evaluating effectiveness, and communicating achievements to stakeholders becomes challenging (Welch, et al., 2021). Developing robust sustainability metrics aligned with universities goals is essential for tracking performance and demonstrating value creation (Lashitew, 2021). Universities' silos and resistance to change often impede the integration of sustainability across departments and functions (Quitau, 2022). Lack of collaboration and coordination due to disparate operational units hinder effective implementation of sustainability initiatives (Obrenovic, et al., 2020). Overcoming resistance to change requires effective communication, stakeholder engagement, and leadership support to foster a culture of sustainability (Mızrak, 2024).

Engaging stakeholders, including employees, customers, suppliers, and communities, is critical for successful sustainability initiatives (Chygryn et al., 2020). However, universities frequently struggle to involve stakeholders effectively and address their diverse interests and concerns (Dmytriiev et al., 2021). Building meaningful relationships with stakeholders necessitates transparency, trust, and a genuine commitment to listening and acting on their feedback (Barrane, et al., 2021). Regulatory uncertainty and compliance risks present significant challenges for universities seeking to adopt and implement corporate sustainability (Kelling et al.,

2021). Evolving regulations related to environmental, social, and governance issues increase compliance costs and legal liabilities for businesses (Doni, & Fiameni, 2024). Proactively addressing regulatory requirements and staying abreast of emerging standards is essential for mitigating compliance risks and maintaining a competitive edge.

Limited access to resources and expertise, particularly among small and medium-sized universities (SMEs), can hinder sustainability efforts (Bakos et al., 2020). Implementing sustainability initiatives often requires specialised knowledge, technology, and financial resources that may be beyond the reach of many universities (Khurana et al., 2021). Collaboration with external partners, such as sustainability consultants and research institutions, can help overcome resource constraints and accelerate progress (Hofmann et al., 2022). Globalised supply chains present complex challenges for corporate sustainability (Antonini et al., 2020). Universities must navigate diverse supplier networks, varying regulatory environments, and ethical considerations to ensure sustainable sourcing and production practices (Cloutier et al., 2020). Collaborative initiatives, such as supplier engagement programs and industry alliances, can help address sustainability issues across supply chains and promote responsible business practices (Mishra et al., 2022).

Consumer awareness and demand for sustainable products and services are crucial drivers of corporate sustainability (Derqui, B. (2020). However, many consumers remain unaware of the environmental and social impacts of their purchasing decisions or prioritise other factors over sustainability (Mandarić et al., 2022). Educating consumers, building brand trust, and offering sustainable alternatives can help stimulate demand for environmentally and socially responsible products and services (Sun et al 2020). Uncertainty surrounding the return on investment (ROI) of sustainability initiatives often deters universities from making significant commitments to

sustainability (Escoto et al., 2022). While some sustainability projects yield tangible financial benefits.

Concept of Top Management Values

Top management values play a crucial role in shaping the universities culture and influencing decision-making processes within companies. These values are the guiding principles that guide the behaviour and actions of top executives, setting the tone for the entire university (Singh et al., 2021). Top management values refer to the beliefs, principles, and ethical standards held by senior executives in a university. These values are reflected in their decision-making processes, leadership styles, and overall approach to managing the university. They act as a compass that guides the university's strategic direction and shapes its culture (Babalola et al., 2023). The underlying concept of the top management values is that HRM systems operate most effectively when they are coordinated with other internal management elements (Pitelis & Wagner 2019). Values are the fundamental beliefs that direct our decisions and actions and eventually mould our days and careers. A subset of those values that have a significant impact on one's ability to lead effectively or be a "good pioneer" is the quality of initiative. Initiative-related traits can be encouraged and developed through time (Ying et al 2020).

Nevertheless, as with many personal traits, you probably have a tendency toward a certain set of initiative skills. Misalignment may result from a variety of circumstances. Implementing innovative business strategies, studying what other establishments are doing to ensure best practices, and changing leadership style can help universities enjoy a competitive advantage (Setiawan et al., 2020). Everyone has values, but not everyone demonstrates good management values. Anyone in a position of authority needs to be aware of the skills, resources, and geographic areas they can expand as a pioneer. Since your character traits determine how you carry out

management, how you create a positive work environment, and how your institution performs (Coban et al., 2019). The traits you exhibit as a leader will permeate your entire university and affect how it presents itself. Leaders who maintain their qualities receive respect and accountability from their society. The esteem-driven initiative has the power to inspire others to emulate them and adopt those traits as their own. By accepting the idea that initiative traits can be fostered, you can also choose leadership values to grow (Stocker et al., 2020).

An HRM system is more efficient when it works in tandem with other universities' elements. Research demonstrates that HRM systems function best when they are modified to account for universities' culture which is spearheaded by the upper management (Stocker et al 2020; Schneider et al., 2017). A significant amount of system research has focused on the importance of top management (for example, Hambrick & Bricklayer 1984) and innovative behaviour. The innovative mindset of TM could improve the demonstration of corporates competing in the current, more distinct, and challenging environment. A typical perspective on the duties of top management emphasises the leader's education and experience and their diligence in making important decisions. The most influential and dynamic position within the university is one that top officials are engaged in, thanks to their access to information and ability to make these crucial decisions (Youngster 1972). This belief is supported by the Upper-echelon perspective (Hambrick & Bricklayer 1984), which maintains that top management reveal themselves through their unique knowledge, experience, and values in both their assessments of navigational circumstances and their decisions regarding university strategies and courses (Rayner & Morgan, 2018).

According to NBR ISO 9000:2015 on quality administration, Top Management "is an individual or group who coordinates and controls a university at the highest level," and the

institution's highest level of management has the authority to delegate responsibility and distribute funds. “This implies that top management oversees the university’s authority, assets, and dynamic power”. In addition to initiative, the top management should demonstrate responsibility for the quality management framework (Stocker et al 2020), and these persons or groups must be conscious of their obligations and exhibit knowledge, dedication, and dynamic support throughout the engagement, including the administrative framework (Schneider et al., 2017). Top management is responsible for laying out plans, rules, and important goals, as well as taking initiative and bearing responsibility for quality management within the university. It should also list those who are aware of and hold them accountable for a wide range of executive framework processes (Setiawan et al., 2020).

The investigation into environmental management stems from the need for universities to change into reasonable development performance. According to Dish & Tian's (2017) research, environmental initiatives will influence green university character, thus working on the display of green advancement. Regardless of natural viewpoints, ecosystem responsibility has been connected to other authoritative benefits like improved corporate image, improved standing, better worker inspiration, higher productivity, and higher market performance, all of which are strongly related to corporate sustainability performance (Nasr & Safira 2021; Kim & Stepchenkova, 2018; Coban et al., 2019). Top management with environmental leadership is generally better at balancing environmental awareness with the requirements of other financial partners to ensure an institution's financial development (Setiawan et al., 2020; Kim & Stepchenkova, 2018). Beyond ecological benefits, environmental responsibility yields significant organisational advantages, including enhanced corporate reputation, stronger stakeholder relationships, and improved

workforce engagement all positively correlated with sustainable performance (Nasr & Safira, 2021; Coban et al., 2019).

Kim and Stepchenkova (2018) further link these factors to measurable gains in operational efficiency and market competitiveness. Crucially, Setiawan et al., (2020) demonstrate that environmentally proactive leadership effectively reconciles ecological commitments with financial objectives, ensuring institutional growth while maintaining sustainability principles. This alignment underscores the strategic value of embedding environmental stewardship across all management tiers. According to Liu et al., (2018) from one point of view, increasingly serious global environmental issues have compelled universities, which are the primary source of environmental contamination, to take responsibility for natural issues.

Pressures from various partners, particularly legislators, customers, networks, and competitors, necessitate university leaders to be environmentally proactive (Setiawan et al., 2020; Liobikienė, & Poškus 2019). According to Passafaro et al., (2019), a solitary's regular drive is their capacity to inspire a positive change toward a future environmental goal. According to Jang et al., (2017), from the standpoint of the accomplices, the environmental institution is "the limits or acts that progress internal and external accomplices to reach environmental functioning goals." When compared to other power styles, the regular drive has more grounded normal qualities that are applied in a comparable manner during linked numerous levels cycles, activities, and frameworks. The relevance of the board in monitoring environmental issues has been acknowledged by corporations. Potrch et al., (2019) opine that top management should create a sustainability plan, make it a regular occurrence, and explain it to various partners. The dependable initiative has been suggested as a strategy for improving an institution's social or environmental performance in universities literature (Eker et al., 2019). Aguilera (2021) defines skilled management as "the

craftsmanship and mastery of establishing, maintaining, and laying out trustworthy universities with various accomplices, both inside and outside the affiliation, and of sorting out careful development to achieve a fundamental, frequently shared corporate objectives" (p. 334).

A university should collaborate with both internal and external partners to achieve its inherently feasible goals. As a result, compelling communication with internal and external partners is critical for eco-friendly ecosystem management. Administrators who care about the environment should think about what their actions will mean for all partners beyond institutions, focus on their needs, and collaborate with them to foster corporate techniques (Birasnav & Bienstock, 2019). Leaders who care about the environment should also have the option of convincing their staff that environmental sustainability is a core value of the business, highlighting the significance of viewing these challenges as a normal aspect of their work, and enticing them to be more adaptable in response to environmental changes in situations. (Birasnav & Bienstock, 2019). The goal of earth explicit pioneering administration, according to Yuriev et al., (2020), is to enable supporters to take an active role in the environment. According to Shah et al., (2021), "green pioneering authority" is a pioneer's strategy for inspiring employees to surpass the projected environmental performance and achieve ecological goals. Top-level management positive values are seen as the key to implementing green practices that successfully change the hierarchical culture (Obeidat et al., 2018). Institutions with higher levels of top management support see more green development initiatives, which lead to higher levels of competency, such as product improvement, creative process improvement, and mechanical advancement.

The success of ecological management drives is also heavily dependent on the backing of executives across the board. For the GHRM practices to go well, preparing and producing green leaders or supervisory personnel is also crucial., Activities that inform workers of the value of

green drives and instruct them on how to operate systems that conserve energy, cut down on waste, and spread environmental consciousness inside the institution. It provides an opportunity to engage in ecological critical thinking, adapt to change, and develop proactive viewpoints toward environmental concerns (Masri & Jaaron, 2017). Awareness improves the learning environment for green employees and gives them more influence over how to act (Obeidat et al., 2018). The corporate sustainability hypothesis proposes that the top administrative directive for Green is a significant source of strategic strength at the universities level. It serves as a fundamental foundation for corporate environmentalism, GHRM training, and practical green corporate performance. GHRM is a crucial characteristic that collaborates with universities' green administration and strategic policies as the first step toward achieving practicable advantage (Rayner & Morgan, 2018). A serious climate with new business opportunities can be created by the effective performance of green worth developing procedures that take environmental issues into consideration at the fundamental level (Masri & Jaaron 2017; Rayner & Morgan, 2018).

Characteristics of Top Management Values

Top management values, often referred to as leadership or core values, are the fundamental beliefs and principles that guide decision-making and behaviours at the highest levels of a university. These values act as a compass, providing direction for the entire university and influencing critical aspects such as corporate culture, employee behaviour, and strategic decision-making processes. One of the key characteristics of top management values is their shared and consistent nature. They need to be clearly defined, effectively communicated, and consistently demonstrated through actions across the university. Research by Denison et al., (2000) emphasises that this clarity and consistency foster a sense of unity, purpose, and alignment among employees, contributing significantly to a cohesive and productive work environment.

Moreover, top management values should be both aspirational and achievable. While it is essential to set ambitious goals that inspire employees, these values must also be realistic and attainable. This balance is crucial to maintain employee motivation and engagement over time, as highlighted by Hitt et al., (2005). Additionally, these values should be action-oriented, translating into tangible behaviours and practices that guide daily operations and strategic decisions throughout the university. Yukl (2013) emphasises the importance of these values being actionable, ensuring that they are not just lofty ideals but principles that drive actual behaviours and outcomes.

Examples of top management values can include a commitment to innovation, customer satisfaction, integrity, sustainability, social responsibility, diversity, and inclusivity. These values offer numerous benefits to universities. They provide a clear strategic direction, offering a framework for decision-making that ensures alignment between short-term actions and long-term goals. Lombardo and Eichinger (2009) discuss how strong values guide decision-making processes effectively. Furthermore, values that resonate with employees foster a sense of purpose, increase employee engagement, and motivate employees to perform at their best. Cameron and Quinn (1999) elaborate on how such values contribute to a positive universities' culture and employee satisfaction, which in turn enhances productivity and performance.

Despite these advantages, implementing top management values can be challenging. Ensuring alignment with the founder's vision, maintaining authenticity across all levels of the university, and measuring their impact on performance are complex tasks. Challenges such as these are highlighted by Hamel & Prahalad (2005), and Ulrich et al., (2008) in their respective works. However, despite these challenges, strong top management values remain fundamental drivers of universities' success. They play a crucial role in creating a strong universities' culture, attracting

and retaining talent, enhancing reputation, and guiding the university toward achieving its strategic objectives.

Another crucial characteristic of top management values is their alignment with the university's mission, vision, and strategic goals. Research by Kotter and Heskett (1992) emphasises the importance of values that are consistent with the overall direction of the university. When top management values are closely aligned with the broader strategic objectives, it creates a sense of purpose and direction for employees, guiding their efforts towards achieving the university's mission and vision. This alignment also helps in prioritising initiatives and decision-making processes that are in line with the university's long-term goals.

Furthermore, top management values should be inclusive and diverse, reflecting the principles of equity and fairness within the university. Values that promote diversity and inclusivity contribute to a more innovative and creative workforce (Cox Jr, 1993). By embracing diverse perspectives and backgrounds, universities can foster a culture of respect, collaboration, and openness, which are crucial for addressing complex challenges and driving innovation. Another important characteristic is the adaptability of top management values to changing environments and evolving needs. Universities operate in dynamic and competitive landscapes, and values that can evolve and adapt over time are more likely to sustain long-term success. Research by Cameron and Lavine (2006) discusses the concept of agile values that allow universities to respond effectively to changes in market conditions, technological advancements, and societal trends. Adaptable values enable universities to remain relevant, resilient, and responsive to emerging challenges and opportunities.

Moreover, top management values should promote ethical behaviour and social responsibility. Values such as integrity, honesty, and ethical conduct set the tone for ethical

practices across the university (Treviño & Nelson, 2020). Ethical values guide decision-making processes, build trust with stakeholders, and enhance the university's reputation for integrity and transparency. Additionally, values that prioritise social responsibility and environmental sustainability contribute to creating a positive impact on society and the environment, aligning the university with broader societal goals and expectations (Carroll, 1999).

Significance of Top Management Values

The significance of Top Management Values (TMVs) permeates various aspects of universities' dynamics, shaping culture, employee engagement, decision-making processes, stakeholder relations, and ultimately impacting universities' performance. Universities' culture is profoundly influenced by TMVs, with leaders' demonstration and promotion of values like integrity, transparency, and accountability creating a foundation of trust and ethical behaviour (Brown & Treviño, 2006; Treviño et al., 2014). This culture of trust not only enhances internal cohesion but also reflects positively in external interactions, contributing to the university's reputation and brand image.

Employee engagement, a critical driver of productivity and universities' success, is intricately linked to TMVs that prioritise employee well-being, work-life balance, and growth opportunities (Guest, 2017). Studies have shown that when employees perceive alignment between their values and those of top management, they exhibit higher levels of commitment, job satisfaction, and discretionary effort (Battilana & Casciaro, 2013; Eisenberger et al., 2017). This alignment fosters a positive universities' climate where employees feel valued and motivated, leading to increased performance and reduced turnover rates.

The impact of TMVs extends to decision-making processes within universities. Leaders' values, such as innovation, customer satisfaction, and social responsibility, guide strategic choices,

resource allocation, and risk management strategies (Rajagopalan & Spreitzer, 2007; Aguilera et al., 2007). For instance, a university with a strong value for sustainability is more likely to invest in eco-friendly practices and prioritise sustainable business models, aligning its decisions with broader environmental goals and societal expectations.

Furthermore, TMVs significantly influence stakeholder relations, including customers, suppliers, investors, and the community at large. Values such as trust, fairness, and sustainability contribute to building strong relationships based on mutual respect and transparency (Clarkson, 1995; Sisodia et al., 2007). Stakeholder trust and loyalty are crucial for universities' success, as they translate into repeat business, positive word-of-mouth referrals, and a supportive network during challenging times.

Research substantiates the positive correlation between TMVs and universities performance, highlighting the strategic advantage of cultivating a values-driven culture at the top (Cameron & Quinn, 2011; Doppelt, 2017). Companies with leaders who prioritise values like long-term vision, adaptability, and continuous improvement tend to exhibit higher levels of innovation, agility, and resilience (Zhou et al., 2020). These values contribute to creating a dynamic and responsive universities' ecosystem capable of navigating complexities and seizing opportunities in today's competitive landscape.

Top Management Values (TMVs) are fundamental in shaping the core aspects of universities functioning and success. One of the primary significances of TMVs lies in their profound influence on universities culture. Leaders who uphold values such as integrity, transparency, and accountability set the tone for ethical behaviour and trust throughout the university (Brown & Treviño, 2006). When TMVs align with the values and expectations of employees, it fosters a culture where individuals feel motivated, engaged, and committed to their

work (Treviño et al., 2014). Studies have shown that universities with strong ethical cultures tend to have higher employee morale, retention rates, and overall performance (Den Hartog & Belschak, 2012).

Moreover, TMVs play a pivotal role in driving decision-making processes within universities. When leaders prioritise values such as innovation, customer satisfaction, and social responsibility, it influences strategic choices, resource allocation, and risk management strategies (Aguilera et al., 2007). For instance, a university that values sustainability as a core TMV is more likely to invest in eco-friendly practices, product development, and community engagement initiatives. This not only enhances the university's reputation but also aligns with the expectations of environmentally conscious stakeholders (Porter & Kramer, 2011).

Furthermore, TMVs extend their significance to stakeholder relations and universities' resilience. Values such as fairness, sustainability, and long-term vision contribute to building trust and loyalty among stakeholders, including customers, suppliers, investors, and the broader community (Lengnick-Hall & Beck, 2005). Universities that prioritise resilience as a core value can navigate challenges, disruptions, and market fluctuations more effectively. By fostering a culture of innovation, adaptability, and continuous improvement, TMVs contribute to the university's ability to thrive in dynamic environments and sustain long-term success (Amabile et al., 2018). Overall, TMVs serve as the guiding principles that shape universities behaviour, decision-making, relationships, and ultimately, performance and sustainability.

Challenges of Implementing Top Management Values

Top management values, also known as core values or leadership values, are fundamental principles that guide a university's culture, decision-making processes, and long-term success. However, transitioning these values from conceptual ideals to practical realities within the

university faces significant challenges. Here's an in-depth exploration of these hurdles: One major challenge is aligning top management values with the founder's original vision, especially in well-established companies experiencing growth or leadership changes (Hamel & Prahalad, 2005). Additionally, historical universities practices that contradict newly established values can create confusion and resistance among employees, requiring leaders to develop clear strategies for bridging this gap.

Another critical aspect is the implementation of values into daily operations and behaviours throughout the university. Merely stating the values is insufficient; the real challenge lies in consistently translating them into tangible actions and decisions at every level (Yukl, 2013). Leaders must ensure that values are integrated into performance management processes, employee training programs, and everyday decision-making to foster a culture aligned with these values. Moreover, the measurement of the impact of top management values poses a significant conundrum. Unlike financial metrics, quantifying the ROI of values such as employee engagement or customer satisfaction can be complex and nuanced (Ulrich et al., 2008). There can also be a tendency to prioritise short-term gains over long-term cultural transformation based on the university's values, highlighting the challenge of balancing immediate objectives with long-term cultural goals (Lombardo & Eichinger, 2009).

The emergence of remote work and dispersed teams in the modern business landscape presents unique challenges and considerations for implementing Top Management Values (TMVs). One crucial aspect is maintaining cultural cohesion across geographically dispersed teams. With team members spread across different locations, fostering a sense of shared purpose and alignment with TMVs becomes more challenging (Gong et al., 2020). Leaders must explore creative strategies to build virtual communities, encourage collaboration through digital platforms,

and ensure that all employees, regardless of their physical location, feel connected to the university's core values. Transparency and effective communication are pivotal in translating TMVs into action within a remote work setting. Leaders need to establish clear and accessible communication channels and leverage technology such as video conferencing and collaboration tools and ensure consistent messaging to keep employees informed and engaged (Jarvenpaa & Leidner, 1999).

The rapid advancement of technology and the increasing integration of automation and artificial intelligence (AI) into business operations have profound implications for universities dynamics and values. One notable impact is the evolution of required skill sets and job roles within the workforce. TMVs can play a crucial role in guiding universities to identify the essential skills, values, and behaviours needed to navigate this changing landscape effectively (Manyika et al., 2017). Moreover, universities must consider the ethical dimensions of technology use. As technology becomes more pervasive, there is a growing need to ensure that TMVs guide responsible development, deployment, and utilisation of technology within the university (Waddell & Sohal., 2019).

To address these emerging challenges, universities can adopt several strategies. Leveraging technology for communication and reinforcement of TMVs is paramount. Collaboration platforms, virtual town halls, online training modules, and interactive communication tools can facilitate effective communication, knowledge sharing, and alignment with TMVs across a geographically dispersed workforce (Demetis & Muro, 2020). Furthermore, data-driven insights can provide valuable feedback for aligning TMVs with employee experiences. Analysing employee data, such as performance reviews and engagement surveys, helps identify potential gaps and discrepancies between stated TMVs and actual practices within the university. These insights can inform

communication strategies, training programs, and universities initiatives to ensure consistent alignment with TMVs (Aiken & Latan, 2018). Leadership commitment and visibility are crucial, with leaders actively championing the values and demonstrating them through their actions (Collins, 2001). Effective communication and continuous training programs help employees understand and internalise the values, while aligning them with performance management systems reinforces the importance of these values in daily practices and decision-making (Cameron & Quinn, 1999; Hitt et al., 2005).

Implementing Top Management Values in today's dynamic business environment requires ongoing adaptation and strategic approaches to address emerging challenges. By embracing the complexities of remote work, technological advancements, and ethical considerations, universities can leverage TMVs as guiding principles to navigate uncertainty, build resilient universities cultures, and achieve long-term success in a rapidly evolving landscape.

Impact of GHRM Practices on Environmental Sustainability Performance

Performance in environmental sustainability at Ghanaian public universities could be improved by integrating GHRM techniques. Universities can encourage environmental consciousness, instil sustainable behaviours in staff members, and lessen their ecological footprint by integrating green ideas into HRM procedures including hiring, training, and performance management. Furthermore, GHRM practices can support the accomplishment of sustainability objectives in academic institutions, improve employee engagement, and cultivate a feeling of environmental responsibility (Adjei-Bamfo et al., 2020).

Notwithstanding the possible advantages, resource limitations, reluctance to adapt, and a lack of knowledge or support from stakeholders could make it difficult for Ghanaian public institutions to adopt GHRM methods. Stakeholder engagement, capacity-building programmes,

and a strong commitment from the leadership are necessary to overcome these obstacles. Ghanaian public universities can maximise the benefits of GHRM practices to improve their environmental sustainability performance and further sustainability objectives by removing obstacles and taking advantage of possibilities (Adomako et al., 2015).

The performance of Ghanaian public universities in terms of environmental sustainability could be improved by incorporating GHRM techniques. Universities can encourage eco-friendly conduct, cultivate a culture of sustainability, and improve environmental results by including environmental considerations into HRM procedures. However, in order to fully utilise GHRM techniques, stakeholders must work together and at all universities levels, with a dedication to sustainability principles (Adjei-Bamfo et al., 2020).

Role of Strategic Human Resource Management (SHRM) In Promoting Corporate Sustainability Performance in Ghanaian Public Universities

In today's commercial situations, strategic human resource management, or SHRM, has become a vital catalyst for universities' success. Concurrently, there has been a surge in interest in the notion of corporate sustainability performance, which is indicative of the growing focus on social, environmental, and financial accountability. The purpose of this study of the literature is to examine the relationship between corporate sustainability performance and SHRM practices, with an emphasis on the implications of this relationship for public universities in Ghana.

To improve performance and gain a competitive edge, SHRM requires coordinating human resource strategies with universities goals (Bagga & Srivastava, 2014). Employee engagement, performance management, training and development, and recruiting and selection are essential elements of SHRM. The body of research emphasises how SHRM helps universities become more resilient, inventive, and agile in the face of shifting internal and external demands. Business

sustainability performance is a multifaceted concept that incorporates social., environmental., and economic factors (Jiang et al., 2018).

Elkington popularised the Triple Bottom Line (TBL) paradigm, which emphasises the interdependence of profit, planet, and people. It highlights the importance of striking a balance between financial viability, environmental sustainability, and social equality. To obtain sustainable outcomes, it is crucial to involve a varied range of stakeholders, as highlighted by other theoretical approaches like stakeholder Theory. According to academics, by encouraging a culture of accountability, creativity, and moral leadership, good SHRM practices can have a major impact on the sustainability performance of businesses. Universities can draw in talent that is in line with sustainability objectives by using strategic recruitment and selection procedures. Employees can obtain the skills and knowledge needed to tackle sustainability concerns through training and development programs (Savitz, 2013).

Many studies explain how in which businesses have effectively incorporated sustainability into their HR strategy, leading to enhanced financial performance, social impact, and environmental stewardship. However, the efficacy of SHRM initiatives may be impacted by factors such as corporate culture, leadership dedication, and regulatory contexts. Robust staff engagement techniques foster greater commitment and motivation towards sustainability targets, and performance management systems can be tailored to reward sustainable behaviours and outcomes. Research indicates that SHRM practices and business sustainability performance are positively correlated in a variety of industries and universities settings (Guerci et al., 2015).

Universities find it difficult to apply SHRM methods to advance corporate sustainability performance, despite the possible advantages. These difficulties include the need for cultural transition, resource limitations, and resistance to change. To further our understanding of the

mechanisms by which SHRM influences sustainability outcomes, future research should concentrate on cross-sectoral Collaborations, comparative assessments, and longitudinal studies (Azarijafari & Berg, 2022). Moreover, attention should be given to the role of leadership, universities' culture, and stakeholder engagement in facilitating GHRM practices.

Influence of Top Management Values on the implementation Of Sustainable Practices

Universities across a wide range of industries are giving the integration of sustainable practices into their operations more priority because of realising the importance of sustainability on a global scale. Several variables, including institutional dynamics, leadership values, and universities culture, have an impact on the adoption of sustainable practices at Ghanaian public universities (Akanji et al., 2020). Before exploring the context of public universities in Ghana, it is imperative to comprehend the wider field of sustainable practices in higher education. These techniques cover a broad range of programmes designed to address social, economic, and environmental issues. Sustainable practices in university settings can range from waste minimisation and energy conservation to community involvement, curriculum creation, and research projects addressing sustainability-related problems.

The unique institutional and sociocultural context in which Ghanaian public institutions operate greatly influences how they approach sustainability (Atuguba, 2019). The ability of universities to prioritise and implement sustainable practices is influenced by several issues, including societal expectations, financial limits, government legislation, and infrastructure limitations. Attempts to promote sustainability within these academic institutions are further complicated by the stakeholders' varied cultural values, customs, and viewpoints on sustainability. The demand for environmental sustainability has prompted businesses all over the world to implement eco-friendly procedures in a number of areas, including human resource management

(HRM). Green Human Resource Management (GHRM) methods have the potential to significantly improve environmental sustainability performance in the unique setting of Ghanaian public universities (Afum et al., 2021).

The demand for environmental sustainability has prompted businesses all over the world to implement eco-friendly procedures in several areas, including human resource management (HRM). Green Human Resource Management (GHRM) methods have the potential to significantly improve environmental sustainability performance in the unique setting of Ghanaian public universities (Afum et al., 2021). Successful universities and long-term sustainability depend heavily on employee engagement and corporate sustainability performance, which is also true for Ghanaian public universities (Adu-Gyamfi et al., 2021).

Achieving great universities outcomes and fostering a sustainable culture require an understanding of the interplay between these two factors. The degree of passion, commitment, and dedication that employees show towards their work and universities is known as employee engagement (N. Gupta & Sharma, 2016). It includes elements like motivation, work satisfaction, universities commitment, and discretionary effort. Corporate sustainability performance, on the other hand, relates to a university's capacity to meet social, economic, and environmental goals while maintaining long-term viability and the welfare of society. Universities seek to create value for stakeholders and reduce negative effects on the environment and society by incorporating sustainability concepts into their operations and decision-making processes (Calabrese et al., 2019).

The distinct socio-cultural and institutional setting in which Ghanaian public universities operate has an impact on both employee engagement and corporate sustainability performance (Atatsi et al., 2021). Universities' ability to prioritise and promote sustainability activities is shaped

by a number of factors, including funding limitations, stakeholder expectations, infrastructural limitations, and government legislation. Furthermore, universities practices and outcomes inside these academic institutions are further influenced by cultural values, traditions, and stakeholder views of sustainability.

In public universities in Ghana, there is a complex and dynamic relationship between corporate sustainability performance and staff engagement. Innovative thinking, teamwork, and dedication to universities objectives are among the behaviours that engaged workers are more likely to display (F. L. Ohemeng et al., 2018). On the other hand, companies that place a high priority on sustainability and exhibit a sincere dedication to environmental and social responsibility have the potential to improve employee engagement through the development of a feeling of purpose, pride, and alignment with universities values.

In Ghanaian public universities, encouraging employee involvement and improving corporate sustainability performance may face obstacles such resource shortages, bureaucratic slowness, and reluctance to change, despite the possible advantages (F. L. K. Ohemeng, 2021). Strong leadership commitment, stakeholder engagement, and capacity-building programmes are required to overcome these obstacles. Ghanaian public universities can foster an atmosphere that is favourable to employee engagement and sustainability at all universities levels by removing obstacles and grasping possibilities.

There exists a complex and diverse relationship between corporate sustainability performance and employee engagement in Ghanaian public colleges. University involvement and sustainability cultures can create synergies that propel universities efficacy, creativity, and resilience (Thelma & Chitondo, 2024). To fully realise the benefits of this link, though,

coordinated efforts, stakeholder cooperation, and a dedication to sustainability as core elements of universities strategy and culture are required.

In order to drive corporate sustainability performance, universities' culture, values, and strategic priorities are all shaped in large part by leadership (Roscoe et al., 2019). Sustainability projects are embraced by stakeholders when there is a strong sense of purpose, dedication, and effective leadership. Leaders who genuinely embrace environmental, social, and economic responsibility have the power to inspire their workforce, match universities goals with sustainability objectives, and create an atmosphere that is favourable to the growth of sustainable practices. By exhibiting a sincere dedication to environmental, social, and economic accountability, executives can inspire staff members, synchronise universities targets with sustainability objectives, and cultivate an atmosphere that promotes the growth of sustainable practices (Lowe, 2010).

The distinct institutional and sociocultural environment in which Ghanaian public universities operate shapes their leadership styles and approaches to sustainability. Government regulations, financial limitations, stakeholder expectations, and cultural norms are some of the factors that affect universities' ability to prioritise sustainability and apply successful leadership techniques (Aleixo et al., 2018). For Ghanaian public institutions to develop specialised approaches to sustainability and leadership, an understanding of these cultural subtleties is necessary.

In Ghanaian public universities, leadership practices and tactics that support sustainability take several forms, such as stakeholder engagement, capacity building, vision-setting, and performance monitoring. It has been shown that transformational leadership, which is marked by inspirational, empowered, and visionary leadership, has a beneficial impact on sustainability

results by encouraging creativity, teamwork, and a dedication to ongoing improvement (Begum et al., 2020). Leadership-driven sustainability projects in Ghanaian public institutions may face obstacles such funding shortages, bureaucratic slowness, and change-aversion despite the potential advantages. Strong leadership commitment, stakeholder engagement, and capacity-building programmes are required to overcome these obstacles. Leaders may foster a supportive atmosphere that fosters sustainability, resilience, and universities success by addressing obstacles and taking advantage of opportunities (Ananyi & Ololube, 2023).

Leadership-driven sustainability projects in Ghanaian public institutions may face obstacles such funding shortages, bureaucratic slowness, and change-aversion despite the potential advantages. Strong leadership commitment, stakeholder engagement, and capacity-building programmes are required to overcome these obstacles. Leaders may foster a supportive atmosphere that fosters sustainability, resilience, and universities success by addressing obstacles and taking advantage of opportunities (Ananyi & Ololube, 2023). Corporate sustainability performance is heavily influenced by leadership across various sectors generally. Through exhibiting a sincere dedication to sustainability, motivating stakeholders, and cultivating an innovative and cooperative culture, leaders can create synergistic effects that enhance universities efficacy and long-term sustainability. To fully realise the potential of leadership in promoting sustainability, however, would require coordinated efforts, cooperation from all relevant parties, and a persistent dedication to integrating sustainability concepts into universities strategy, culture, and daily operations.

Top Management Values and Green HRM Practices

Top Management Values (TMVs) play a crucial role in shaping Green Human Resource Management (HRM) practices, especially in today's environmentally conscious business environment. TMVs, often referred to as core values or leadership values, are fundamental beliefs

and principles that guide decision-making and actions at the highest levels of a university. These values set the tone for universities culture, influence employee behaviour, and determine strategic priorities, particularly in the context of sustainability initiatives.

One key aspect of TMVs is their influence on setting the strategic direction for Green HRM practices. When TMVs emphasise environmental stewardship and sustainability, they provide a solid foundation for developing and implementing Green HRM strategies. This includes decisions related to recruitment processes, training programs, performance management systems, and reward structures that promote environmentally responsible behaviours among employees. Furthermore, TMVs aligned with sustainability values have a direct impact on fostering employee engagement. When employees resonate with the university's TMVs, especially regarding environmental responsibility, it creates a sense of purpose and motivation. Employees feel empowered to contribute actively to the university's sustainability goals and initiatives. This alignment between TMVs and employee values significantly enhances engagement with Green HRM practices, leading to more committed and motivated employees (Jabbour et al., 2013).

Moreover, TMVs that prioritise sustainability contribute to attracting and retaining top talent. In today's competitive job market, many employees seek universities that align with their personal values, including environmental consciousness. Universities with clear TMVs emphasising sustainability are more appealing to such talent. This alignment not only attracts environmentally conscious individuals but also helps in retaining them, contributing to a positive employer brand, and enhancing the university's competitive advantage in talent acquisition (Selli & Booze, 2015). TMVs play a pivotal role in shaping Green HRM practices within universities, particularly concerning sustainability. By aligning TMVs with environmental values, universities

can create a culture of environmental responsibility, enhance employee engagement, attract top talent, and ultimately contribute to a more sustainable future.

Furthermore, aligning Top Management Values (TMVs) with Green Human Resource Management (HRM) practices, recent trends in the business landscape are reshaping the focus and strategies required for sustainability. One significant trend is the rise of stakeholder capitalism and the increasing importance of environmental, social, and governance (ESG) factors. This shift goes beyond traditional shareholder-centric approaches, emphasising a broader responsibility to stakeholders. As a result, universities need to integrate sustainability more deeply into their TMVs and Green HRM practices to meet evolving stakeholder expectations and demonstrate transparency and accountability in their ESG performance (Freeman et al., 2018; Boulton et al., 2018).

Another notable trend is the emphasis on the circular economy and efficient resource management. Universities are transitioning towards circular business models that prioritise resource reuse and waste reduction. To support this transition, Green HRM practices must focus on developing a "circular workforce" equipped with skills and competencies relevant to this new economic paradigm. TMVs that encourage innovation and eco-preneurship can empower employees to contribute to resource efficiency and sustainable practices within the university (Charter et al., 2020; Wickli et al., 2013).

To adapt to these new trends and challenges, universities can employ several strategies. Firstly, they can revisit and redefine TMVs to incorporate stakeholder values related to environmental and social responsibility. This ensures that TMVs align with the broader ESG agenda and reflect the university's commitment to sustainability (Maak et al., 2016). Secondly, developing Green HRM practices tailored to support the circular economy is crucial. This may

involve providing training on resource management, product life cycle analysis, and implementing reverse logistics strategies (Mentink et al., 2018). Finally, universities should focus on metrics and transparent reporting to track the impact of their Green HRM initiatives on environmental and social outcomes. This not only helps in monitoring progress towards sustainability goals but also enhances accountability and trust among stakeholders (Delmas & Berrone, 2008). Successful universities and long-term sustainability depend heavily on employee engagement and corporate sustainability performance, which is also true for Ghanaian public universities (Adu-Gyamfi et al., 2021).

Achieving great universities outcomes and fostering a sustainable culture require an understanding of the interplay between these two factors. The degree of passion, commitment, and dedication that employees show towards their work and universities is known as employee engagement (N. Gupta & Sharma, 2016). It includes elements like motivation, work satisfaction, universities commitment, and discretionary effort. Corporate sustainability performance, on the other hand, relates to a university's capacity to meet social, economic, and environmental goals while maintaining long-term viability and the welfare of society. Universities seek to create value for stakeholders and reduce negative effects on the environment and society by incorporating sustainability concepts into their operations and decision-making processes (Calabrese et al., 2019).

The distinct socio-cultural and institutional setting in which Ghanaian public universities operate has an impact on both employee engagement and corporate sustainability performance (Atatsi et al., 2021). Universities' ability to prioritise and promote sustainability activities is shaped by a number of factors, including funding limitations, stakeholder expectations, infrastructural limitations, and government legislation. Furthermore, universities practices and outcomes inside

these academic institutions are further influenced by cultural values, traditions, and stakeholder views of sustainability. In public universities in Ghana, there is a complex and dynamic relationship between corporate sustainability performance and staff engagement. Innovative thinking, teamwork, and dedication to universities objectives are among the behaviours that engaged workers are more likely to display (Ohemeng et al., 2018). On the other hand, companies that place a high priority on sustainability and exhibit a sincere dedication to environmental and social responsibility have the potential to improve employee engagement through the development of a feeling of purpose, pride, and alignment with universities values.

In Ghanaian public universities, encouraging employee involvement and improving corporate sustainability performance may face obstacles such resource shortages, bureaucratic slowness, and reluctance to change, despite the possible advantages (Ohemeng, 2021). Strong leadership commitment, stakeholder engagement, and capacity-building programmes are required to overcome these obstacles. Ghanaian public universities can foster an atmosphere that is favourable to employee engagement and sustainability at all universities levels by removing obstacles and grasping possibilities. There exists a complex and diverse relationship between corporate sustainability performance and employee engagement in Ghanaian public colleges. University involvement and sustainability cultures can create synergies that propel universities efficacy, creativity, and resilience (Thelma & Chitondo, 2024). To fully realise the benefits of this link, though, coordinated efforts, stakeholder cooperation, and a dedication to sustainability as core elements of universities strategy and culture are required.

Role of Leadership in TMV

Although formal leadership theories have just lately gained prominence, the topic of leadership has long piqued curiosity (Gardner et al., 2021). The early 20th century saw a rise in

interest in leadership. While later ideas focused on elements like situational considerations and skill levels, early theories sought to differentiate between traits shared by leaders and followers. Despite the emergence of many theories of leadership, the most fall into eight main categories (Ospina et al., 2020).

According to "Great Man" theories, charisma, confidence, intelligence, and social skills are innate traits of extraordinary leaders that they possess from birth (Nikezić, & Nikezić, 2021). Especially in military circumstances, leaders are portrayed as heroic individuals destined for leadership positions (Wegner, 2021). Characteristic Theories Trait theories, akin to "Great Man" ideas, propose that individuals possess innate abilities and traits that prepare them for leadership roles (Jules, 2020). These theories identify behavioural or personality characteristics, such as extroversion and self-assurance, that are typical of leaders (Weligodapola et al., 2023). Contingency theories focus on contextual factors that identify the best leadership approach in a particular circumstance (Shala et al., 2021). In order to assess follower requirements and modify behaviour accordingly, effective leadership requires striking a balance between followers' needs, behaviours, and circumstances (Franken et al., 2021).

According to situational theories, leaders should base their decision-making on situational factors. Depending on elements like the group's degree of knowledge, different decision-making scenarios require different leadership philosophies, such as authoritarian or democratic (Hallo et al., 2020). These behaviourist-based ideas contend that leadership is learned rather than born (Jeanes, 2021). They place more focus on the outward behaviours of leaders than their inner attributes, arguing that training and observation can foster the development of leadership (Meza et al., 2021). Theories of participatory leadership support leadership approaches that incorporate

feedback from others. Although they maintain the last say in decisions, leaders encourage group participation (Nahum & Carmeli, 2020).

Transactional theories, another name for management theories, centre on group performance, university, and supervision (Lee & Ding, 2020). According to the success or failure of their employees, they utilise a system of rewards and penalties (Pangandaheng, & Sutanto, 2021). Relationship theories, or transformational theories, emphasise the bonds that exist between leaders and followers (Stock et al., 2022). By highlighting the importance and greater purpose of work, transformational leaders inspire and encourage followers, aiming for both individual fulfilment and group success (Ambad et al., 2021).

The principles of leadership are essential in guiding sustainability initiatives. The senior management's demonstrated commitment to sustainability in their attitudes, practices, and beliefs sets the tone for the institution's sustainability programmes. Transformational leadership, characterised by visionary leadership, inspiration, and empowerment, can develop a culture of innovation, responsibility, and teamwork that is supportive of sustainability (Bashori et al., 2022). Despite increased awareness of sustainability challenges, public universities in Ghana struggle to implement sustainable practices. A lack of funds, competing agendas, bureaucratic complexities, change aversion, and a lack of support or knowledge from stakeholders are a few examples of these barriers. Furthermore, structural obstacles including outdated infrastructure, inadequate facilities, and a lack of institutional support may make sustainability measures in these academic settings difficult (Fuseini & Kemp, 2015).

Overcoming challenges and advancing sustainability initiatives in Ghana's public universities significantly depend on efficient cooperation and stakeholder engagement (Amoako et al., 2023). Including a diverse group of stakeholders fosters a sense of shared accountability and

shared ownership for sustainability. These stakeholders include government agencies, local communities, corporate partners, educators, workers, and administrators. Collaborative relationships enable the consolidation of connections, knowledge, and resources to advance sustainability programmes and foster innovation on college campuses and beyond.

The adoption of sustainable practices in Ghanaian public institutions is influenced by a wide range of factors, including universities culture, stakeholder engagement, institutional dynamics, and leadership principles (Towah, 2019). Understanding and navigating these complexities is crucial to developing all-encompassing, historically relevant strategies to advance sustainability at these educational institutions. By addressing challenges, fostering Collaboration, and fostering a sustainability culture, public universities in Ghana have the potential to play a significant role in furthering the area's greater objective of sustainable development.

The behavioural strategies that leaders use to inspire, encourage, and direct their followers are collectively referred to as leadership styles (Alsarrani et al., 2021). A leader's style determines how they carry out strategies and plans to accomplish particular goals while taking team members' needs and stakeholder expectations into account (Choi, 2021). Numerous forums have researched different leadership philosophies to find the most suitable or successful approach for inspiring and influencing others to meet objectives. The main tenet of a successful leadership approach is how well it cultivates followers' trust (Maisyura et al., 2022).

Studies reveal that followers who have faith in their leader are inclined to go above and beyond what is required of them (Soderberg & Romney, 2022). As a result, people meet objectives while being encouraged to openly share their thoughts and recommendations for the project's course. This article's discussion of leadership philosophies is grounded in the study and findings

of a number of eminent scholars in the field, including Bruce Avolio, Karl Lewis, Daniel Goleman, Robert K. Greenleaf, and Bernard M. Bass (Charoenboon, 2020).

A leader's chosen leadership style is usually influenced by a variety of factors, including their personality, experiences from their life, emotional intelligence, family dynamics, and way of thinking (Ayalew & Ayenew, 2022). As a result, leaders should understand how their style relates to these characteristics and figure out how to improve it. Beyond style, a leader must be able to determine whether to make an executive or consultative choice in a given situation (Mashele & Alagidede, 2022). Furthermore, in order for a university or circumstance to succeed, a leader must determine the most successful leadership style (Alblooshi et al., 2021).

A leader may assume ownership, control, and responsibility for the magnitude and scope of upcoming responsibilities by having a clear understanding of their leadership style (Goleman, 2021). Daniel Coleman's study, "Leadership That Gets Results," appeared in the Harvard Business Review. It examined and analysed data from over 3,000 middle-level managers to identify key leadership characteristics and how they affected profitability (Miklaszewicz, 2023). According to the findings, a manager's leadership style was responsible for thirty percent of the profitability of the business (Goleman, 2021).

Transformational leaders focus on inspiring their followers to drive change, encourage creativity, and shape the university's future (Harriott et al., 2023). They are aware that building rapport with staff members and encouraging them are essential components of good leadership. These executives are adept at clearly and inspiringly articulating the university's goal (Isbahi, 2023). Additionally, they work to foster an innovative culture within the university by giving staff members the freedom to experiment and take chances (Mehmood et al., 2021).

Certain traits make the transformational leadership method more successful in maximising workers' potential (Han et al., 2020). Five essential personality traits characterise transformational leadership. Extraversion is a trait that is often linked with extroverts and is often seen as an inspirational quality that transformative leaders often have. According to Buddur (2020), there are two main traits that extroverts typically display: agency and attachment. Agency relates to their capacity for leadership, whilst affiliation relates to their gregarious disposition. Many people believe that a key component of transformative leadership is being open to new experiences, which helps leaders to encourage creativity and emotional engagement (Von & Simpson, 2022). As a result, they can provide a university with forward-thinking advice and forge closer bonds with their team members (Zhang, 2023).

Transformational leaders encourage staff members to demonstrate their originality and resourcefulness. They act as role models for their staff, inspiring others to follow in their footsteps frequently (Rupprecht, 2022). Rather than micromanaging, they foster an atmosphere of employee accountability and autonomy (Irani-Williams et al., 2021). Being thorough, meticulous, accountable, and diligent are characteristics of a transformational leader that are crucial to have (Damti & Hochman, 2022). Conscientious leaders are known for their university's abilities, dependability, and commitment to accomplishing goals (Budur & Demir, 2022). They set high standards for both themselves and the other members of their team, placing a premium on producing outstanding work. In order to promote their team members' personal and professional growth, transformational leaders hope to instil good changes in them (Egan, 2020).

Leaders that exhibit idealised influence are seen as inspiring, reliable, and endearing (Nassif et al., 2021). Because of this quality, team members are encouraged to see the leader as an inspiration, someone whose behaviour is commendable and who sets an example for others to

follow (Ogunfowora et al., 2021). Idealised influence enables transformational leaders to create a common goal and inspire their group members to work towards it, which eventually improves output, involvement, and contentment at work (Davis, 2023). According to Afsar and Umrani (2020), transformative leaders ought to foster an atmosphere that motivates staff members to investigate novel concepts and prospects that have the potential to infuse creativity into the university. By opposing the existing quo, encouraging creativity, innovation, critical thinking, and problem-solving helps to bring about change (Thornhill-Miller et al., 2023).

It is imperative for a transformative leader to instil a sense of devotion in their team towards the university's goal. Making sure your staff members share your commitment to these objectives can help them develop a strong sense of purpose (Mandagi et al., 2023). Realising that every worker is an individual with special talents and contributions, transformational leaders must make sure that every member of their team receives personalised care and attention (Bojovic & Jovanovic, 2020). This entails exhibiting sincere concern for each team member's welfare and personal development. Effective mentors are transformational leaders because they have various attributes (Nandedkar, 2021). Among them are:

Self-awareness, as emphasised by scholars like Boyatzis (2008) and Goleman (1995). Self-conscious leaders are aware of their advantages and disadvantages, which helps them make wise choices and pursue ongoing personal development. Because leaders set an example by welcoming feedback and constructive criticism, this knowledge promotes a culture of learning and development inside the university. Another essential quality of successful leaders is initiative, as noted by academics such as Lencioni (2002) and Covey (1989). Rather than waiting for change to occur, proactive leaders take the effort to promote constructive change within their universities

and teams. They encourage people to take initiative and help achieve institutional goals by setting an example.

In today's fast-paced business world, flexibility and inventiveness are critical attributes. Proficient leaders understand that they must adjust to evolving situations and are always looking for new methods to beat the competition. They foster an environment that values creativity and innovation, giving their teams the freedom to experiment with fresh concepts and come up with creative answers to problems. Successful leaders who respect different viewpoints and ideas are known for their open-mindedness (Mumford et al., 2000). Open-minded leaders are receptive to feedback from a range of people, including colleagues, stakeholders, and subject matter experts. This transparency fosters inclusivity, innovation, and teamwork inside the university, which improves decision-making and problem-solving processes.

Humility is a less commonly discussed but equally important trait of effective leaders (Collins, 2001). Humble leaders acknowledge that they don't have all the answers and prioritise the collective success of their team or institution over personal recognition or ego. This humility creates a positive and empowering work environment where everyone feels valued and motivated to contribute their best efforts toward shared goals. The concept of charismatic leadership was introduced by German sociologist Max Weber. He described charisma as "the authority of the extraordinary and personal gift of grace (Tokbaeva, 2022)." Charismatic leadership, therefore, is a leadership style characterized by charm, persuasiveness, heroism, and confidence in the leader (Joshi, 2020). Weber also viewed charismatic leadership as a form of authority distinct from legal and traditional authority, where leaders inspire obedience not through social or legal factors but through their personal connection with followers (T. Magalhães, 2022).

Weber also saw charismatic leadership as a different kind of power from traditional and legal authority, where leaders motivate followers to obey them not by social or legal means but rather by their personal relationship with them (T. Magalhães, 2022). In dire circumstances, charismatic leadership is especially powerful, especially when there is danger or uncertainty. People require a strong leader in these circumstances who can inspire, uplift, and support them in sticking to their convictions (Behr, 2021). For instance, charismatic leaders can inspire people during widespread layoffs by showing empathy for them (Wang et al., 2024). In the political sphere, where strong and visionary leaders are needed to increase the nation's power, charismatic leadership frequently succeeds.

When people in a university or society lack confidence and vision, this leadership style works well (Grinev, 2024). Influential individuals can be inspired, given a vision, and motivated to attain objectives by charismatic leaders. Thus, when aggressive and positive transformation is required, charismatic leadership is advantageous (Becker et al., 2022). Compassionate, sympathetic, and aware of the needs of their followers are qualities that are expected of effective leaders (Arghode et al., 2022). Leaders also need to be strong and capable of overcoming obstacles and producing outcomes.

Consequently, charismatic leadership requires both compassion and authority (Ciulla & Ciulla, 2020). A key component of charismatic leadership is an engaged style in which leaders promise to help followers overcome obstacles and bring about change. Building a solid rapport with followers and successfully persuading them depend on active listening (Chernyl, 2021). To express their objectives and vision, motivate and connect with followers, and develop trust, charismatic leaders need to have strong communication abilities (Men et al., 2021). Modern charisma includes characteristics like emotional intelligence, confidence, persuasion, magnetism,

and successful communication, whereas classic charisma was determined by public perception (Silan, 2021).

Empirical studies on Green Human Resource Management, Top Management' Values and Corporate Sustainability Performance.

Good environmental, economic, and as well as social performance can emerge as the corporate solution for sustainability challenges. To achieve great performance, it is crucial to consider the corporate responsibility to protect the environment through quantitative, practical indications for natural thought (Roscoe et al., 2019). With the advent of the Green Movement, the idea of Green HRM has emerged. Four political principles are promoted by the Green Movement: environmentalism, sustainability, nonviolence, and social justice (Sonetti et al., 2019). The Green Movement's adherents, sometimes known as "Greens," share many ideas about ecology, conservation, and the environment (Pham & Jabbour 2019). With the Green Movement's global awareness levels rising, research students from a variety of fields, including accounting, marketing, logistics, and HRM, have also started reading about how managerial practices in those fields might support environmental control objectives (Sonetti et al., 2019). The UN Global Compact in collaboration with numerous instructional corporations has advanced the Principles for Responsible Management Education (PRME), encouraging scholars and management to jointly work on growing new information to sell eco-friendly responsibility (Parkes et al., 2017).

The improvement and the performance of a universities eco-friendly initiative include numerous devices of the corporation and should take diverse roles for over (Liao & Li (2019). Not only does HRM make up a crucial internal stakeholder within the corporation, but it also serves as a source of competitive advantage (Rajbhar et al., 2017). The development of the university depends on the integration of ecological and human sustainability. The authors made the case that

investing in, and training human resources best complements ecological sustainability. Currently, many administrations are using a proactive, crucial tool called an environment management system to their advantage. This device has a design that grants institutions the ability to better control their environmental consequences (Ansari et al., 2021).

However, it's consistently maintained that one of the most significant influences on the effectiveness and success of environmental management system (EMS) deployment is the role of worker involvement. It may be required to reclassify the HR job from HR executives to environmental management to ensure employee participation in upholding environmental regulations (Ansari et al., 2021). Given this background information, it is logical to assume that the focus of GHRM is the holistic application of the sustainability concept to businesses and its workforce. Green drives that improve process performance, lessen, and eliminate ecological waste, and improve HR systems, processes, and products are all included in this to help businesses achieve better results at reduced costs. Some of the results were electronic recording, internet planning, creation, video chatting, resource conservation, automobile sharing, and virtual meetings (Riyadh et al., 2019). Already, the job of HR in corporate sustainability programs had not been given a lot of thought. This has changed and late investigations by the Centre of Effective Universities propose that HR-related sustainable practices emphatically affect employee devotion, investor esteem, worker commitment and enlistment and benefits. As a matter of fact, more than 82% of HR leaders say that such practices positively affect university benefits. However, the very handiest 51% of leaders say that sustainability is an essential cognizance of the HR branch in their university (Molthan-Hill et al., 2020). What's in store is set to change as many universities are presently deciding to offload a ton of HR-related undertakings by utilising CIPHR HR Software, which lets them to give sustainability and its job in their HR rehearses better thought.

In suggesting that they integrate it into each of the cycles that HR controls (Villalonga, 2019). This does not imply that all HR activities ought to be paperless to keep away from a negative environmental effect or that all cycles ought to be exclusively centred on sustainability. It essentially implies that universities ought to assemble sustainability practices and methods into its significant HR activities (Tahir et al., 2022). Sustainability does not play a figure in the development of HR practices in many universities, nor does it have any effect on how that university controls its everyday tasks (Parkes et al., 2017). In any case, given the way that sustainability is presently assuming a substantially huger part in corporate capabilities, it's inevitable until all HR divisions integrate it into their essential obligations and the way they do them (Villalonga, 2019).

Building processes with sustainability as one of their basic beliefs in a mutually beneficial arrangement for HR as it increments productivity while elevating a positive brand to clients and individual universities the same request for universities to truly profit from coordinating sustainability into their HR practices argued that such green practices help fulfilment of green focuses throughout the HRM with taking care of from expert selection to workers exist, and that it's Human resource division expects an unusually crucial part in making an understanding of green procedure into planning (Green & Southard, 2019) and the creation of a doable culture within the universities (Franco et al., 2019). Selection, planning, motivation, and remuneration are the factors that contribute to an express work in representatives' execution of green conviction frameworks, according to Green & Southard (2019). This ensures that the association receives the proper professional information and that they can handle the show. It is well-known in the literature that humans strain social and ecological systems past their breaking point (Leviston et al., 2018).

The Brundtland Commission then makes sure that practical improvement is publicly recognised as being substantial. It's crucial to comprehend the requirements of the current age to live up to their expectations and respect those of the future age (Mensah et al., 2019). The basis for controlled development should be equilibrium and obligation (Berchin et al., 2021). When pursued by a particular association, acceptable administrative goals sacrifice other goals (for instance, increased sales, perks, and satisfying financial backer concerns (Sroufe & Dauda., 2018). There may be a few pressures. One of these claims is supported by the fact that foundations create negative externalities and should reduce them in order to build and maintain a sustainable incentive for their various partners (Stahl et al., 2020). The capacity of sustainability leaders to encourage advantageous externalities in markets and institutions is well acknowledged. Students of today who adopt a culture of sustainability may become leaders in sustainability in the future (Roscoe et al., 2019). By leading institutions through adaptive learning processes that can deal with the complexities and trade-offs between economic, social, and environmental concerns, they can influence institutions toward more sustainable conditions. These leaders must possess both the capability for innovative problem-solving and a solid understanding of systems thinking to address complex sustainability concerns (Leal et al., 2020).

In this regard, it is crucial to consider understudy strengthening and authority enhancement from a university perspective in addition to a hierarchical and situational one. In keeping with this, the pioneer looks at three more aspects of viable development. It outlines the pioneer's viewpoint, activity, and relationship with followers (Leal et al., 2020). Despite the definition of authority group perspectives and the role of researchers as leaders in higher education institutions, the development of students into sustainable leaders should be taken into consideration (Leal et al., 2020). In literature, the viewpoint of the student is typically considered along with the validity of

his leadership in university leadership teams. To put it another way, by enabling them to become change agents from the bottom-up. Leaders who apply inclusive, visionary, innovative, and charitable leadership philosophies develop environmentally friendly leadership practices (Sady et al., 2019).

The literature also goes into detail on the issue of whether people (leaders or followers) have the set of skills, knowledge, attitudes, and talents that drive them to engage in leadership that aims to preserve the earth (Khan et al., 2019). For leaders to perform better, they must develop their leadership. To do this, management must be encouraged to develop the specialised abilities and skills required to carry out their duties. The literature describes a variety of leadership development techniques, like networking, executive coaching, mentorship, and multilateral feedback. These techniques have not been extensively tested, thus it's impossible to prove their efficacy (Das et al., 2019). It is also important to consider the possibility that universities are leading institutions in the promotion of sustainability. Universities are acknowledged as important institutions that can address issues, educate future leaders, and create sustainable solutions for the future. The use of Green HRM (Human Resource Management) techniques has grown in popularity recently as businesses look to incorporate environmental sustainability into their daily operations.

This review of the literature looks at empirical research on green human resource management (HRM) and how it affects corporate sustainability performance, particularly at public universities in Ghana (Amjad et al., 2021). There is proof that Ghanaian public universities are implementing green human resource management strategies, according to several research. According to Ghouri et al., (2020) and corroborated by Mahmood, & Nasir (2023) these methods include sustainable performance review, green recruiting and selection, and employee training on

sustainability. The implementation of these measures is indicative of the universities' dedication to encouraging ecologically conscious conduct among their staff members.

Employee awareness and engagement emerge as crucial factors influencing corporate sustainability performance in public universities in Ghana. According to studies, university sustainability performance is positively impacted when staff members actively participate in green projects and are well-informed about the significance of environmental sustainability (Malik et al., 2020). This implies that to achieve the intended results, cultivating a sustainable culture and promoting employee involvement are crucial (Jamal et al., 2021). Effective leadership support and a universities culture that prioritises sustainability are key factors in the success of Green HRM practices in Ghanaian public universities. According to research, senior management support and commitment are essential for the successful implementation and upkeep of green projects (Chaudhary, 2020). The integration of sustainability principles into HRM strategy and operations is facilitated by the backing of leadership (Mahmood & Nasir, 2023). Research shows that corporate sustainability performance at Ghanaian public institutions is positively correlated with Green HRM practices. By implementing Green HRM practices, environmental performance is enhanced overall through improved resource conservation, waste management, and energy efficiency (Malik et al., 2020). These results demonstrate how Green HRM can have a positive impact on sustainability outcomes.

While the adoption of Green HRM practices in Ghanaian public universities has shown positive results, it is not without difficulties. Implementing sustainable practices has been found to be significantly hampered by a lack of funding, employee resistance to change, and a lack of knowledge and expertise (Chaudhary, 2020). To overcome these obstacles, colleges must implement specific plans to increase awareness, develop capability, and promote a sustainable

culture (Mahmood & Nasir, 2023). The empirical data emphasises how crucial it is to have supportive national laws and policies in place to encourage Green HRM and sustainable practices in Ghanaian public universities. Governments should seek to create an enabling environment by developing pertinent laws and policies that encourage and facilitate the adoption of sustainable practices in cooperation with higher education institutions (Jamal et al., 2021).

The adoption of Green HRM practices, the importance of employee awareness and engagement, the influence of universities culture and leadership support, positive performance outcomes, barriers, and challenges, as well as the policy implications, are all revealed by empirical studies on Green HRM and corporate sustainability performance in Ghanaian public universities. Mahmood and Nasir (2023) suggest conducting additional research to investigate the enduring impacts of Green HRM practices and devise targeted approaches to surmount the obstacles mentioned in this scenario.

Green Human Resource Management and Top-management values

Environmental deterioration is a pressing issue that requires swift action from universities to create proactive environmental management policies (Jabbour et al., 2010). Green management and environmental management initiatives are becoming crucial to the success and sustainability of businesses worldwide (Yusliza et al., 2019). As a result, universities are developing duties and practices related to cultivating environmental awareness as part of their universities strategy, also known as green management. A study by Renwick et al., (2013) indicated that, in order to develop capabilities of green management within universities, employee's skills, values, and knowledge are required. Sheopuri and Sheopuri (2015) stated that green human resource management incorporates the use of employees and employee-relevant aspects which include their values to

promote sustainable practices pertaining to the environment by increasing awareness and commitment of employees regarding issues of environmental sustainability.

Employee engagement is a strategic resource that contains opinions regarding universities activities in a universities' context. This is because their level of engagement drives them to work hard both inside and outside of their role (Afsar & Umrani 2020; Umans et al., 2020). Green involvement is defined as "a state of mind that communicates both a sense of connectedness in the workplace and a dedication to environmental issues" in a more specific sense (Tabesh, & Vera (2020). The top management (TM)-Green Commitment is a phrase used in this study to describe how many institutions top management are regarded as genuine environmental stewards. The dedication of these leaders is essential to achieving the strategic objectives of the business since they oversee mobilising universities resources (Potrch et al., 2019; Eker et al., 2019). Even though HRM frameworks have been shown to foster positive outlooks that are representative of society, such as Collaboration, Top management values (TMV) is rarely the subject of studies that examine the relationship between HRM and ecological commitment by management (Aguilera, 2021). Nevertheless, there are several arguments that back up our forecast that the GHRM system will be adopted, and TM environmental commitments values would be positively correlated.

The GHRM framework conveys a vision, a set of principles, and goals that are strong in performance and reflect the essential meaning. Examples include asking for environmental education, rewarding academics for accomplishing environmental objectives, and facilitating staff productivity. Another is using innate abilities and viewpoints as a standard for recruiting. To discover more positive vibes around GHRM, it's essential for upper management to get involved in sustainable issues (Umans et al., 2020). Such procedures, when used as a system, guarantee that employees of an institution have the knowledge and motivation to work toward environmental

performance goals. They also guarantee that they have access to enough opportunities to participate in the effort contribution of an environmental agenda.

The GHRM system can be likened to other strategic HRM systems influencing participation by lower-level employees because an institution is strategically aligned HRM system targets all employees within a university (Birasnav & Bienstock 2019). Secondly, the use of GHRM enhances information exchange, educating top-level management about the total work process and facilitating involvement (Birasnav & Bienstock 2019). According to research, the management strategically aligned HRM system strengthens both his senses of importance and responsibility (Najar & Dhaouadi 2020). Institutions rely on management who are devoted to environmental issues and effectively execute GHRM to accomplish the objectives implicit in the GHRM system. Sharing knowledge inside TMT has behavioural repercussions in addition to motivational ones. Senior management who shares information more often exhibit integrated behaviour, which has been linked to improved universities performance (Najar & Dhaouadi 2020).

Torelli et al., (2020) speaks of leaders who are ethical and believe in doing things to protect the future generations. Ethical leadership is described as "exemplifying normatively suitable behaviour through personal behaviour and interpersonal interactions, and fostering such behaviour in followers through mutual communication, reinforcement, and decision-making." According to this concept, the foundation for determining a CEO's moral authority is the recognition of the leader's own behaviour and cooperation with followers. Therefore, the CEO's moral initiative is a broad concept that acknowledges sincerity, equity, and accountability (Pucci et al., 2020). The honesty element of moral authority calls for honest methods and reliable standards. A responsible component of the CEO's ethical leadership is enlisting the support of stakeholders, such as the public, who are responsible for the university' growth and development as well as the wellbeing

of individuals and the standard of citizens from society (Calabrese et al., 2019). We must value enduring business Collaborations with for a healthy ecosystem, life is important.

The VC's, who is the CEO of the university influence as a moral leader, transcends what can be accounted for by legal power because of the official position in the institutional structure. The CEO can be given more authority through ethical leadership since he serves as a desirable role model for employees to aspire to (Juntunen et al., 2019). Top management picked up on socially acceptable workplace habits and adopted comparable behaviours to fit into their relationship with the CEO and/or him by witnessing his CEO's behaviour, which is a particularly prominent social cue (MacDonald et al., 2019; Dzhengiz & Niesten (2020). Establishments become effective institutions using GHRM approaches and dynamic financial capacities. However, there is a dearth of evidence about the contribution that individual GHRM practices, such as green hiring and selection, green compensation and reward, and legitimate talents, such as observing and yet again configuration, contribute to the professional workplace and social performance. GHRM and dynamic lawful restrictions have a significant and fundamental impact on the corporate functional performance.

The assembling sector engages in massive waste production, double-use of existing resources, excessive energy consumption, and absurd working conditions (Abdul-Rashid et al., 2017). This is especially true for developing countries, which are incredibly vulnerable notwithstanding disasters, environmental calamities, and societal deceptions despite having a promising business sector improvement potential (Masud et al., 2018). According to Anwer et al., (2020), the gathering area is a big promoter of unchecked contemporary garbage, absurd working conditions, and HR practices. Therefore, a more realistic exploration lends itself to further examination of this area and its maintainability difficulties. Haldorai et al., (2022) acknowledge

that CSP is not fixed, but they also highlight how expanding the project and achieving better results are all aided by increased partner prosperity and awareness both internally and externally, the creation of job opportunities, and a decrease in the institution's detrimental community effects (Mousa & Othman, 2020). In general., resilience, environmental preservation, and the development of human personal delight depend on efficient corporation economic management. It boosts employee output, cuts down on recruiting's time and expense, and avoids sustained loss (Tang et al., 2018). Additionally, by guaranteeing that the environment can be controlled and that communities can thrive, it aids institutions in maintaining their competitive advantage on the global market (Orji, 2019).

In this way, both experts and academics must have a reasonable understanding of the factors influencing the performance of corporate sustainability (Jamal et al., 2021). Additionally, the universities and their employees' use of green practices, such as GHRM, and their adaptability are crucial for the presentation of corporate sustainability performance (Schaltegger and Burritt, 2018). Green HRM denotes ethical HRM techniques that profit the institutions in a worthwhile, environmentally way. Regardless of your point of view, it is a crucial component of a corporate support structure that is expanding admirable green behaviour and respecting social and climatic goals (Hameed et al., 2020; Singh et al., 2020). It includes important strategies including green recruitment and selection, green compensation, and green rewards. Green human resource management (GHRM) directors play a crucial role in encouraging institutions to adopt environmentally friendly standards and procedures, which stimulates work on corporate responsible implementation and operation (Yong et al., 2020).

In addition to GHRM, other forebears of a functional association also include strong functional capabilities. A range of levelled abilities facilitate the use of CSP since they play a big

role in the universities processes of many universities (Shahzad et al., 2020). To reach infinite performance in the ecological and social sectors, corporations must genuinely find, seize, filter, and plan great prospects for practical improvement (Fawehinmi et al., 2020). In the CSP research, it is occasionally required to discuss high administrative level competencies (Kim et al., 2019).

Due to its significance in managing both internal and external dynamism and its representation as a key driver of growth, it is considered as a component for to enjoy competitive advantage (Bin Saeed et al., 2018). The institution's ability to address the climate catastrophe and promote safer, more complete working conditions depends on CSP training (Mawonde 2019; Findler et al., 2019; Shang et al., 2020). "Corporate Sustainability Performance (CSP) training plays a pivotal role in enabling institutions to respond effectively to climate challenges while enhancing workplace safety standards. As Mawonde (2019) demonstrates, such programmes build critical competencies in environmental risk management, while Findler et al., (2019) and Shang et al. (2020) establish their dual impact on both ecological outcomes and occupational health improvements - creating synergies between climate action and worker wellbeing." When designing and running its buildings, Green University places a high value on promoting a sustainable way of living. Numerous of their facilities offer natural lighting, which enhances air quality and uses less energy and water. Green or "living" roofs absorb and insulate rainfall on many campuses, while timer lights help schools save money and energy. You can view the building's hourly solar, electricity, and water use through real-time energy reports. These assets promote more sustainable friendly academic and social communities and better homes, schools, and playgrounds. (Boca & Saraçlı, 2019; Singh et al., 2020).

Yanez et al., 2019 and Iqbal (2018) claim that human resources frame an institution's knowledge base and motivate them to invest more in it. The phrase "greening of HR" refers to the

arrangement of strategies and volume of practices that permit Top management to maintain the rich information resource. Regarding high effectiveness and low cost, it is done in a practical and ecosystem-safe manner (Masri & Jaaron, 2017; Tang et al., 2018). Being "green" refers to applying commonsense methods to all facets of human resource management, including, but not limited to, leader recruitment, selection, and implementation, payment and reward, worker advancement, and workplace readiness (Mustapha et al., 2017).

It is completed to effectively use the limited resources while enhancing people's job satisfaction and self-confidence, which is undoubtedly natural (Tirkolaei 2020; Zaid et al., 2018). Potential employees, for instance, are informed of the relevant mission and principles for sustainability through recruitment and selection. Due to the variety of professional responsibilities, they accepted and their commitment to highlighting the benefits of green practices for the institution, the green element resonates. The development of workers' green competencies and skills include representative planning and improvement potential., To establish and once more promote behaviours that are more in keeping with nature, frameworks for green group building, green skills development, and executive learning are laid out (Hameed et al., 2020).

Another human resource's knowledge is then used to motivate employees. This could be made possible in large part by paying representatives for their actions and leadership standards related to environmental concerns, including as responsible resource usage, a similar attitude toward the environment, and an appropriate catalytic structure. Additionally, when it comes to rewards, distinctive, public, social., and tailored reward frameworks in conjunction with specific performance evaluations encourage proactive and socially minded behaviour among employees, which results in improved sustainability performance. (Liyanaage & Netswera 2022; Purcell et al 2019). Zorpas, (2020) discusses the relationship between the GHRM and ecological responsibility,

while Leal Filho et al., 2019, Kim et al., (2019), and Haldorai et al., (2019) highlight the impact of the GHRM on ecological performance (2022). Whatever the case, the writing has mostly ignored the social component of the triple principal focus. Innovative reward systems incorporating public recognition, social incentives, and personalised benefits, have been shown to significantly enhance employee engagement in sustainability initiatives when aligned with performance metrics (Liyanage & Netswera, 2022; Purcell et al., 2019). Zorpas (2020) establishes clear linkages between Green Human Resource Management (GHRM) practices and ecological accountability, while Leal Filho et al. (2019); Kim et al., (2019) and Haldorai et al., (2022) demonstrate GHRM's measurable impact on environmental performance. However, current literature predominantly neglects the social dimension of this triple-bottom-line approach, creating a critical gap in understanding how reward systems might simultaneously address ecological, economic, and social sustainability objectives.

The situation is improving because some studies, like the one led by Amrutha & Geetha (2019), aim to address this issue between GHRM and the social suitability of the institutions by incorporating the mediating role of Employee Green Behaviour and dispersing these institutions through the hypotheses of Ability, Motivation, Opportunity, and Social Identity. Consequently, there is a significant gap in the literature for investigating the social component of maintainability in GHRM research. By asking each Green Human Resource Practice about the role that government support, employee success, and university financial and environmental performance play in achieving the triple main concern, which should be championed by the vice chancellors of various public universities, it is possible to respond to questions like what role GHRM practices play in achieving the triple primary concern, which should be encouraged (Abbas, 2020).

The Malaysian manufacturing business, according to Khan et al., (2020), is not the only reason why green evaluation and awards are important for understanding practical performance (Shafaei et al., 2020). Research on sustainability and green HRM is scarce and demonstrates combined benefits for the investigation (Yong et al., 2020, Awan et al., 2017). Scientists like Chams & García-Blandón (2019) have spearheaded the commitment of Green HRM practices to creating an affordable workplace (2021). The link between green HRM and an institution's philosophy, however, has often involved a variety of studies (Shahzad et al., (2020). Future research has been suggested by Macke & Genari (2019) to determine the impact of smart HRM practices on people's psychological and social well-being.

The benefits of combining examinations of HRM practices and sustainability-related performance of the university should not be overlooked. It then shows up in the institution's responsibilities and attitude. Rehman et al., (2021) found no relationship between GHRM and universities sustainability performance. Because of this, specialists like De Stefano et al., (2018) understand the significance of further investigation into the connection between GHRM and CSP. To sum up, research from the past has shown that directors increase their commitment to the institution and its goals the longer the final decision may communicate personal convictions and address sensitive issues (Mamun, 2019; Dzhengiz & Niesten 2020).

GHRM may encourage the value of the individual and a stable professional identity by using strategies like creating green learning environments and putting in place incentives to encourage eco-friendly behaviour (Silvius & Schipper 2019). TM in their values can express themselves through these activities and/or influence employee behaviour to further their own environmental objectives. According to the social exchange hypothesis, leaders should be more likely to maintain a positive working environment by reciprocating optimistic views if they receive

benefits in the form of active engagement and responsibility (Giacomini et al., 2020). Participation is a great example of a positive attitude as it involves growing investments in line with institutional goals (Kehoe and Collins, 2017).

As indicated earlier, top management value is one of the key capabilities in a university that assists in the development and implementation of green human resource management practices. According to Yusliza et al., (2019), top management is responsible for determining the direction of the HRM practices that are incorporated in universities. It is believed that when top management is aware of the importance of environmental performance it will lead to the implementation of green human practices that are directed toward environmental sustainability. The goal of green HRM practices is to include the concepts of environmental sustainability into HRM operations. The principles and dedication of upper management play a major role in the effectiveness of Green HRM practices' implementation in Ghanaian public universities. The significance of top management ideals in encouraging the implementation of green human resource management techniques is evaluated in this literature study. It specifically looks at the function of top management principles such accountability for performance, long-term thinking, stakeholder engagement, employee empowerment, and environmental conscience (Jamal et al., 2021).

Environmental sustainability should be given top priority in Ghanaian public colleges, and the institution's top management should show a strong commitment to reducing its environmental impact. Mahmood and Nasir (2023) state that this entails encouraging resource conservation, waste reduction, and the adoption of eco-friendly activities. Top management's environmental consciousness sets the tone for the entire university and highlights the importance of sustainability.

Senior leadership ought to set a good example and take a proactive role in environmental projects. Top management can encourage staff to adopt Green HRM practices by modelling eco-friendly behaviour and encouraging sustainability within the university (Malik et al., 2020). The actions and conduct of senior management have a pivotal role in influencing the universities culture in the direction of sustainability. Top management must have a long-term vision and understand the value of sustainable practices for the institution's future for Green HRM practices to be effectively adopted (Jamal et al., 2021). This means giving sustainable investments and decision-making top priority, even if they initially require funding.

Ghanaian public universities can contribute to a more environmentally conscious society because of their emphasis on long-term sustainability. Top management needs to collaborate with a range of stakeholders, such as community people, teachers, staff, and students, to create a shared vision for sustainable practices in Ghanaian public universities. Identification and implementation of workable Green HRM initiatives that complement the goals and values of the university, and the society at large can be facilitated by cooperative efforts and stakeholder participation (Jamal et al., 2021). Employees should be given the freedom to actively participate in sustainability projects by upper management. This can be accomplished by providing staff with opportunity to share their thoughts and solutions for accomplishing environmental goals, as well as by offering training and awareness campaigns (Chaudhary, 2020).

Employees who are empowered can effectively drive change by incorporating Green HRM practices into regular business operations. It is recommended that upper management set up Key Performance Indicators (KPIs) and conduct routine progress reports on Green HRM projects. A culture of continuous improvement can be fostered, and the university held more accountable if sustainability results are measured and reported (Malik et al., 2020). Future decision-making is

informed and the institution's commitment to stakeholders is demonstrated by transparent reporting of sustainability successes (Mahmood & Nasir, 2023).

The literature analysis highlights the role that top management values play in helping Ghanaian public institutions embrace green human resource management methods. Environmental awareness, setting an example for others, having a long-term outlook, including stakeholders, employee empowerment, and tracking and reporting performance are some of these values. Ghanaian public universities may effectively incorporate Green HRM practices and support environmental sustainability and responsible resource management by giving priority to these ideals (Mahmood, & Nasir 2023).

Top-Management Values and Corporate Sustainability Performance

Top management values may be described as ranging from self-interested and materialistic to idealistic and altruistic (Le et al., 2015). The involvement of top management in sustainability management is one of the most important success criteria for the institution's sustainable development (Chiappetta et al., 2017). Top management must not only give the greatest resources and set up incentives for workers to sell sustainability duties; instead, they must have a significant impact on universities cultures and cross-universities decision-making methods through involvement and leadership (Wehrmeyer et al., 2017).

Top management could encourage their staff to take on green and experimental tasks in order to adopt new processes (Ribeiro et al., 2022). Giving employees more authority will help achieve this (Kim et al., 2019). Green Pay and Reward (GPR) implemented by top-management aims to recruit, retain, and ultimately motivate top talent to support the goals of green corporate entities. Instead of an economic reward, it is a monetary one. Institutions can achieve their

sustainability objectives by rewarding staff for their commitment to fostering eco-friendly behaviour and sustainable practices (Amerta & Dauda, 2020).

People have a significant impact on business sustainability initiatives, university operations, and both (Jamal et al., 2021). Only those who have a positive outlook on their surroundings and a sense of responsibility for their acts that may have an adverse impact on the environment can carry out environmental management procedures (Chuwa & Dauda, 2020). Green hiring and selection, green training, pay and benefits, and employee engagement are examples of significant GHRM activities (Amjad et al., 2021). GHRM is crucial to enhancing environmental standards and procedures inside the Group. The presentation of the necessary components for attaining business sustainability is made possible by GHRM practices (Jamal et al., 2021). The current research emphasises the value and effectiveness of his GHRM in establishing universities sustainability, to put it briefly. Management is according to the stakeholder idea, responsibility first is not only effective for all stakeholders but also not the easiest to look after for shareholders (Stahl et al., 2020).

A person who has a direct or indirect interest in the operations of the institution is referred to as a stakeholder. Stakeholders, then, are those who are impacted by or motivated by the institution's use. In 2019 (Dahlmann et al.), Institutions can concentrate on sustainability internally by training personnel and creating plans or guidelines to ensure sustainability (Gilal et al., 2019). Customers, suppliers, communities, and non-governmental universities are examples of stakeholders (Demir et al., 2019). Universities must meet the demands of a diverse range of stakeholders. In other words, an institution's sustainability depends on the involvement and engagement of stakeholders, both internal and external., The institution uses sustainability and his GHRM standards to suit the needs of many stakeholders (Steel and others, 2020). Additionally, a

variety of institutions, including manufacturing, banking, education, and information technology, can use the stakeholder concept. By industry, these stakeholder requirements change. The message, nevertheless, might not change.

A five-issue model that encompasses environmental education, human investment, stable work-life and family-friendly employment, improved worker health and protection, and worker participation in decision-making processes has recently been used to quantify GHRM. Green involvement is the engagement of universities personnel in amateur sports (Chaudhary et al., 2020). Participation in eco-friendly sports by employees motivates them to support waste reduction and pollution prevention (Pham et al., 2020). The improvement of universities performance depends on green initiatives (for instance, reducing waste, and pollutants, and making complete use of assets in the workplace) (Zhang et al., 2019).

Over the past few centuries, industry has expanded quickly, which has enhanced humanity and raised many people's standards of living. However, the environment was frequently sacrificed in favour of this growth. In conclusion, a growing corpus of research suggests that environmental sustainability and enterprise systems may both require improved control concept (Vásquez et al., 2019). Ecological practical improvement has many implications in ecological research, all of which emphasise the necessity for balance between expanding a business and preserving the environment for the benefit of people in the future (Horne & Dauda, 2022). Over the past two centuries, the sector has grown quickly, advancing humanity, and raising the standard of living for many people. However, the environment was frequently sacrificed for this growth (S.R. & David., 2020). Numerous scholars have therefore recently hypothesised that there may be a growing need for management idea enhancement in the areas of ecological sustainability and business systems.

The prevailing notion was that because institutions must devote more resources than usual, environmental management had a negative influence on their performance.

The Mediating Role of Top-management Values

The successful realisation of any goal of a university is dependent upon the values of its core management (Williams et al., 2014). Therefore, the promotion of sustainability, which can lead to competitive advantage, lies within the positive values of management toward these sustainable practices (Spencer et al., 2013). A study by Yusliza et al (2019) revealed that top management values have a positive and significant impact on corporate sustainability. According to Goyal and Kumar (2017), top management values and commitment are very critical for the successful implementation of corporate social responsibilities. The authors argued that lack of top management commitment is one of the factors that hinders a successful implementation of green human resource practices. In addition, top management values also motivate others to ensure the effective implementation of green management practices in the university to improve their agenda towards maintaining sustainability (Tandoh et al 2022). Moreover, we found that oftentimes the top management is both drivers and implementers of corporate sustainability, as they exhibit their values and beliefs through the exercise of their decision-making power (Jenkins 2006).

McCullough et al., (2020) opine that traditionally, institutions and stakeholders have found financial results to be more alluring, but in the twenty-first Century, green environmental outcomes are seen as more proactive (Ahmed et al., 2020). Institutions all over the world are working to impose GHRM policies that will provide a competitive edge within the institution globally (Rahman, 2020). University administration should employ green human resource management and change leadership techniques (Sun & colleagues (2022). Ecosystem restoration has been a significant difficulty throughout the last ten years. Environmental best practices are

used in almost all institutions (Singh et al., 2020). Many industrial institutions have tried to lower the amount of waste produced during the production and disposal of their products. The result is an improvement in the institution's performance (Oyedokun, 2019). Because it enhances the institution's usual overall environmental performance, staff environmental responsibility is vital to achieving institutional environmental governance (Kim et al., 2019).

Institutions must comprehend how GHRM affects workers to attain environmental sustainability. This has an impact on employers' environmental performance (Ali et al., 2021). Managing institutional environmental sustainability is a difficult task facing many institutions (Ilyas et al., 2020). Acting as environmentally and socially responsible as possible while trying to meet economic goals has proven essential for any business (Cheema et al., 2020). To achieve proactive corporate environmental sustainability, government agencies need to mobilise human resources to pursue green goals, thereby transforming environmental sustainability into (HRM) (Quartey & Dauda., 2020). As a result, institutions can feel a growing need to integrate environmental management into their methods for managing their human resources (B.B. Saeed et al., 2019).

Institutions ought to gain from the application of environmental control techniques as well. However, as was already noted, the performance and dedication of control personnel, particularly senior management, is necessary for efficient implementation of GHRM practices, just like any other HRM practice within an institution. The strategic implementation of his HRM practices has improved because of the shifting commitment of top management in emerging markets (Kaur Ali & Dauda, 2020). A proposed component of the Strategic HRM Context is GHRM (Ysliza et al., 2019). A consistent set of internal policies and procedures must be developed and put into place as part of strategic human resource management to guarantee that an institution's human resources

support the achievement of its business objectives (Achmetschin et al., 2019). In institutions, GHRM refers to the alignment and support of HRM practices for the growth of environmental management (Huo et al., 2020). Employees are a key enabler for successful environmental management in an institution, according to the GHRM description. Raising environmental awareness should therefore be implemented not only across the entire institution but also among top management (Li. et al., 2020).

A strong platform for environmental improvement is provided by senior management commitment. Which policies are in place must be clearly defined and designed, and senior management oversees effectively conveying them across the university. Commitment to top control also indicates that top management is interested in enhancing universities skills (Huo et al., 2020). In several case studies, the commitment of top management was crucial to an institution's mission statement being successful (Yusliza et al., 2019). This is so because it is their duty to allocate funds and make the judgments required to effect change within the university. Top management has a major influence on an association's reputation.

Since they understand the significance of overall ecological execution, the foundation's top administration conducts her human resources management training in accordance with the institution's natural impact (Sabokro et al., 2021). Top management staff (TMT) plays a crucial role in coordinating the production and use of institutional cycles, according to a more significant level hypothesis (Ferguson et al., 2019). Their crucial managerial logic affects how universities react to environmental changes and make crucial decisions.

According to Sheopuri and Sheopuri (2015), implementing green human resource management necessitates a high degree of technical skill among employees in order to establish long-term competitiveness for the company. Top management values are critical in ensuring that

an organisation's objective is realised, resulting in improved company performance. Digalwar et al. (2013) claimed that top management values serve as a foundation for effective environmental improvement. The authors explain that top management is responsible for defining and designing which policies to establish and for communicating them thoroughly across the university. Several studies conducted by Mullane (2002) have pointed out that the success of universities' mission statements was highly dependent on their top management values. However, Bansal and Roth, (2000) indicated that the role of top management is very crucial in realising institution's green initiatives.

This is consistent with Colwell and Joshi (2013), who claimed that when an institution's top management values are positive and high, environmentally friendly policies are more likely to be implemented. Based on these assumptions, this study contends that in order for a university to successfully implement greening, there must be significant top management values in place to ensure that its implementation yields benefit in terms of sustainability. The purpose of green HRM practices is to include environmental sustainability principles into HRM operations. The ideas and dedication of top management have a significant impact on the effectiveness of Green HRM practices adoption in Ghanaian public universities. This literature study on Ghanaian public universities examines the relationship between corporate sustainability performance, top management values, and green human resource management.

The ideals and views of the top management regarding sustainability have a significant impact on the adoption and efficacy of Green HRM practices in Ghanaian public universities. The adoption and results of Green HRM practices are positively impacted when upper management appreciates sustainability and encourages environmental stewardship (Chaudhary, 2020). For example, a study conducted in 2021 by Jamal et al., discovered that when top management in

Ghanaian public universities shows a strong commitment to environmental sustainability through actions like resource conservation, waste reduction, and eco-friendly practices, it creates a sustainable culture throughout the entire university (Mahmood & Nasir 2023).

In Ghanaian public universities, integrating green human resource management methods and aligning with top management principles might improve corporate sustainability performance. Numerous domains, including as waste management, energy efficiency, and social responsibility programmes, can be used to gauge this kind of success (Ghouri et al., 2020). According to research by Ghouri et al., (2020), corporate sustainability performance at Ghanaian public universities is positively impacted when top management values sustainability and actively promotes the implementation of Green HRM practices. This involves lowering waste, increasing energy efficiency, and creating sustainable projects inside the university (Abbas, 2023).

In Ghanaian public universities, the literature study emphasises the connection between corporate sustainability performance, top management values, and green human resource management. According to Obeidat et al., (2023), the adoption and efficacy of Green HRM practices are heavily influenced by the values of top management. This eventually leads to improved sustainability performance in areas like waste management, energy efficiency, and social responsibility programmes.

History of Ghana Green Initiatives and Public Universities

The Ghanaian Green Industry Initiatives

Ghana has implemented low-carbon progress techniques and environmentally friendly power arrangements over the past ten years, among other things, to mitigate the effects of climate change (Ali, 2021). In addition to national green initiatives at the public level, the country has ratified several international agreements, such as the Kyoto Protocol on climate change (Appiah

et al., 2022; Bahizire et al., 2022). The purpose of these norms is to enable the best possible use of resources, despite the limited resources due to deforestation and persistent ecological contamination (Appiah, Li, and Korankye, 2021). A few contemporary areas, including agribusiness, communality, assembling, and administrative areas, have been negatively impacted by environmental denigration (Würtenberger et al., 2011). To reduce fossil fuel byproducts, the low carbon drive promotes the adoption of alternative sustainable power sources, especially in the manufacturing sector (Mestiepa, 2015).

History of Public University Education in Ghana

In Ghana, universities have a long history that dates to the colonial era. The colonial authority established the University College of the Gold Coast in 1948 as a branch of the University of London, offering courses in the humanities, fine arts, sciences, and agriculture (Osei & Kofi Amenuvegbe 2019). To provide courses in technology and technological knowledge, the Kumasi College of Technology was founded in 1952. After Ghana obtained independence, Dr. Kwame Nkrumah, the postcolonial government's leader, sought increased development initiatives to carry out his vision for modernisation and development in the United States (Yeboah & Boakye., 2018). Together with the University of Ghana, he established the Kwame Nkrumah University of Science and Technology in 1961. The other three universities; University of Cape Coast (UCC), University for Development Studies (UDS), and University of Education, Winneba (UEW) were established by the succeeding governments (Adu-Gyamfi et al., 2020).

The Ghanaian government has constantly strived to ensure that all Ghanaians, regardless of gender, class, ethnicity, location, or physical restrictions, have equitable access to higher education. For instance, Article 25, Section 1 (c) of Ghana's Constitution from 1992 states that university education must be made "equally open to all, based on limitation, by any appropriate

means, and specifically, by a moderate presentation of free instruction " (Akpebu Adjah & Vander Walt 2019). Moving forward, "value, with governmental policy regarding minorities in society taken to address orientation and abundance disparities and to further develop access for understudy (Serra & Gerits 2019).

The Ghanaian government is working to raise the standard of university admission. To address the financial choices that create access obstacles to higher education, the state, for instance, is examining the funding of tertiary education (Ayelazuno & Aziabah 2021). Prior to that, the Ghanaian government contributed by assisting higher education institutions. College financial aid was abundant, giving qualified candidates from both wealthy and low-income families an equal chance. Between 1960 and 1975, every university student received a government grant that "covered educational expenditures, but also books, clothing, travel, evaluation expenses [and movement fees], but also supply understudy with burning through cash, food, and lodging" (Gyamera & Burke 2018).

Gene (2022) asserts that such free advanced degrees would frequently benefit the wealthy elite at the expense of the impoverished. According to the justification, students from low-income families and residents of rural regions are less likely than those from affluent families and urban residents to have access to high-quality essential and auxiliary training, which will be demonstrated below (Bingab et al., 2018). But it is undeniable as Unterhalter et al., (2018) point out in their analysis that funding for university education as a public good also benefits the select group of students from low-income households who, despite the subpar quality of their mandatory/optional schooling, meet the admissions requirements.

In any case, this open door for the underprivileged to enter higher education was shut throughout the 1980s. The neoliberal policies of the Ghanaian government withdrew the liberal

scholarships and sponsorships, leaving students and their families to bear the cost of higher education. The Ghanaian government pursued these neoliberal policies in the 1980s and diverted funding away from colleges to prioritise essential education (Coomson & Aryeetey 2018). Since the 1980s, expenditure plans for higher education have been reduced, forcing universities to find alternative ways to raise internal reserves to make up the shortfall (Annan, 2020). The adjustments were based on the recommendations of the College Defense Advisory group (URC), which was established and active between the years of 1986 and 1988 (Annan, 2020).

Since then, cost-sharing and cost-recovery programs have helped students, and their families make up most of the college money lost as a result of budget cuts (Quainoo et al., 2020). This implies that expenses and fees previously supported by the government, such as banquets, private offices, and academic client services, must now be borne by students and their families. State-funded schools also produce internal subsidies by providing fee-paying courses in disciplines like law, medicine, and pharmacy, among others. These projects which are usually oversubscribed by applicants are made available to individuals who can afford to pay the full rates through a dual-track educational cost method. While some candidates whose grades satisfy the requirements for the fundamental sections are confirmed on the condition that they pay expenditures, others whose grades meet those requirements are owned up to the university with partial state subsidisation (Manu et al., 2020). Simply put, it indicates that students who have the funds to pay but did not take time off for verification on a sponsored charge-paying basis will be considered as expense-paying students (Ankamah et al., 2018). Costs for students who pay fees are twice as high as those who are sponsored by the government. In contrast to their counterparts who were covered by sponsors, fee-paying students at the University of Ghana paid GHS 6,773 for the 2019–2020 academic year (Yidana, 2022). The framework for discussing how universities affect social

disparities in Ghana as well as their actual capacity to contribute to the achievement of the SDGs is provided by these developments in the political economy of Ghana in general and the higher education sector in particular.

Making Public Universities Become Green Campuses

Students are actively involved in building economic foundations, and universities can become change agents with significant effects. Consequently, a manageable site should provide opportunities and motivation for students, teachers, and staff (Mazon et al., 2020). Prior to then, supportability was a real and subtle concept. However, it continues to be the biggest problem in our time. In advanced education, new concepts can be explored openly. A system is provided by the grounds manageability plan to meet the obligation of higher education (Al et al., 2017). Prior to developing and ensuring sustainable plans, aims, and objectives that are in line with the maintainability objective, universities should first outline a dream and mission for sustainability (Salvioni et al., 2017). The management system integrates training, research, effort, and teaching together with university coordination and Collaboration for waste management, energy, water, and transportation (Fachrudin et al., 2019).

The Learning of sustainable concepts takes place in universities. University formal and informal learning environments are important for fostering skills for sustainable growth (Boni et al., 2017). The development of such a learning society includes enhancing the learning environment and expanding learning opportunities for acquiring future-focused skills in a variety of contexts. Extracurricular activities and informal association activities can support practical thought-growing experiences (Daz-Iso et al., 2019). The system for developing green university activities at Tsinghua University consists of one cause and three elements. referring to the development of green spaces, which was adopted by academic institutions and included in a variety

of regular academic activities (Liyanage et al., 2022). Three elements that can be used to effectively implement the way of thinking are green spaces, green research, and green education (Ramsio et al., 2019). One of the three groups at Tsinghua University is the Green Campus Advisory Committee, which is made up of green grounds experts and provides guidance to the Green University Initiative Group Leader and the Office of Green University (Fachrudin et al., 2020).

The other two are the Green University Initiative Group Leader and the Office of Green University. The person behind the previous situation is Tsinghua, a representative administrator (Lee et al., 2021). CSP depends on long-term, strategy-based, flexible assessments of asset use and social government support (Chams et al., 2019). Through sustainability, institutions, universities, and students all strive to plan for future decisions both locally and globally (Rieckmann et al., 2018). Through research and demonstration in higher education institutions, green spaces reduce environmental harm and increase maintainability awareness among the public (Argento et al., 2020). Over the past 20 years, the green campus has been a source of worry. One way to spread the word about sustainable ideals is through education (Adams et al., 2019). A rule of sustainability should be implemented on university administrative and instructional practices in a green institution. Aspects of the green campus include operational management and curriculum development. According to Jones' (2017) research, many groups, including corporations and universities, have adopted the phrase "Go Green" during the previous few decades (Caeiro et al., 2020).

Because they are the primary service provider for educational institutions, college academic libraries are essential to this duty. To "Go Green," several university libraries incorporate eco-friendly library design into both new construction and remodelling initiatives (Fachrudin et al., 2019). To increase waste management efforts and investigate the consequences of pollution,

research is conducting university trial projects on garbage filling and waste audits as a model that universities are likely to employ in the future (Fachrudin et al., 2019). To remind teachers and students of the effectiveness and efficiency of waste management activities, it is crucial to share the study's findings and their strong indications with them. Public universities are working aggressively to strengthen its internal and external strengths to become a more sustainable, ecologically friendly university (Fachrudin et al., 2019). It pursues an integrated strategy for sustainability through administrative leadership, academic research, and community involvement (Davronov et al., 2019). Top-level management support and encourage environmentally friendly projects because they respect sustainability. The report's in-depth information, which focuses on reducing environmental impacts and making savings and decreases in the areas of energy, water, and waste management, highlights the projects' primary goals (Sassen et al., 2018).

The campus green space in the universities should be the most significant and beautiful area on campus, and beautiful campus landscapes should be able to influence faculty, students, and community members in the suburb through their spatial form, regional features, and ecological environment, provide them with spaces for outdoor activities, communication, and practice, play a positive role in their life and learning, as well as show the historical development. Campus green spaces' surroundings have a subtle but substantial influence on how students go about their daily lives and pursue their studies (Schebella et al., 2019). The secret to creating campus green spaces that foster a sense of community, friendliness, and acceptance among students is to showcase regional characteristics, investigate ecological implications, function as scientific popularisers and educators, and highlight the uniqueness of campus landscapes (Foster et al., 2020).

Green HRM Practices Among Universities in Ghana

Green Human Resource Management (GHRM) practices among universities in Ghana have gained increasing attention due to their potential to contribute to environmental sustainability within educational institutions. Several studies have explored various aspects of GHRM in this context, shedding light on the challenges, opportunities, and strategies related to implementing green practices in universities.

Universities in Ghana are increasingly recognising their pivotal role in advancing environmental awareness and sustainability practices. A key strategy in this endeavour is the adoption of Green Human Resource Management (Green HRM) practices, aimed at cultivating a workforce that prioritises environmental responsibility. While the research landscape on Green HRM in Ghanaian universities is still evolving, insights from reports such as the Environmental Protection Agency (EPA) of Ghana (2018) highlight both the limited implementation and emerging initiatives in this domain. The current scenario underscores a shift towards greater awareness and action. Ghanaian universities are beginning to roll out green initiatives like paper reduction programs, energy-saving measures, and improved waste management systems, signalling a nascent yet promising trajectory (EPA, 2018). Drawing from global trends and contextual considerations, several potential Green HRM practices can be envisioned for these universities.

Recruitment and selection processes can be tailored to emphasise sustainability values, thereby attracting candidates who share a commitment to environmental stewardship. Training and development initiatives targeting environmental management and green practices can be instrumental in building a culture of sustainability among faculty, staff, and students. Integrating environmental responsibility into performance appraisal systems and offering incentives like green

commuting allowances are additional avenues for fostering a greener ethos within university settings. Adjei-Bamfo et al. (2020) conducted a remarkable study on green candidate selection for universities environmental management, providing insights into how Ghanaian universities can recruit and select staff who are committed to environmental sustainability. This study emphasised the need of including green criteria in the recruitment process to guarantee that staff are dedicated to environmental stewardship.

Another important study, conducted by Sambou Lamin and Ndeto (2021), investigated the impact of GHRM practices on employee work performance at selected public universities in South Rift Kenya. While this study focusses on Kenyan colleges, the conclusions are relevant to the larger African setting, including Ghana. It underlined the favourable influence of GHRM policies on employee performance, demonstrating that environmental initiatives can lead to increased productivity and engagement among university employees.

Furthermore, Adu-Yeboah et al. (2022) investigated the relationship between corporate sustainability and company performance in Ghanaian small and medium universities (SMEs), with a particular emphasis on the mediating function of green innovation. Although this study focused on SMEs, its findings about the relationship between sustainability initiatives and universities performance can be applied to universities, emphasising the potential benefits of incorporating GHRM practices into university operations.

Overall, these studies highlight the need of implementing GHRM principles in Ghanaian institutions to improve environmental performance, employee engagement, and overall universities success. Universities may play an important role in increasing environmental awareness and sustainability in the educational sector by leveraging green recruitment and

selection procedures, cultivating an environmental responsibility culture, and aligning HRM strategies with sustainability goals.

Benefits of Green HRM Practices to Public Universities

Ghanaian universities are increasingly acknowledging the significance of environmental sustainability and are turning to Green Human Resource Management (Green HRM) practices as a strategic approach to embed environmental responsibility into their operations and empower their workforce towards a more sustainable future. The benefits of Green HRM practices for universities in Ghana are multi-faceted, encompassing environmental, operational, reputational, and educational dimensions.

In terms of environmental benefits, Green HRM practices contribute to reducing the environmental footprint of universities. These practices promote resource conservation, energy efficiency, and waste minimisation, aligning with Ghana's national sustainability goals and contributing to a lower environmental impact, as indicated by the Environmental Protection Agency (EPA) of Ghana's report in 2018. Moreover, by integrating environmental awareness into training and development programs, universities can equip their faculty, staff, and students with the knowledge and skills necessary to adopt sustainable practices. Green HRM contributes significantly to environmental sustainability by promoting resource conservation, energy efficiency, waste reduction, and sustainable procurement practices within academic institutions. This aligns with the global agenda for sustainable development and environmental responsibility, as emphasised by Kuria & Mose (2019) in their study correlating Green HRM with universities effectiveness in universities.

Operationally, Green HRM practices lead to cost savings and enhanced efficiency within universities. Initiatives such as reducing paper consumption, adopting energy-efficient

technologies, and implementing waste management systems can result in significant cost savings, allowing universities to allocate resources to other priority areas. Furthermore, fostering a culture of environmental responsibility through Green HRM can boost employee engagement and improve operational efficiency, as highlighted by studies such as Aragon-Correa & Sharma (2008). Moreover, adopting Green HRM practices leads to cost savings and operational efficiency for universities in Ghana. By optimising resource usage and reducing waste, institutions can lower their environmental impact while simultaneously cutting down on expenses related to energy consumption, paper usage, and waste management. Adjei-Bamfo et al., (2020) highlights the economic benefits of sustainability practices, underscoring the potential for financial gains through environmentally responsible initiatives.

From a reputational perspective, Green HRM practices help universities attract talent and improve their public image. Institutions that demonstrate a strong commitment to sustainability can attract environmentally conscious individuals, including students, faculty, and staff, thus enhancing their reputation as leaders in sustainability education and research. This positive public image can also lead to increased funding and partnerships for the university. Furthermore, Green HRM plays a pivotal role in attracting and retaining talent among students, faculty, and staff who value sustainability and environmental responsibility. Gilal et al., (2019) emphasise that universities, including universities, with a strong commitment to sustainability tend to have higher levels of employee engagement and retention. This aspect is particularly crucial in the competitive higher education landscape, where institutions must differentiate themselves to attract top talent and maintain a motivated workforce.

Educationally, Green HRM practices empower students by exposing them to practical examples of sustainability and green skills development. By integrating these practices into

university operations, students gain environmental awareness and the capabilities to contribute to a green economy. This aligns with the broader role of universities in nurturing responsible environmental stewards (Jabbour et al., 2013; Suleman et al., 2023). The correlation between Green HRM and universities effectiveness in universities, as indicated by Kuria & Mose's (2019) research in Kenya, provides valuable insights applicable to the Ghanaian context. This correlation suggests that Green HRM practices can lead to improved overall university performance, making them a strategic imperative for universities in Ghana aiming to enhance sustainability and operational efficiency while fostering a culture of environmental responsibility and educational excellence.

Challenges Public Universities Face in Implementing Green HRM

Implementing Green HRM practices in public universities comes with several challenges that must be addressed to maximise the benefits of sustainability initiatives. One of the primary obstacles faced by these institutions is resource constraints. Public universities often operate within limited budgets, making it challenging to allocate resources for Green HRM initiatives. Aiken & Latan (2018) emphasise that investments in new technologies, training programs, and infrastructure upgrades are often required for effective Green HRM implementation, which may strain already tight financial resources. Moreover, competing priorities within universities, such as academic excellence, student welfare, and research endeavours, can divert attention and resources away from sustainability initiatives.

Another significant challenge is related to capacity building within the human resources (HR) department. Many HR professionals in public universities may lack the necessary knowledge and skills to develop and implement Green HRM practices effectively. Deng et al., (2018) highlight the importance of training and capacity building to address these skill gaps. Additionally,

raising awareness and obtaining buy-in from faculty and staff regarding the importance of Green HRM is crucial for successful implementation. Without adequate training and awareness, the adoption of sustainable practices may face resistance or lack of engagement.

Implementing Green Human Resource Management (Green HRM) practices in public universities in Ghana is not without its challenges, despite the potential benefits. Several studies shed light on the hurdles and complexities faced by these institutions in adopting and effectively implementing GHRM practices.

One significant challenge is the limited resources and infrastructure available to public universities. A study by Kodua et al., (2022) highlighted the barriers to Green HRM implementation in developing countries like Ghana, citing financial constraints and inadequate infrastructure as major hindrances. Limited budget allocations for sustainability initiatives, including Green HRM programs, can impede the ability of universities to invest in environmentally friendly practices and capacity building for HR professionals.

Capacity building and awareness among staff and faculty are also key challenges. The study by Adjei-Bamfo et al., (2020) pointed out that many universities struggle with a lack of expertise and awareness among HR personnel regarding Green HRM practices. Without proper training and awareness programs, it becomes challenging to effectively integrate sustainability principles into HR policies and procedures. Another critical challenge is the need for cultural change and mindset shifts within the university community. As noted by Aggarwal & Agarwala, (2023) resistance to change and inertia can pose significant barriers to the adoption of Green HRM practices. Faculty, staff, and students may not fully embrace sustainability initiatives without a clear understanding of their benefits or a supportive universities culture that prioritises environmental responsibility.

Case studies and examples from other contexts can provide valuable insights into the challenges faced by public universities in implementing Green HRM practices. For instance, a report by the Environmental Protection Agency (EPA) of Ghana (2018) highlights the limited adoption of Green HRM practices in Ghanaian universities, shedding light on specific challenges prevalent in developing countries. Similarly, research by Kuria & Mose (2019) in Kenya, which correlates Green HRM with universities effectiveness in universities, offers a potential reference point for understanding the benefits and challenges of Green HRM implementation in academic institutions. Analysing such case studies can facilitate comparative learning and guide strategies to overcome challenges in Ghanaian public universities' journey towards sustainability.

Role of Green Human Resource Practices in Fostering Green Corporate Social Responsibility

The significance of human resource management (HRM) strategies in shaping employee behaviour has been highlighted (Van Beurden et al., 2021), and the implementation of green HRM strategies is perceived as critical to motivating personnel to support the university's environmental objectives (Khan et al., 2023). Universities are being forced by the growing global environmental difficulties to implement ecologically sustainable policies to lessen the detrimental effects of resource waste (Afsar & Umrani, 2020).

Nevertheless, comprehensive evaluations of Green HRM, as evidenced by studies such as (Amrutha et al., 2021), repeatedly reveal that institutional researchers have paid very little attention to the connection between Green HRM and employees' environmentally conscious behaviour. Furthermore, although recent research has begun to elucidate some intermediary pathways, more investigation into the mechanisms underlying this association is necessary, as highlighted in a recent meta-review on green HRM (Paulet et al., 2021; Muisyo et al., 2022).

These issues stem from several variables, including human behaviour, significant technical advancements, and a lack of proactive corporate social responsibility (CSR) plans for long-term efficacy. Furthermore, geopolitical issues pose additional challenges for businesses, including the global upsurge in anti-globalisation sentiment, the flood of migrants and refugees, and the xenophobic reactions that follow in different nations (Stahl et al., 2020). Therefore, it is imperative that businesses create a distinct connection between their CSR initiatives and internal and external stakeholders (Ramkissoon et al., 2020).

Senior leadership often takes the lead in establishing and fostering a business culture focused on corporate social responsibility (CSR), which progressively moulds staff members' perspectives and actions regarding CSR initiatives (Ramkissoon et al., 2020). Moreover, individuals who see a strategic alignment between their personal identity and the values of the firm (Ramkissoon et al., 2020) are more likely to allocate their efforts towards accomplishing the CSR objectives of the university (Ramkissoon & Sowamber 2020). This emphasises how important it is to implement green HRM practices to promote eco-friendly behaviour among employees and create an environment that is ecologically sensitive. Thus, the importance of the environmental components of HRM within the context of green human resource management (GHRM) in universities was emphasised by Islam et al., (2023).

To enhance sustainability performance, researchers have emphasised the relevance of implementing green HRM practices (Pham et al., 2019). Research from both academic and professional sources suggests that companies might benefit financially from incorporating sustainability concepts and commitments into their core business processes, frameworks, and strategies (Stahl et al., 2020). According to recent research, it is critical to inspire staff members to embrace a positive mindset and conduct that minimises a university's environmental effect and

strengthens its sustainable strategic plans. For example, behavioural studies have discovered a number of basic processes that HRM is transmitted through, even if these mechanisms might not have an immediate impact on employee conduct (Stahl et al., 2020).

Contextual factors have long been recognised by environmental psychologists as having a substantial impact on pro-environmental behaviour (PEB). While PEBs are measurable environmental practices that help businesses achieve environmental sustainability, employees' perceptions of workplace characteristics or universities factors, which have a significant impact on firm behaviour in different contexts, are reflected in the psychological climate (Chaudhary, 2020). Despite rising academic interest in this area, the current study has not completely investigated the relationship between green HRM and employees' workplace green behaviours like sustainability, CSR, and PEBs (Stahl et al., 2020).

To overcome these obstacles and take CSR initiatives beyond simple publicity, HRM policies and processes have been essential (Stahl et al., 2020). As a result, companies' main task is to completely incorporate corporate social responsibility (CSR) into their operating cycles, business goals, and processes to create cultures that support meaningful changes in attitudes and behaviours. On the other hand, defining the CSR phenomena in a global context has received less attention. This oversight is noteworthy given the wide range of stakeholders and non-governmental universities impacted by the different social and environmental settings in international commerce (Freitas et al., 2020).

Regarding the above comments, we believe that the most realistic approach to these key challenges is for the institution to undertake green CSR, which includes efforts to decrease waste, increase input efficiency, and limit negative implications for future generations. In line with this viewpoint, we support the research findings of Saeed et al. (2019), who argue that in order to

achieve universities green goals, businesses should support green human resource management (GHRM) to motivate and support environmentally conscious performance among employees. Managers who obtain on-the-job training can adopt eco-friendly approaches and perform their jobs more effectively and efficiently (Shoaib et al., 2022).

Building an eco-friendly staff within the university is the goal of green HR practices (Hameed et al., 2020). This recognises that the presence and skill of its personnel are critical to any central strategy's efficacy. These practices, which seek to promote financial, social, and environmental well-being in order to create value for all parties involved, are critical for meeting the requirements and calming the worries of both internal and external stakeholders (Lu et al., 2021). It is commonly known that developing a corporate environment strategy that promotes perceived environmental consciousness highlights the need of environmentally conscious behaviour for firms and their employees (Ercantan & Eyupoglu, 2022).

Zimon et al., (2020) assert that CEOs may identify, understand, and adapt to both internal and external business environments with the support of stakeholders' expectations and planned efforts. In the end, this process supports sustainable growth by giving the university's strategic planning a strong foundation (Kitsios et al., 2020). According to El Khatib et al., (2020), stakeholder demands may motivate universities to consider societal, environmental, and health and safety issues and obstacles. Ensuring that key performance indicators are improved and refined, with special attention paid to reviewing each indicator, is essential to meeting the needs of stakeholders in a thorough manner.

According to Bastian & Poussing (2023), the main goal of businesses' CSR initiatives is to engage with stakeholders and meet their justifiable expectations. This emphasises the critical role that GHRM practices play in this regard and the applicability of stakeholder theory. Technological

breakthroughs are mostly driven by green HR professionals who promote improvements in speed, efficiency, and cost management. These advancements result in increased profitability and sustainability for the university (Hameed et al., 2022).

Green buildings are becoming the preferred workplace for businesses globally, as opposed to conventional offices. Because green buildings fulfil certain requirements to minimise the use of natural resources during construction, this trend is becoming increasingly popular. Improved elements of environmentally beneficial practices including energy efficiency, the utilisation of renewable energy sources, and storm water management are also included in green buildings Wuni et al., (2019). Green buildings are being quickly adopted by a growing number of universities in recent years. Businesses are realising how important green buildings are in solving environmental problems (Agbajor & Mewomo 2024). Universities can save money by using green buildings since they are less expensive to create and maintain.

Well-known corporations, such as Ford and PepsiCo, have incorporated green building practices into their buildings as part of their commitment to sustainability. The adoption of sustainability initiatives by numerous Fortune 1000 businesses has increased demand for workplace in environmentally friendly or sustainable buildings. Arora (2020). The study used extensively for office work in the past, but with the arrival of IT, the amount of paper used has decreased. Paperless workplaces are becoming more prevalent these days since e-business and online education have revolutionised office procedures (Stateler & Harapnuik, 2021).

The changing of crucial papers into digital formats, a paperless office reduces or does away with the need for paper. This saves time spent looking for papers and drastically cuts down on the amount of paper used, as well as related expenses like duplicating, printing, and storing. In 2008, Jamie Garratt established Idea Rebel, a Vancouver-based digital agency that runs entirely on paper

(Jordan et al., 2022). Employees at Idea Rebel take digital notes on tablets and whiteboards, and they receive their pay stubs via email. Designers are allowed to bring a notepad to work, but at the end of the day, they must take it home. In summary, cutting back on paper use directly helps to preserve natural resources, avoid pollution, and use less water and energy (Stateler & Harapnuik, 2021).

Office energy conservation initiatives can have a major positive impact on the environment (Javaid et al., 2021). Offices throughout the world have taken a variety of steps to improve productivity and encourage environmental responsibility to lessen their environmental effect. For instance, the HR division of Sky UK has launched a campaign advising staff members to switch to only renewable energy sources, use solar illumination, and turn off computers, TVs, and lights when they leave the office (Rees et al., 2020). Likewise, several other British establishments are giving top priority to their travel regulations, promoting carpooling and increased usage of public transport (Zafar et al., 2022). Additionally, management and staff are benefiting from HR systems like e-HR in tracking their carbon footprints (Anthopoulos & Tzimos, 2021). Furthermore, energy-efficient lightbulbs and fixtures which use at least two-thirds less energy than traditional ones are being widely adopted by several public colleges.

Recycling is the process of turning discarded or used materials into useful new products, which lowers the need for raw materials to produce new goods (Dumée, 2022). By using this method, less waste is dumped in landfills, which cleans the air and environment. It also saves energy. To encourage the use of recycled items and cut waste, several groups are incorporating recycling programmes into their eco-friendly activities (Tansel, 2020). As businesses placed a higher priority on cost-cutting strategies in addition to sustainability and environmental awareness, many HR specialists found themselves in charge of recycling programmes and office thermostat

control. Many HR experts realised because of this attempt how crucial green initiatives are to upholding corporate social responsibility. The classic three Rs (Reduce, Reuse, and Recycle) are currently being promoted by the corporate community as essential tactics for environmental protection (Stahl et al., 2020).

Sharing a car with several people lessens the need for everyone to drive alone by implementing carpooling (Zafar et al., 2022). There are various benefits to this practice: Shared costs resulted in a lower carbon footprint for each passenger as they split expenditures among themselves. During rides, it also offers a chance for social interaction, which is beneficial to mental health. During World War II, the idea of carpooling emerged in reaction to fuel shortages and attempts to conserve resources. Since then, efforts to reduce the expenses associated with traffic have made carpooling a crucial component of urban design (Anthopoulos & Tzimos, 2021).

The environment of carpooling has changed despite swings in popularity due to technological improvements such GPS devices and smartphones (Paiva et al., 2021). In order to enable widespread ridesharing, businesses like Uber and Lyft as well as conventional taxi services have adopted technology (Schaller, 2021). Different carpooling demands are now met by a range of software and apps, including on-demand public transport services (Zafar et al., 2022). In order to promote environmental sustainability initiatives, these technology advances have brought features including real-time data analysis, smart parking allocation, and fast trip matching (Zafar et al., 2022). Strategic planning initiatives aiming at lowering traffic and emissions might benefit from the knowledge gained from carpooling experiences as shared mobility develops, opening the door to a more sustainable future (Sopjani et al., 2020).

As it happens, sharing private transportation is a powerful change agent. There are several advantages to carpooling for the environment, infrastructure, finances, and even mental health.

With their reduced environmental effect and capacity to save time and money for users, smartphones have completely changed the way people commute. Tohidi and Rustamov (2020) suggest that the GIS technology underlying mobile booking applications may prove to be a useful instrument in promoting policy reform.

The following statistics show how common single-occupancy vehicles (SOVs) are in developing nations:

Sixty-nine percent of Australians commute by car.

68% of Brits in the United Kingdom commute by car to work.

84.6% of all Americans are in possession of a driver's license.

More than 70% of people in Canada are licensed drivers.

Infrastructure and traffic problems are exacerbated by low occupancy rates and privately-operated cars (OPOKU et al., 2022). For example, needless traffic jams in Australia's eight major cities cost businesses a total of \$8 billion a year; by 2030, that amount is expected to climb to \$37.3 billion. However, if the underlying ecosystem is not ready, substantial advances may go unnoticed. Population expansion in cities and regional centres necessitates a global push for conversations about reshaping transportation economics and infrastructure (De-Toledo, et al., 2023) at order to change commute habits moving forward, this highlights the continued significance of carpooling initiatives at places of employment, educational institutions, and local communities (Ariyani & Wicaksono 2024).

A health emergency in 2020 led to the global implementation of forced lockdowns and social distancing measures, which quickly changed how work and education were conducted (Bozkurt, et al 2020). People are using synchronous online video communication tools more and more to replace face-to-face meetings (Belt & Lowenthal., 2023). Platforms like Zoom and

Microsoft Teams saw a rapid rise in use, with many people incorporating them into their everyday routines (Jacques, et al., 2020). The popular press coined the phrase "Zoom fatigue" since many users felt fatigued by their use, even though these platforms closely resembled face-to-face conversation (Chen 2021).

Many people began using video calls in the spring of 2020. One of the primary apps for this, Zoom, saw a daily increase in users from 10 million in December 2019 to 300 million by March 2020 (Joskowicz, 2023). A lot of teachers swiftly shifted from providing in-person instruction to providing instruction online via video calls. Originally reserved for exceptional occasions, video conversations have become commonplace for work, education, and staying in touch with friends and family since the pandemic (Orhan, & Beyhan 2020). The COVID-19 epidemic caused dramatic changes in people's lives. Many were forced to stay indoors due to lockdowns in several locations. When we could not be there in person, we spoke to each other via technology like video calls. In addition, a lot of people began working from home, and a lot of students used the internet for their coursework.

According to Zdrahal (2020), video conferencing has become an essential aspect of daily life because of the necessity for remote job and education. It has helped individuals deal with the difficulties of social distancing, remote work, and online learning. Video conferencing provides a reasonable alternative to face-to-face connection when it isn't feasible by closely mimicking numerous characteristics of face-to-face communication (Orlosky, 2021). To simulate being together in person, users are able to see and hear each other in real time. Video conferencing was not meant to be the main form of communication for learning, even though it was first utilised as an additional tool to link people across distances in business and education. But as it has grown in popularity, questions have been raised concerning its efficacy (Camilleri & Camilleri 2022).

Users faced new challenges with the abrupt shift to online learning and the quick uptake of video conferencing (Ahmed & Opoku, 2022). In spring 2020, even though nearly 80% of instructors used video conferencing equipment in their classes, both teachers and students found the transition to online learning to be taxing at first (Tsai, et al 2020). However, there are benefits to using video conferencing systems for longer periods of time, consumers experienced "Zoom fatigue," however comparable problems also occurred with other platforms such as Microsoft Teams and Skype. Users faced unanticipated difficulties due to zoom fatigue (Işıl & ERSOY 2022).

Although there had been some use of video conferencing in educational contexts, college faculty members were depending more and more on technology to replicate the face-to-face classroom experience (Fagnoli, 2022). Studies have demonstrated that synchronous communication enhances student involvement and results in online college courses (Khan, et al., 2022). Video conferencing did, however, come with drawbacks. Users reported feeling extremely exhausted, which made it difficult to communicate in the online learning environment. When adjusting to the video conferencing classroom's-controlled communication environment, users ran into several challenges (Camilleri & Camilleri 2022).

A large body of research on distance learning contrasts synchronous and asynchronous teaching approaches; these studies are frequently founded on the early days of videoconferencing, which required students to attend classes together at distant locations and communicate with teachers through video conferences (Belt & Lowenthal., 2023). Researchers are comparing asynchronous and synchronous course delivery options because of the growing usage of web videoconferencing, which sets modern synchronous online learning apart from earlier synchronous distance education (Wijaya et al., 2021).

Videoconferencing is often compared to in-person instruction or asynchronous online learning in the literature on remote learning. Research indicates that synchronous online videoconferencing is not as popular among instructors and students as asynchronous online instruction or face-to-face instruction. Students rank synchronous online courses lower when it comes to instructor presence, communication, and interaction, even though they produce learning outcomes that are comparable to those of face-to-face courses (Zdrahal., 2020). Enhancing presence, engagement, communication, and teamwork in online courses with synchronous videoconferencing is thought to increase retention rates (Lockman & Schirmer, 2020). It provides an instantaneous, real-time learning environment that enables prompt engagement and feedback (De la Vall & Araya 2023).

While synchronous and asynchronous learning settings can both successfully engage students, students' preferences are largely determined by their motivation. In online courses, combining synchronous and asynchronous learning may improve retention and engagement. By integrating real-time communication components with students in different locations, synchronous interactions enable instructors to replicate in-person instruction in online learning environments (Lakhal., 2021). While some researchers have found that videoconferencing can enhance immediacy and social presence, other studies have found inconsistent effects about student involvement and satisfaction. Due to technological issues or huge class sizes, some students feel invisible or deterred from taking part in synchronous sessions (Wijaya et al., 2021).

A promising chance to enhance online education is provided by videoconferencing, but to fully utilise this instrument, teachers must modify their pedagogical approaches (Gladović et al., Drašković, 2020). In this situation, faculty members must devote a significant amount of time to reconsidering their teaching methods, and institutions must aid by providing the necessary training

(Lakhal., 2021). It's important to realise that instructors' capacity to innovate and creatively construct their courses is a prerequisite for the successful integration of videoconferencing as a mode of instruction (Correia et al., 2020). Many pedagogical strategies, such as the use of interactive exercises like breakout groups, virtual discussions, polling, and small group meetings, have been proposed to increase student satisfaction in online courses that involve videoconferencing (Fatani, 2020).

On the other hand, conventional lecture formats might not work well in videoconferencing environments. In the new media-rich world of videoconferencing, teachers could be inclined to remain with tried-and-true teaching strategies, but this might not be the best course of action (Phillips, 2023). According to certain studies, among other techniques, teachers can improve their presence during videoconference education by employing gestures, a range of vocal tones, eye contact, and casual language (Jia et al., 2022). Instructors can use videoconferencing to successfully engage students in online learning with careful preparation and implementation of the course design (Ohnigian, et al., 2021). However, educational institutions must assist these endeavours by providing pertinent instruction and guaranteeing the availability of the required resources (Ali, 2020).

The COVID-19 pandemic of 2020 caused a sudden and notable growth in the widespread use of videoconferencing among remote workers and learners. People started using videoconferencing systems instead of face-to-face interactions when lockout measures were implemented (Garlińska, & Osial 2021). This change caused many people to start using videoconferences on a regular basis in their daily lives. But this quick switch to online learning and the pervasive usage of videoconferencing also presented a new problem: a debilitating tiredness after videoconferences that the media has come to refer to as "Zoom fatigue." Gaining

more insight on Zoom fatigue is crucial for both the companies that provide videoconferencing platforms and the universities that use them (Riedl, 2022).

Our main energy source, the sun, presents a possible way to light up our colleges. University campuses can reduce their electricity costs by putting in place self-sustaining micro networks, which can withstand economic downturns and address the urgent problem of global warming. Universities can operate as self-sufficient universities and have enough resources to meet their energy needs (Asif et al., 2023). With the goal of improving network dependability, lowering carbon emissions, and cutting energy costs, micro grids have become essential technology for utilising and combining the renewable energy sources (RES) that are currently accessible. Micro grids offer numerous economic benefits to all parties involved, including those related to technology, the environment, society, and finances (Tahir et al., 2023).

As a hedge against possible risks like price volatility, load increase, and outages, microgrids can boost regional retail and service markets from a macroeconomic standpoint (Norouzi et al., 2022). End users are expected to reap the financial rewards of a microgrid overall, especially in situations where users jointly own and run several micro source units as a single prosumer business (Lovati et al., 2021). Microgrids can also save money by delaying expenditures in growing transmission and generation networks. Plug-and-play integration of several microsources, such electric cars, reduces gearbox and distribution expenses as well (Ankrah & Lin 2020). In addition, cost reductions are achieved by the effective deployment and unit commitment of microgrid resources.

According to Attou et al., (2021), a master controller can optimise microgrid generation by charging batteries during periods of low energy costs and discharging them during periods of high electricity prices. Microgrids can make money through feed-in tariffs, which provide premium

rates for locally produced renewable energy, in addition to reducing electricity costs. By acquiring power at premium rates for predetermined periods, utilities encourage investment in the production of renewable energy (Moretti et al., 2020). Numerous benefits are provided by renewable energy in the social, environmental, and economic spheres (Disano, 2021). These include: - Reducing the amount of carbon emissions and air pollution produced during the energy generation process; - Improving the stability, security, and reliability of the electrical grid; - Creating jobs through increased production and manufacture of renewable energy technologies.

Reducing energy expenses and increasing energy availability for isolated, coastal, or distant areas. By substituting more ecologically friendly energy sources for the damaging effects of fossil fuels, green energy plays a critical role in environmental conservation (Androniceanu & Sabie, 2022). Green energy comes from natural sources and is typically clean, renewable, and emits little to no greenhouse gases. It is also easily available (Sun et al., 2022). Green energy sources produce very little air pollution and emit significantly less greenhouse gases than fossil fuels, even when considering their whole life cycle. This is advantageous for the environment as well as for people and animals whose life depends on clean air (Ainou et al., 2023).

The use of green energy has become essential for both environmental sustainability and the expansion and stability of the economy. Since green energy sources like hydroelectric electricity, solar power, and wind power are frequently produced locally, one important component of it is that it helps to provide stable energy pricing. By minimising the effects of supply chain interruptions, price fluctuations, and geopolitical crises, this localisation lessens dependency on imported fossil fuels and improves energy security and economic resilience (Bordoff & O'Sullivan, 2022). Additionally, the financial benefits of green energy include the creation of jobs, especially in the building and upkeep of renewable energy infrastructure.

Due to its ability to create jobs and stimulate local economies, this movement benefits local communities as well as the environment (Rucitarahma & Tiberghien, 2021). The potential for employment development in the renewable energy sector is tremendous, and it has made significant progress thus far. For example, the industry helped create around 11 million jobs globally in 2018 alone, demonstrating its ability to spur job development and sustain livelihoods (Ahmed et al., 2022). The global shift towards more environmentally friendly energy systems and the pursuit of net-zero emissions by nations is expected to heighten pressure on the renewable energy sector, which is expected to be vital in maintaining and growing employment opportunities in a range of industries and skill levels. This promotes equitable growth and lowers unemployment rates, which not only helps economic development but also improves social well-being, particularly in areas with significant potential for renewable energy.

The energy infrastructure becomes more flexible and less dependent on centralised sources due to the decentralised nature of energy generation from sources like solar and wind power, which reduces interruptions and increases resilience against weather-related climate change (Renné 2022). Furthermore, green energy offers a financially viable way to satisfy the energy requirements of different parts of the world. It is expected that access to green energy will increase as costs continue to decline, especially in poorer countries (Bogdanov et al 2021).

Green energy offers a sustainable substitute for carbon-emitting fossil fuels, which have dominated energy production for decades, by using natural resources like sunshine, wind, and water. These resources also deliver measurable environmental benefits (Jasanoff & Simmet, 2021). A major step towards a more ecologically sustainable future is the shift to carbon-free energy production, which can significantly lessen human ecological effect in the areas of transportation, industry, and power generation (Renné 2022).

HR Roles in Greening Universities

The degree to which a university's human resources operate plays a significant role in the influence it can have on the sustainability and environmental care cultures. In their research, Unsworth et al., (2020) make the case that HR can help with sustainability initiatives. They claim that HR is the main source of all initiatives that help a business that prioritises sustainability succeed. The goals of sustainability are meant to be integrated into all facets of universities operations and to penetrate every part of the business. Because of this, it's a permanent modification, and HR specialists are experts in this process. Malik et al., (2020) express a similar opinion, contending that HR has the capacity to significantly aid in the establishment of a business's sustainable culture about social responsibility. They may contribute significantly to the advancement of sustainability, environmentalism, and generally green business practices by utilising their experience and knowledge. They must design universities cultures that support and encourage sustainability, market and demand sustainable behaviour from employees, and implement sustainable policies.

A university's environmental stewardship and sustainable culture should be anchored by the human resources department. According to Malik et al., (2020), incorporating sustainability into a business's operations from all angles is essential and should be done as a continuous process of duty. Because of their expertise in change management, universities processes, and culture stewardship, HR professionals ought to oversee its leadership. Al-Swidi et al., (2021) concur that the HR division can have a significant impact on how a university's sustainability culture develops. Additionally, "HR is essential for establishing an environmental responsibility culture and implementing sustainable practices."

Furthermore, HR makes a substantial contribution to universities sustainability by integrating sustainability issues into the interactions the business has both with its internal and external stakeholders. According to Unsworth et al., (2020) the HR profession should now focus on developing individual capabilities, teamwork tactics, and universities competencies to support sustainable journeys. The importance of HR's function and contribution to universities sustainability is highlighted by Aftab et al., (2023) in several critical areas. These include the following: diversity management, health and safety, multiculturalism, training, and development, change management, talent management, values creation and dissemination, collaboration and teamwork, leadership development, and ethics and governance. HR has duties and contributes to universities sustainability in several important areas (Al-Swidi et al., 2021).

These are specifically "training and development, diversity management, ethics and governance, multiculturalism, collaboration and teamwork, values and culture creation and dissemination, leadership development, change management, talent management, and health and safety." Strengthening and developing leaders who are sustainability advocates, creating or delivering training programmes on sustainability knowledge, managing change to embed sustainability, luring and keeping employees who share these values, fostering a diverse and collaborative work environment, promoting employee health and safety, fostering multiculturalism, and establishing ethics and governance are all parts of HR's role in sustainability (Al-Ghazali et al., 2021). According to (Yong et al., 2020) a university's human resources are the most important component in attaining sustainability. Sustainability and sustainability relations are defined by HR as the incorporation of sustainability concerns into various internal and external connections (Unsworth et al., 2020).

According to (Malik et al., 2020) the primary goal of the human resource genre is to strengthen universities capacity, collaborative tactics, and individual competences in order to support universities sustainability. They draw attention to a few of the crucial components -such as the promotion of leadership development, training and development, change management, talent and commercial development, and values and integration -that put HR at the centre of enabling sustainability within a university (Benevene & Buonomo 2020). Others include, among other things, cooperation and teamwork, diversity in the workplace, health in the university, multiculturalism, ethics in politics, and human rights. HR must contribute in the ways listed above to advance the sustainability procedures (Fawehinmi et al., 2020).

The Ulrich Model Regarding HR Roles

David Ulrich's Ulrich Model was a game-changer for the HR industry, fundamentally altering the way that people thought about how HR should operate. It suggests four essential HR functional roles: employee champion, change agent, administrative specialist, and strategic partner. The principal objective of this model is to illustrate that the human resources domain encompasses much more than just document management, as HR is now recognised as a critical component of corporate development. The Ulrich Model was developed throughout the course of the 1990s (Sarvaiya et al., 2021).

The rapid evolution of business behaviour has given rise to this development. A growing number of companies are realising how important HR services are to their university's strategic growth. HR services used to be restricted to document preparation and tight employee collaboration, but these days they play a larger role in business partnership scenarios (Ulrich, 2020). The Ulrich Model provides a detailed description of four functional responsibilities within HR:

Strategic partner: Strategic associate HR specialists actively participate in the university's strategic planning as a strategic partner, maintaining a tight relationship with upper management. It makes sure that all HR procedures not only assist the university but also guide it by integrating HR policies and activities with the overall business plan. By providing advice on succession planning, personnel management, and universities design, HR transforms into a strategic partner where a competitive advantage is created and maintained. Strategic and business alliances are synonymous phrases in this context (Menant et al., 2021).

These phrases describe a close relationship between two people. Business and strategic collaborations are typically regional in nature. While the former entails a long-term, intimate working connection to accomplish common and meaningful goals, the latter is frequently short-term focused. "According to this definition, sustainability would typically fall under the purview of larger business development, outside the purview of an HR manager." For instance, the business development literature assigns the descriptor interactive associate to both types of partners, even though the descriptors for strategic and business partners differ somewhat.

Ulrich, however, is adamant that HR "should play a full-strategic partner role as part of the executive team." It entails starting and directing a conversation on the necessary design elements for the business for it to carry out its plan.' HR is especially accountable for organizing structure, identifying issues, and coming up with solutions when it comes to creating and executing a "greening" strategy. HR may have a big impact on a university's greening efforts by setting rules, advocating reforms, and managing hiring, training, and development.

Numerous definitions attest to the fact that HRM ought to develop into a strategic force behind environmental efficiency and support alterations in employee behaviour and culture. Additionally, HR must play a major part in formulating and defining the business's green vision,

motto, and philosophy. The HR department plays a crucial role in defining and advancing green policies and initiatives within the university by actively integrating environmentally conscious attitudes and behaviours in employees and taking environmental efficiency into account when crafting the university's value propositions. As a result, HR takes the lead in making sure that environmental and sustainability initiatives are acknowledged and implemented throughout the university (Cayrat & Boxall 2023).

Change Agent: HR specialists guide universities through the required change and adaptation in their capacity as change agents. By implementing innovative HR procedures and interventions that address the quickly changing and evolving demands of the business, they actively encourage and drive change. HR is in responsibility of carrying out several tasks, including restructuring, encouraging culture change, and utilising new technologies, and making sure that everyone who will be touched by these changes is supported and included. Successful companies must accept that change is inevitable and seize the opportunity to gain a competitive edge.

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Ulrich contends that HR responsibilities ought to correspond with universities developments. HR should be defined by the value it provides to clients, shareholders, and staff members as well as by the things it does. HR specialists play the role of change agents, ensuring

that changes are carried out efficiently and on schedule. They oversee the change process management even though they don't always carry out the change themselves. Another crucial function as the primary change agent in a university is that of the Human Resource Division.

Studies show that the HR department may have a positive impact on the sustainability and change of the university. From top management to the lowest levels of the university, an integrated approach to change necessitates a variety of changes engaging every individual., It requires a shift in attitudes, behaviours, perceptions, and practices towards a green mindset and way of thinking. It is important to remember that people are naturally resistant to change, but universities can set up procedures and policies to make the transition simpler. Effective communication channels, support and guidance initiatives, and staff involvement in the transition process will all contribute to lessening resistance and resolving this problem as workers transition to the new working methods. Today's environment is changing quickly, thus managing adaptation is essential (Cayrat & Boxall 2023).

Administrative expert: The Ulrich Model recognises the need to maintain administrative efficiency even as it emphasises HR's responsibilities as a strategic partner and change agent. To make sure that all day-to-day HR activities go as smoothly as possible, HR professionals need to be experts in HR rules, compliance challenges, and best practices. HR specialists maintain administrative effectiveness through the removal of duplications, the adoption of digital solutions, and the efficient handling of HR data. Previously, HR specialists were referred to as administrators, which basically denote someone who staffs the offices and upholds regulations. Ulrich, however, contended that HR professionals must be viewed as more than just policy enforcers and rule creators. Nonetheless, they must guarantee that every procedure is carried out effectively. This is particularly crucial considering how quickly work gets done in the modern environment.

It's imperative to figure out how HR professionals can work more efficiently, effectively, economically, and quickly. Reducing needless paper use and streamlining procedures by getting rid of red tape and bureaucratic bottlenecks are essential for maintaining green HR (Zhou et al., 2021). A GHRM division's future will need implementing innovative, effective administrative procedures that can be completed on a daily basis. Technology is used in this to make sure that routine transactional tasks are completed more quickly and affordably. Using e-HR systems, for instance, can assist in managing online hiring by allowing employees who are unable to travel to have Skype interviews in addition to online applications. Staff members may also be given access to self-administered computer-based training programmes and virtual instruction. Additionally, this strategy guarantees that HR makes an employer ecologically conscious.

Employee Champion: According to the Ulrich Model, HR specialists should act as employee champions. HR promotes equity, increases employee engagement, and looks out for workers' well-being. The division makes sure that workers' needs are met and that their unique qualities are capitalized on to develop a cohesive team. Talent retention and motivation are largely dependent on HR's ability to establish a positive work atmosphere, improve effective communication, and maintain an appropriate development environment. Employee motivation is greatly influenced by human resources, which makes it imperative to provide staff members with the information and abilities needed to support green processes.

Ulrich suggests that the employee champion be a person who develops human capital., i.e., a worker who is enthusiastic and dedicated to their job. Employers should switch from typical transactional employment contracts to relational ones that satisfy all parties involved. Making sure that workers and other stakeholders are involved in the green project is a major responsibility of

the HR department. HR directors design and train line managers to educate staff members about their responsibilities in maintaining a green workplace.

The division should also assist in assembling a group that can question the status quo and providing problem-solving pattern support. Establishing active official and informal channels of communication that can enlighten staff members about green initiatives is something that universities should do (Hmoud, 2021). The employee champion should also see to it that the staff members receive the support and resources they require.

Good interpersonal ties within the university encourage staff dedication to the uplift initiatives and overall success. The HR department's job is to keep the workplace healthy by encouraging employee achievement. The plan ensures that the division maintains the university's objectives, boosts productivity, gains the necessary skills, and promotes workplace health. The Ulrich Model transformed HR's traditional position from that of a support function to that of a key factor in success (Dandage et al., 2021).

Empirical Review

An empirical review is a methodical investigation and evaluation of previous empirical studies, data, and research conclusions pertaining to a certain subject or research question. To guide future research or reach conclusions based on solid data, it entails critically assessing published studies, spotting gaps or contradictions in the literature, and synthesising the major findings (Webb & Sharratt, 2016). The empirical review for this work entails examining earlier investigations into related topics. This procedure is essential because it aids in the comprehension of the existing body of information, enables the discovery of patterns or trends in the data, and indicates areas in which additional study is required (Jabbour & de Sousa Jabbour, 2016; Renwick et al., 2013).

Researchers can increase the body of knowledge in the fields of GHRM and sustainability, validate their research questions or hypotheses, and build on previous findings by carrying out an empirical review. Additionally, it makes sure that the research design and technique are based on accepted standards and the results of pertinent studies, preventing researchers from conducting redundant research (Renwick et al., 2013; Tasleem et al., 2019). Therefore, an empirical evaluation is essential for forming a study's theoretical framework, research goals, and methodological strategy, as well as for boosting the study's legitimacy and applicability in filling in knowledge gaps and producing insightful findings.

In order to achieve the goals of internal and external objectives, an institute's social., environmental., and financial performance is the reason for the focus on CSP and GHRM, and the objective is to do so with the right framework and attitude (Jamal et al., 2021). Manageable progress is the most common way to satisfy people's present demands without compromising their capacity to fulfil their own goals in the future (Mensah et al., 2019). This term also combines sustainable growth with financial success and entrepreneurship. Universities need to ensure that their aims are actively and environmentally implemented while overcoming barriers related to finances and the environment. This entails lessening their influence on the environment, promoting social and human well-being, and strengthening social and human well-being (Shah et al., 2021).

The focus on CSP and GHRM is due to an institute's social., environmental., and financial performance in order to accomplish the objectives of internal and outside objectives, and the goal is to do it with the appropriate framework and attitude (Jamal et al., 2021). The most prevalent method of meeting immediate needs without sacrificing people's ability to achieve their own goals in the future is through manageable progress (Mensah et al., 2019). This definition additionally mixes entrepreneurship and financial success with sustainable growth. Universities must overcome

financial and environmental obstacles while assuring the active and green implementation of their goals. This includes reducing their environmental impact, enhancing human and social well-being, and improving human and social well-being (Shah et al., 2021).

Kuria and Mose (2019) assessed the impact of Green Human Resource Management (GHRM) practices on the universities effectiveness of universities in Kenya. The researchers aimed to explore how the implementation of GHRM practices, which focus on environmental sustainability within the HR domain, influences the overall effectiveness and performance of universities. The study found various GHRM practices such as green recruitment, training and development related to environmental issues, performance appraisal based on green objectives, and employee engagement in sustainability initiatives. The findings of the study contribute significant insights to HR management, particularly in the context of sustainability and universities performance within the education sector in Kenya.

Adjei-Bamfo et al., (2020) investigated the process of selecting candidates who are best suited for managing environmental aspects within universities, particularly focusing on green practices. The study employed a combination of qualitative and quantitative research methods to gather and analyse data. Through their research, the authors aimed to identify key criteria and strategies that universities can use to select candidates who are aligned with green principles and capable of effectively managing environmental responsibilities. The findings of the study provided insights into how universities can improve their environmental management practices by selecting candidates who possess the necessary knowledge, skills, and attitudes towards environmental sustainability.

Kodua, et al., (2022) examined the challenges hindering the implementation of green human resources management practices in the context of developing countries, with a focus on

Ghana. The aim of the study was to identify and understand the barriers that universities face when attempting to adopt and integrate GHRM practices aimed at promoting environmental sustainability. The researchers employed qualitative research methods such as interviews, surveys, and case studies to gather data from universities in Ghana. Through thematic analysis and systematic investigation, the study identified several key barriers to GHRM implementation. These barriers included limited awareness and understanding of GHRM concepts and benefits among management and employees, inadequate financial resources and budgetary constraints for investing in green initiatives, lack of government support and regulatory frameworks promoting environmental practices, resistance to change or inertia within universities, and challenges related to cultural norms and universities priorities that may not prioritise sustainability initiatives.

Suleman, et al., (2023) explored the intricate relationship between employee environmental commitment, green human resource management (HRM) practices, turnover intentions, and environmental sustainability. The aim was to investigate how employees' commitment to environmental sustainability influences the implementation of green HRM practices, affects their turnover intentions, and ultimately contributes to environmental sustainability within universities. The study utilised a mixed-methods approach, combining surveys and interviews to gather data from employees and HR professionals in various universities. Quantitative analysis techniques such as regression analysis and correlation were used to examine the relationships between variables, while qualitative data provided deeper insights into the mechanisms at play. The findings revealed a significant positive association between employee environmental commitment and the adoption of green HRM practices. Furthermore, higher levels of employee environmental commitment were associated with lower turnover intentions, indicating that employees committed to environmental sustainability are more likely to remain with universities.

Al Doghan, et al., (2022) conducted a study to investigate the relationships between universities environmental culture, environmental sustainability, and universities performance, with a focus on the mediating role of Green Human Resource Management (HRM) and green innovation. The study employed a quantitative research approach and collected data from a sample of universities. The findings revealed that universities environmental culture has a significant positive impact on environmental sustainability. Furthermore, the study showed that Green HRM practices and green innovation play mediating roles in the relationship between environmental culture, sustainability practices, and universities performance. These results suggest that fostering a strong environmental culture within universities can lead to improved environmental sustainability and universities performance, particularly when supported by effective Green HRM strategies and innovation initiatives.

Opoku Mensah et al., (2021) conducted a study to explore the impact of Green Human Resource Management (GHRM) practices on business performance, examining the mediating effects of green corporate citizenship, green corporate reputation, and environmental performance. The aim of the research was to investigate whether GHRM initiatives contribute to improved business performance through these intermediary factors. To achieve this, the researchers employed quantitative research methods and collected data from a sample of companies. The study focused on Analysing the relationships between GHRM practices, green corporate citizenship, green corporate reputation, environmental performance, and business performance. The findings revealed significant positive relationships between GHRM practices, green corporate citizenship, green corporate reputation, environmental performance, and business performance. Specifically, the study showed that GHRM practices can enhance business performance by promoting green

corporate citizenship, improving green corporate reputation, and fostering better environmental performance within universities.

Ahakwa, et al., (2021) published in the aimed to explore the relationship between green human resource management (GHRM) practices and environmental performance in Ghana, specifically focusing on the mediating role of green innovation. The researchers conducted empirical research using survey data collected from a sample of companies in Ghana. They analysed the data using statistical methods to investigate how GHRM practices, such as green training, green recruitment and selection, green performance appraisal., and green compensation, influenced environmental performance. The study found that GHRM practices have a positive and significant impact on environmental performance. Furthermore, it revealed that green innovation partially mediates this relationship, suggesting that companies implementing GHRM practices are more likely to engage in green innovation, leading to improved environmental performance.

Ahakwa et al., (2021) investigated the impact of internal environmental management (IEM) and green human resource management (GHRM) on corporate reputation and overall universities performance. The researchers employed quantitative methods to collect and analyse data from a sample of universities. Findings from the study indicated that effective implementation of IEM practices and GHRM initiatives significantly contributed to building a positive corporate reputation and enhancing overall universities performance. Specifically, universities that adopted sustainable environmental practices and aligned their HRM strategies with environmental goals experienced improved financial performance, increased market competitiveness, and better stakeholder relationships.

Abiew et al., (2023) investigated the relationship between Green Human Resource (GHR) practices and sustainability performance, focusing on evidence from Ghana. The research is part

of a broader exploration of Corporate Sustainability in Africa, examining responsible leadership, opportunities, and challenges. Through empirical analysis and data collection methods, the study aims to assess how GHR practices influence universities' sustainability performance in the Ghanaian context. The findings contribute to understanding the role of human resource management in promoting sustainable practices within universities, particularly in African countries, and shed light on the effectiveness of GHR practices in driving sustainability initiatives and outcomes.

The sustainable use of all resources is encouraged by GHRM. This helps raise staff awareness and dedication to environmental management challenges, which is good for environmental sustainability motivation (Amjad et al., 2021). Additionally, the social dimension (work-life balance) and the financial dimension of GHRM must be improved (ie long-term income). GHRM adheres to the conventional understanding of the bottom-line concept. GHRM comprises methods that will help universities in the long run as well as three crucial facets of sustainability, namely environmental., social., and financial stability (Crane et al., 2019).

Oppong and Agyemang (2022) delved into the awareness and promotion of Green Human Resource Management (GHRM) practices within the University of Cape Coast, Ghana. The primary focus is on understanding how well these practices are recognised and encouraged within the university setting. By examining factors such as employee awareness, training programs, policy frameworks, and universities initiatives related to GHRM, the researchers aim to provide insights into the adoption and implementation of GHRM practices in an academic institution in Ghana. The study contributes to the growing literature on GHRM by exploring its application and impact within the context of higher education and institutional settings.

Mousa and Othman (2019) conducted a study to examine the impact of green human resource management practices on sustainability performance in healthcare universities. A survey design was used to collect data from 69 respondents who have been using green human resource management practices at different levels. Partial least squares structural equation modeling was used to analyse the data. The findings of the study revealed that implementation of green human resource management practices among healthcare universities in Palestine was at a moderate level, while sustainable performance was achieved at the highest level. The study also revealed that among the green human management practices, green hiring and green training and involvement were the most influential practices. The overall path coefficient test revealed that green human resource management practices had a positive influence on sustainability performance, where environmental performance had the highest coefficient of 0.478 and the social performance had the lowest coefficient of 0.372.

Sambou Lamin and Ndeto (2021) aimed to examine the impact of green human resource management (GHRM) practices on employee work performance within public universities in the South Rift region of Kenya. The study specifically focused on how GHRM practices, which are designed to promote environmental sustainability within universities, influence the performance of employees. The researchers utilised a quantitative research approach and conducted surveys among employees of selected public universities in the region. They collected data on GHRM practices implemented by these universities and assessed employee work performance metrics. Statistical analysis methods such as regression analysis were employed to analyse the data and determine the relationship between GHRM practices and employee work performance. The findings of the study indicated a positive correlation between GHRM practices and employee work

performance. Specifically, employees who perceived higher levels of GHRM practices within their universities tended to demonstrate better work performance.

Zhao et al., (2019) aimed to investigate how green human resource management (GHRM) practices and corporate social responsibility (CSR) initiatives influence universities sustainable performance. The researchers employed quantitative research methods and conducted surveys to collect data from employees and managers in various universities. They analysed the relationships between GHRM practices, CSR activities, and universities sustainable performance using statistical techniques such as regression analysis and mediation analysis. The findings of the study revealed that both GHRM practices and CSR have a positive and significant impact on universities sustainable performance. Furthermore, the study identified that the influence of GHRM practices on sustainable performance is partially mediated by CSR, indicating a complementary relationship between these two factors in driving sustainability outcomes.

Bhatti et al., (2021) explored the relationship between green human resource management (GHRM) practices and the environmental performance of universities belonging to industries that may lean toward environmental pollution (e.g. oil and gas). The study specifically examined the mediation role of perceived universities support and individual environmental behaviour in the relationship between GHRM and environmental performance. A holistic mediation model was developed using the ability-motivation-opportunity (AMO) theory and the social exchange theory (SET). Primary data was obtained from white-collar workers in the oil and gas industry and the obtained data were analysed using the structural equation modelling (SEM) and the PROCESS model 6. The outcome of the results showed that there was an insignificant direct relationship between GHRM and environmental performance. However, the total effects and indirect effects through perceived universities support and individual environmental behaviour were significant.

Since Harman's single-factor analysis was, they recommended that future research must collect data using a longitudinal design to verify the relationships hypothesised in this study.

Pham et al., (2020) examined the mediation and iterative roles of green human resource management in driving hotel's environmental performance based on the ability-motivation-opportunity (AMO) theory. A sample size of 220 employees in hotels was obtained through questionnaire delivery. Structural equation modelling was employed to test the hypothesised model. The findings of the study showed that a university's corporate business environment significantly mediates the effects of training and performance management on environmental performance. The vital iteration of training and employee involvement significantly strengthens environmental performance. The study lastly revealed that employee environmental commitment does not mediate the relationship between green human resource management and environmental performance.

Tseng et al., (2018) delved into the realm of corporate sustainability performance improvement through the lens of an interrelationship hierarchical model approach. Their research methodology involved the adept use of exploratory factor analysis and fuzzy synthetic methods, which allowed for a nuanced exploration within the hierarchical model framework. The findings gleaned from this meticulous analysis revealed pivotal insights, notably highlighting the critical roles of top management support and manager attitude and behaviour as significant drivers influencing corporate sustainability performance. This research significantly contributes to our understanding of the complex dynamics and interconnected factors that contribute to sustainability success within universities, offering valuable insights for practitioners and researchers alike.

Adu-Yeboah et al., (2022) investigated the relationship between corporate sustainability, firm performance, and the mediating effect of green innovation in SMEs in Ghana. The study

focused on understanding how adopting sustainable practices influences the overall performance of SMEs, particularly regarding their economic, environmental, and social impacts. A quantitative research approach was utilised, involving surveys and data collection from SMEs in Ghana. The researchers assessed various aspects of corporate sustainability, including environmental responsibility, social responsibility, and economic performance indicators. They also examined the role of green innovation as a mediator in enhancing firm performance within the context of sustainability. Statistical analysis techniques, such as regression analysis and mediation analysis, were employed to analyse the data and test the hypothesised relationships. The findings of the study highlighted a positive association between corporate sustainability practices and firm performance in SMEs. Furthermore, green innovation was identified as a significant mediator that enhances the positive impact of sustainability practices on firm performance.

Gilal et al., (2019) examined the influence of green human resource management practices on environmental performance using data from higher institutions. Survey data from 214 employees were used through the adoption of Exploratory factor analysis and Hayes Process Macro to test the moderated mediation hypotheses. The study revealed that green human resource management practices positively enhance environmental performance via employee's environmental passion. The study further revealed that the effect of green human resource management practices on environmental passion is more relevant when an employee is high on green values than when he/she is low. The study recommended that to deal with environmental issues, higher education institutions should incorporate green behaviours in their operations because it makes employees feel proud to think about the role their university plays in protecting their environment.

Tandoh et al., (2022) aimed to investigate the relationship between corporate governance, corporate social responsibility (CSR), corporate sustainability, and the moderating influence of top management commitment. The study focused on understanding how these factors interact and influence universities performance and sustainability outcomes. The researchers employed a quantitative research approach and collected data from various companies to analyse the relationships among corporate governance practices, CSR initiatives, sustainability efforts, and the commitment of top management. Statistical techniques such as regression analysis and moderation analysis were utilised to examine the data and test the hypothesised relationships. The findings of the study suggested that strong corporate governance practices, coupled with robust CSR activities, positively impact corporate sustainability performance. Additionally, the study revealed that top management commitment plays a moderating role, enhancing the effectiveness of corporate governance and CSR practices in driving sustainable outcomes.

Aggarwal and Agarwala (2023) investigated the connection between green human resource management (GHRM) practices and environmental performance, exploring the mediating role of green universities culture. The aim was to understand how GHRM practices influence environmental outcomes and whether this relationship is strengthened by the presence of a green universities culture. The study utilised a quantitative research approach, collecting data from a sample of universities to analyse the relationships among GHRM practices, green universities culture, and environmental performance. Statistical techniques such as regression analysis and mediation analysis were employed to analyse the data and test the hypothesised relationships. The findings of the study indicated a significant positive relationship between GHRM practices and environmental performance. Furthermore, the results highlighted that green universities culture

partially mediated this relationship, suggesting that a strong green culture within an university enhances the impact of GHRM practices on improving environmental performance.

Summary

Change occurs in every situation and is inevitable. Occasionally, there is change, and it happens swiftly. Change occurs in the economy, the lifestyles of people, the climate, and other factors that affect the university. Because so much change is occurring, HR professionals can no longer be conceited and limit their attention to the traditional HR careers. HR must change with the trends in order to continue to offer the university value, effectiveness, and efficiency (Ahmed et al., 2020). Paillé et al., (2019) opine that HR vocations need to adapt to the changes. As a result, HR cannot be defined by what it performs within the institution but rather by the outcomes it produces, namely the enhancement of the university's value to its customers, financial backers, and employees. It should be the responsibility of HR professionals to implement authoritative changes. Instead, then worrying about consistently implementing change, HR professionals should focus on making sure that it is completed effectively and on schedule (Jyoti et al., 2019). The Human Resources Department is the most crucial change-trained professional in any university. HR can play a crucial role in assisting universities to transform and achieve maintainability, according to studies (Ahmed et al., 2020; Cabral & Dauda., 2020; Vásquez et al., 2019)

Change for this situation should be all-encompassing, inside and out. This entails shifting perceptions, behaviours, mentalities, and practices within the university toward a more environmentally conscious outlook and behaviour. Changes are expected to be implemented from the top down, with everyone involved. Protection from change is also to be expected, but there is nothing unusual about that. All the university needs to do is set up processes that will account for long-term change (Ruediger et al., 2021). A university creates both positive and negative

externalities through its creative projects when it adds value for a variety of stakeholders. The economic, social, and environmental systems can be harmed by negativity, which can hinder efforts to achieve Sustainable Development (SD) (Stahl et al., 2020).

Commitment to GHRM cannot be underestimated. Universities commitment describes a person's feelings of emotional attachment, affiliation, and devotion to the university. Universities commitment is composed of three elements: emotional, normative, and continuity commitments (Ghasempour et al., 2021). The first is related to an individual's emotional bond with the university, the second to the cost of leaving, and the third to an individual's sense of obligation. Further clarification is required about the notion of working involvement. It portrays the contented mental and emotional state of a lone worker who is fully concentrated, energetic, and feels a sense of purpose in their work (Rameshkumar, 2020). Work involvement is associated with three domains: vigour, dedication, and absorption.

The precursors of universities commitment are composed of both individual and universities components (Govender & Bussin 2020). Both individual-level factors (demographics, psychological empowerment, personality traits, and work characteristics and universities-level factors (leadership, universities culture and environment, HR procedures, and other) have an impact on the level of universities commitment (Hngoi et al., 2023)

By analogy, workplace engagement may also have universities and human level antecedents. As mentioned earlier, personal resources, job resources, and job demands are examples of individual-level elements (Teo et al., 2020). Universities-level traits could include leadership behaviours, work autonomy, social support, and universities climate, including Green HRM-related behaviours. Workplace engagement and universities commitment also result in outcomes at the individual and universities levels (Jufrizen et al., 2022).

Individual outcomes are linked to work performance, job satisfaction, and universities citizenship behaviour, all of which are positively impacted by universities commitment and working engagement. Meanwhile, it was shown that the relationship between the universities and personal outcomes of working engagement and universities commitment was mediated by job satisfaction (Yandi & Havidz 2022). In addition to individual outcomes, universities commitment and working engagement significantly influence a range of universities-level outcomes, including staff retention, turnover, performance, and absenteeism. When these qualities are high, great universities performance, low absenteeism and turnover rates, and high retention rates are all likely to endure (Kaur & Mittal 2020). Moreover, Green HRM practices and leadership behaviours may also help to support the positive effects listed above.

Universities must be changing agents from the standpoint of sustainable leaders in higher education. Promote professionals who are knowledgeable about SD and conscious of the demands of both the present and the future (Berchin et al., 2021). This suggests that the entire university system should be focused on training students who will be able to lead various universities in a responsible manner in the direction of sustainable societal patterns (Jyoti et al., 2019). As a result, "sustainability leadership" or, to be more precise, "leadership for sustainability" could be characterised as a synthesis of many leadership philosophies within a certain context (in this case, sustainable development (Leal et al., 2020). The focus of the academic study of leadership is the capacity of an institution to direct followers (i.e., employees and team members) and to make decisions that significantly affect the outcomes of a university (Ibrahim et al., 2019) When a system or university needs to shift its stance, which always involves uncertainty, leadership as an activity and a function are essential (Findler et al., 2019).

Most universities are progressively coming to understand how important it is to cultivate a strong sense of social responsibility (Kodua et al., 2022). They undoubtedly stand out enough as a result to highlight environmental awareness, green behaviour on the part of top-management, and institutional activities that are typically governed by strict ecological standards. State-funded universities have learned that to ensure long-term sustainability, they must consider the social and ecological consequences of their operations (Lamprey, 2021). Implementing green human resources at universities is defined as fusing human resources with ecological management. With the use of GHRM procedures, a university may be able to quickly develop an EMS (environmental management system) framework (Gilal., 2019). Top executives have long kept an eye on the environment of leadership in educational institutions. According to the Public Appraisal and Certification Committee, each institution must address some essential concerns in its regulations for the Universities to follow "best practices", including orientation, ecological consciousness, and sustainability, among others. Universities are asked to direct "green reviews" to assess the impact of a task accepted or products generated on the environment (Adjei-Bamfo et al., 2020).

Green Enrolment and Selection, Green HR execution for management, green preparation and improvement, and green remuneration and rewards have a significant impact on the hierarchical viability of universities in Ghana (Yusoff et al., 2020). During recruiting and selection, management tries to select academics and staff members who are informed about and prepared to apply their skills and knowledge to improve the biological environment (Mishra, 2002). The individuals engaged are not simply left to manage the arrangement; they are also trained and informed on their specific topics and difficulties that pertain to the environment. Staff motivation is important since and can be a key to the successful implementation of this strategy (Yong et al., 2022).

However, the reward system is not that adequate and satisfactory which is evident by delayed rewards/compensations towards the met green standards to the employees and unclear promotional framework (Kuria, 2019). As a result of recent advancements in environmental change and sustainability, local and international environmental activists are putting pressure on public universities of deeper awareness of how to embrace and carry out practical green efforts. (2019, Kuria & Mose) In any case, challenges still arise throughout the implementation of green strategies. But even at these higher levels of learning, there are basic challenges to green human resource management (GHRM), particularly financial ones. Lack of financial resources is the main barrier inside the sub-obstacles. These public universities may create and implement green business strategies and practices with the help of the government and financial institutions, removing the most fundamental barriers (Borah& Korankye 2021).

There is a growing understanding that the natural effects of HRM phases should be taken into account throughout the entire interaction since HRM practices valued by corporate management contribute to implementing and maintaining an ecological management framework, thereby assisting universities in achieving higher sustainability performance (Gilal et al., 2019; Yusoff et al.,2020). GHRM ensures that institutions spread successfully and become even more unharmed to the environment. Because of a variety of causes, including inherent advantages, maintaining brand representation, and enhancing a corporation's attractiveness, GHRM is essential for institution management. Prior HRM literature placed more emphasis on the effects of individual practices than a collection of GHRM practices on universities sustainability performance (Pham et al., 2020).

According to Awan et al., (2022), GHRM procedures operating in public institutions may have a bigger impact on corporate performance and the environment (Gul et al., 2021a; Rizvi and

Garg, 2021). It might affect a university's financial performance (EcP), which would ultimately increase its effectiveness. Therefore, incorporating GHRM techniques into an institution's processes can eventually lead to better CSP (Hameed et al., 2021). Siyambalapitiya et al., (2018), opine that financial performance may improve if green practices in the workplace increase employee attributes like inspiration and skill. Top Management that takes into account environmental requirement when hiring workers, or who at the very least demonstrate their concern for the environment, will attract fine staffs who will be drawn to the institution's ecological awareness (Tariq et al., 2016; Jamil et al., 2021a). Creating and empowering the benefits and activities of the environment can also be beneficial for universities because it can result in increased knowledge and inspiration, greater upkeep and efficiency, and generally superior results. According to Shah (2019), corporations that prioritise environmental safety hope to create a more hospitable corporate culture that leads to increased efficiencies and lower costs. Promoting a greener culture result in better offers and reduced prices (Longoni et al., 2018; Jamil, et al., 2021b).

Beyond increased representative satisfaction, strengthened partner relationships, and increased employee maintenance, businesses that address environmental challenges gain in several ways (Yu et al., 2020; Naseem et al., 2021). Among other benefits mentioned are a higher sense of social responsibility among the workforce and a better ability to pick and retain talent. According to Paillé et al., (2020), corporations that invest in social responsibility are likely to benefit in a variety of ways, including as increased customer loyalty, success in hiring new employees, and advancement, all of which directly support their social exhibition (Kim et al., 2019; Awan et al., 2021a). Corporations that had a vested interest in cooperative ventures, as mentioned by Saeed et al., (2019) took a significant step. These initiatives aim to protect worker wellness and security, preventing them from being exposed to harmful radiation, for instance. The

proliferation of green initiatives will increase the sustainability of manufacturing companies and serve as a revealing resource (Jabbour and de Sousa Jabbour, 2016; Naseem et al., 2020).

Universities should make sure to include social exercises that can have an impact on both their internal networks (employees) and external networks (providers and clients) to increase the impact of their CSP activities (Awan et al., 2021b; Samad et al., 2021). Additionally, research demonstrates that universities that have adopted GHRM practices enhance ecological sovereignty and effective government aid through their GHRM performances. According to Mousa & Othman (2020), GHRM practices and tactics have a significant impact on community wellbeing and the state. Corporations and community networks can participate in a better workplace and community by adopting green practices, respectively (Jamil, et al., 2021c; Ullah et al., 2021). Less pollution and environmentally friendly assembly jobs have been found to benefit both society as a whole and the social aspects of workers. Farza et al., (2021) recommendation that corporations can achieve a variety of social goals, such as customer assurance, market transparency, and environmental protection, underscores this issue. Innovations which is a value of top management can therefore increase CSP when universities use it in their daily operations (Gul, et al., 2021b; Mandal and Buddy, 2021).

Green innovations adopted by universities have generally been shown to increase consumer loyalty, enhance a university's reputation, provide equal opportunities, ensure welfare, and advance moral values (Kraus et al., 2020; Mohsin et al., 2022). Even though there are less experimental studies on the link between GHRM, top management values cause on CSP, current research suggests eco-friendly practices may be effective in boosting customer dependability and improving an institution's image personality (Asadi et al., 2020; Gul et al., 2021c).

Environmentally, financially, and socially sustainable methods are now required in forming universities because of growing ecological concerns and the need for practical solutions. Every institution, especially those that operate in an incredibly serious and controlled environment, has a commitment to modify its financial., social., and environmental performance. Changing these factors is seen as a challenging task that can occasionally even be doubtful. When introducing ecological management frameworks into a university, it becomes difficult to improve its natural and social performance, increase its financial presentation, while adhering to social norms and integrating green behaviours into the institution's activities (Al-Ghazali & Afsar, 2021).

CHAPTER THREE: RESEARCH METHOD

Introduction

This chapter outlines the approach taken to accomplish the research objectives of this study. The research design utilised in the study, the population and sampling procedure used, the tools or instruments used in the collection of data, ethical consideration, and the methods used to gather and analyse the data. This study adopted the mixed approach which combined the use of both qualitative and quantitative methods. Also, the philosophy governing this research was pragmatism which was a combination of the positivism and interpretivism research philosophies. Lastly, this chapter provides information on the validity, reliability and ethical considerations relating to this study.

Research Philosophy

Research philosophy encompasses the fundamental beliefs and assumptions that guide a researcher's approach to conducting research (Mkansi & Acheampong, 2012; Antwi & Hamza, 2015). One prominent research philosophy is positivism, which emphasises the objective nature of knowledge and the use of empirical methods to uncover causal relationships (Edson et al., 2016). Positivist researchers rely on quantitative data and statistical analysis to generalize findings and prioritise objectivity and reliability in their research (Abu-Alhaija 2019). On the other hand, interpretivism, also known as constructivism or hermeneutics, takes a subjective view of reality, emphasising the importance of understanding social phenomena from the participants' perspectives (Kaufman & Wood, 2014; Mkansi & Acheampong, 2012). Interpretivist researchers use qualitative methods such as interviews, observations, and content analysis to delve into meanings, experiences, and social interactions, acknowledging the role of context and interpretation in shaping knowledge.

A third approach, pragmatism, integrates elements of both positivism and interpretivism, focusing on the practical implications and utility of research outcomes (Wilson, 2014; Mkansi & Acheampong, 2012). Pragmatist researchers believe that different research methods can be valuable depending on the research questions and goals. They often adopt mixed methods, combining quantitative and qualitative techniques to gain a comprehensive understanding of complex phenomena and address research questions from multiple angles. These diverse research philosophies offer researchers flexibility in choosing methods that align with their epistemological stance and research objectives (Bell et al., 2022; Edson et al., 2016; Agousti, 2013).

A research philosophy governs how research should be conducted depending on the ideas about the nature and reality of the knowledge at hand (Alharahsheh & Pius 2020). Also, Ragab and Arisha (2018) stated that research philosophy helps a researcher to know which approach to adopt based on the research questions raised. Further, Ryan (2018) indicated that research philosophy looks at the source, nature and how knowledge is developed. An inquiry rationale helps the scientist choose the best research strategy by providing a perspective on how information regarding an event should be obtained, examined, and applied. There are basically three types of research philosophy which are positivism, interpretivism and pragmatism. To this study, the pragmatism approach was adopted due to its support for the mixed method approach that allowed the use of both quantitative and qualitative research approaches. Pragmatism is a research philosophy that emphasises the practical application of knowledge and ideas. Pragmatism researchers believe that knowledge is constructed by humans and therefore can be changed or adapted depending on the circumstance (Kelly & Cordeiro, 2020).

In research, pragmatism emphasises the importance of mixed methods, which combines both qualitative and quantitative research approaches. The approach prioritises the collection of

data that is useful and applicable to real-world situations (Morgan, 2020). Pragmatism researchers also believe that research should focus on problem-solving and should be collaborative, with multiple stakeholders involved in the research process (Legg & Hookway 2008). Pragmatism is often used in research areas where the goal is to develop innovative solutions to real-world problems (Vasianovych et al., 2020). It is particularly useful in areas such as education, social work, and healthcare, where solutions need to be practical and effective (Hickman et al., 2020). Pragmatism is not limited to any specific research method or approach, and researchers in this school of thought can use a range of methods depending on the research question and context (Powell, 2020). The positivism and interpretivism research philosophies are the two extremes which focus on these strategies and hence it will not be applicable to this study.

The selection of the pragmatism research philosophy for this study is underpinned by several compelling reasons. First, pragmatism's practical and problem-centred approach was well-suited to the research's primary aim of understanding the intricate relationship between Green Human Resource Management (GHRM) practices and Corporate Sustainability Performance (CSP) within Ghanaian public universities. The philosophy placed a strong emphasis on addressing real-world issues, which was crucial when exploring sustainability and HRM challenges in the higher education sector (Morgan, 2014). Additionally, pragmatism allowed for the integration of multiple perspectives and research methods, aligning with the multidisciplinary nature of this study (Maarouf, 2019; Simpson, 2018). Investigating the link between GHRM and CSP in a specific context demanded a holistic approach that drew from various fields and stakeholder insights.

Furthermore, the practical orientation of pragmatism was well-matched with the study's intention to derive actionable recommendations and solutions (Kelly & Cordeiro, 2020; Morgan,

2014). This research endeavoured to offer insights that informed GHRM practices in Ghanaian public universities, and pragmatism's emphasised on practical application was particularly relevant in this regard. Lastly, pragmatism acknowledged the importance of the research context, recognising the unique cultural, economic, and universities factors at play (Ormerod, 2006; Baert, 2004; Maarouf, 2018). This was especially pertinent given the study's focus on Ghanaian public universities. Pragmatism's capacity to adapt methodologies and theories to the specific context ensured the research remained culturally sensitive and contextually meaningful, thereby enhancing its applicability and impact (Saunders et al., 2015; Abu-Alhajia, 2019).

Research Approach and Design

Research approach and design are essential components of the research process that help shape how a study is conducted and what outcomes can be expected (Bell et al., 2022; Blumberg et al., 2014). According to Wilson (2014) the research approach refers to the overarching strategy or plan that guides the researcher in collecting and analysing data to answer research questions or test hypotheses. On the other hand, research design refers to the specific structure and methodology used within that approach to carry out the research study. The choice of research approach and design is crucial because it directly influences the validity, reliability, and generalisability of research findings. Different research approaches, such as quantitative, qualitative, or mixed methods, offer distinct strengths and weaknesses that researchers must consider based on their research questions, objectives, and the nature of the phenomena under investigation (Harrison III, 2013).

Quantitative research approaches are characterised by their use of numerical data, statistical analysis, and structured instruments such as surveys or experiments (Wilson, 2014; Hair et al., 2019). Hair et al., (2013) asserts that this approach is ideal for studying relationships,

patterns, and causal effects, providing precise and generalizable results. It is commonly used in scientific studies aiming to measure variables and test hypotheses objectively. Qualitative research approaches, on the other hand, focus on understanding phenomena in depth, exploring meanings, experiences, and social contexts. Qualitative methods include interviews, observations, focus groups, and content analysis, allowing researchers to uncover rich insights, perspectives, and nuances that quantitative methods may overlook (Sreejesh et al., 2014; Bell et al., 2022). Qualitative research is valuable for exploring complex social phenomena, generating hypotheses, and providing a deeper understanding of human behaviour (Ghauri et al., 2020).

Mixed methods research combines both quantitative and qualitative approaches within a single study, offering complementary strengths and addressing research questions from multiple perspectives (Sekram & Bougie, 2016). This approach is beneficial for gaining a comprehensive understanding of complex phenomena, validating findings across different methods, and enhancing the robustness of research outcomes. Overall, selecting an appropriate research approach and design is crucial because it determines how data will be collected, analysed, and interpreted. It ensures that the research aligns with its purpose, addresses the research questions effectively, and produces reliable and valid results, ultimately contributing to the advancement of knowledge in the respective field of study (Estherby-Smith et al., 2021).

To examine how green human resource management (GHRM), through the mediating role of top management values, relates to corporate sustainability performance in Ghanaian public universities, this study adopted a concurrent mixed methods design. This approach involved collecting both qualitative and quantitative data simultaneously from various respondents across public universities in Ghana. A concurrent mixed methods design allows for data integration from both methodologies at the analysis stage, providing a comprehensive understanding of the research

problem and enabling comparison and triangulation of results (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2010). Concurrent mixed methods are particularly suitable for complex social phenomena like corporate sustainability, as they allow the qualitative data to enrich and explain findings from the quantitative analysis (Creswell, 2014). According to Cameron (2009), this design enables each dataset to inform and deepen insights from the other, supporting the exploration of practical implications and fostering a nuanced understanding of the context. Ward et al. (2021) highlight that concurrent mixed methods enhance data triangulation, adaptability, and the ability to contextualise findings within specific real-world settings. By employing this design, the study offers a holistic perspective, providing robust findings applicable across various dimensions of GHRM and sustainability in Ghanaian universities (Ward et al., 2021; Coldwell et al., 2020).

The mixed approach was appropriate for this study as it allowed for the use of both structured and semi-structured questionnaires to collect data for independent, mediating, and dependent variables. Also, the method allowed for the triangulation of data to improve its effectiveness (Mahdavi, 2020). Using both quantitative and qualitative methods means the study is mixed research. The emphasis of the quantitative approach is on numerical data analysis and measurement to provide precise descriptions (Palupi et al., 2020). In addition to this, the quantitative method seeks accuracy by concentrating on things that can be tallied and grouped into predetermined categories for statistical analysis (Bloomfield & Fisher, 2019). On the other hand, a qualitative method facilitates the collection of data in the form of words rather than figures, providing verbal descriptions as opposed to numerical statistics (Sun et al., 2020; Bell et al., 2022). These two strategies complement one another. The mixed method approach has been successfully applied in other studies (Mikalef et al., 2019; So et al., 2018; Tauscher & Laudien, 2018).

Additionally, the qualitative study results provided a rich and detailed exploration of the perceptions and experiences related to Green Human Resource Management (GHRM) practices in Ghanaian public universities. This sub-section presented the key findings derived from in-depth interviews with various stakeholders, shedding light on crucial themes such as engagement with stakeholders, economic and social impact, good governance and transparency, training and awareness, and continuous improvement. Through qualitative lenses, the study sought to unravel the nuanced and contextualised aspects of GHRM implementation in the higher education landscape. Engagement with stakeholders emerged as a prominent theme, showcasing the proactive efforts of universities to involve both internal and external stakeholders in sustainability initiatives. The qualitative findings underscored the positive impact of these engagement practices on fostering meaningful changes within the institutions which are in line with the goals of embedded research design.

Population, Sampling Techniques and Sample Size

The population in research refers to the entire group of individuals or elements that meet the criteria for inclusion in a study (Singh & Masaku, 2014; Oribhador & Anyanu, 2019). It represents the larger group to which the researcher intends to generalise the study findings. For example, if a study aims to understand consumer behaviour in a particular city, the population would be all consumers living in that city. It is important to clearly define the population because it determines the scope and relevance of the research outcomes (Rahman, 2023).

The target population for this study comprises the teaching and non-teaching staff of public universities in Ghana, with a particular focus on those who occupy administrative, managerial, or sustainability-related roles. According to the Ghana Tertiary Education Commission (GTEC, 2022), there are a total of 6,412 teaching staff and 12,073 non-teaching staff across 15 public

universities in the country. These universities include the University of Ghana (1,400 teaching and 2,412 non-teaching staff), Kwame Nkrumah University of Science and Technology (989 and 1,439), University of Cape Coast (860 and 2,920), University of Education, Winneba (561 and 936), and the University for Development Studies (656 and 832). Other institutions such as the University of Mines and Technology, University of Energy and Natural Resources, and the University of Health and Allied Sciences also contribute significantly to this population.

Random sampling was employed in this study to select participants, ensuring everyone in the target population had an equal chance of being included. Rahman (2023) describes sampling techniques as essential methods for choosing representative subsets from a population when studying the entire group is impractical due to constraints of time, cost, and logistics. Alvie (2016) highlights that random sampling, as a probability sampling technique, is valuable for generalising findings to the broader population, as it minimises selection bias and increases the likelihood of a representative sample. Random sampling offers distinct advantages, such as enhancing the accuracy and reliability of findings by reducing bias. This method allows for the collection of diverse perspectives within the population, contributing to robust conclusions (Sun et al., 2020; Bell et al., 2022). Proper sample size determination further strengthens the research's validity, as it influences the study's statistical power and the reliability of its conclusions (Boddy, 2016). Using a sample size that balances efficiency, and reliability allows the study to draw meaningful inferences without incurring excessive time or costs (Aparasu, 2011; Rahman, 2023).

Out of the 15 universities, six were chosen at random for this study. A total of 19, 485 academic and non-academic staff members work at the six selected public universities. To ensure representativeness of the diverse population of Ghanaian public universities, the study employed a multi-stage stratified random sampling technique. First, universities were stratified into

categories based on institutional characteristics (e.g., size, location, and governance structure). Within each stratum, faculties and departments were identified, and random sampling was then applied at the final stage to select individual respondents. This approach ensured proportional representation across sub-groups, thereby reducing sampling bias and enhancing the generalisability of findings (Etikan & Bala, 2017; Saunders et al., 2019). The use of stratification was particularly important given the heterogeneity of the target population, as simple random sampling alone would not adequately capture the structural diversity present in the universities. Hence, the adoption of multi-stage stratified random sampling strengthens both the validity and reliability of the study results.

For the questionnaires, a total of 392 respondents was ascertained using the stratified sampling method and Taro Yamane sample size formula $n = N / (1 + N(e))$ (Yamane, 1967; Chaokromthong & Sintao 2021). An additional 208 participants were added to the 392 respondents to ensure fair representation of the participants, bringing a total number of 600 respondents. The addition of 208 participants (totalling 600 respondents) follows current methodological best practices to enhance research quality. This adjustment compensates for potential underrepresentation in stratified sampling, accounts for modern survey non-response rates, and strengthens statistical power for subgroup analyses. The approach aligns with standard practices in large-scale research where controlled oversampling ensures more robust and representative results across all demographic segments.

For qualitative data, three interviewees (1 HR officer and 2 academic members) from each of the 6 universities were selected to participate in the interview section making it 19 respondents across the six selected universities but only twelve (12) participants were available for the qualitative interview. Despite this, the study was able to reach data saturation since the replies from

these 12 participants were thorough, rich, and adequate to capture the main ideas and insights required for the study's goals. There were recurrent themes and patterns in the interview data, and no noteworthy new material surfaced from the responses, suggesting that more interviews would not have significantly expanded the findings. Therefore, the sample size was sufficient to meet the qualitative objectives of the study. The participants were made up of lecturers and staff who occupy top managerial positions in various universities.

Table 1

Sample from each university

Universities	Number of respondents
KNUST	107
University of Ghana	200
University of Education, Winneba	52
UCC	157
Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development	20
University for Development Studies	64
	600

The importance of population, sampling techniques, and sample size lies in their collective impact on the validity and generalisability of research findings. By defining the population clearly, using appropriate sampling techniques to select a representative sample, and determining an adequate sample size, researchers can enhance the reliability of their results, increase the likelihood of detecting meaningful effects or relationships, and make valid inferences about the broader

population based on the study outcomes. These considerations are fundamental in ensuring the credibility and relevance of research in various fields of study.

Materials/Instrumentation of Research Tools

Research tools, also referred to as research instruments (Basen *et al.*, 2021), are methods for gathering responses that yield the appropriate kind of data needed for research. The goals, aims, and questions addressed by the research determine the type of tools used. A variety of research instruments, including open-ended and close-ended instruments, are often used in social sciences research. This study used a semi-structured interviewing technique to gather qualitative data. An interview is frequently referred to as a type of "interaction" that is effectively controlled by the interviewer to elicit answers from the interviewee that can then be critically constructed to produce knowledge about a phenomenon or a set of phenomena (Rahman, (2023). The variety of individual experiences and the variations in how people perceive and construct the realities all around them are the fundamental reasons why conducting interviews is necessary.

Interviews can be structured, semi-structured, or unstructured. Structured interviews typically contain closed-ended questions that call for specific or defined responses and are very beneficial for producing quantitative data (Summerfeldt, 2020). Contrarily, unstructured interviews use an open-ended methodology that lets discussion lead to interview questions while letting the interviewee describe the phenomenon in detail Low (2019). Open-ended question techniques are used in semi-structured interviews and as a result, they are neither completely defined nor completely undescribed. A semi-structured interview creates a compromise between unstructured and structured interviews via the use of open-ended questions, allowing for the researcher's deliberate and monitored guidance (Adeoye-Olatunde, & Olenik 2021).

To achieve an in-depth probing of the set of questions that give answers to the research questions, this study adopted the semi-structured interview method. To provide the necessary flexibility to investigate whether Green human Resource Management (GHRM) and Top management values has any effect on the corporate sustainability performance (CSP), the survey instrument consisted of both the quantitative phase which was made up of close-ended questions and the qualitative phase which also consisted of a semi-structured interview or open-ended questions (Adeoye-Olatunde & Olenik, 2021). Therefore, semi-structured interviews were used for this study's purposes. The set of questions for this study was generated from the critical literature review on GHRM practices conducted in the preceding chapter.

The interviewing procedure was based on research on Green HRM practices and how it is used in the universities, its prospects and challenges and the impact it is having on the corporate sustainability performance of the schools whilst the structured interview sought information on the how often the universities use these green practices. This accurately reflected the goals and purpose of the study. Information from the various GHRM practices was ascertained from a study conducted by (Yong et al., 2020). It provided a review of the practices under the various functions of Green HRM which were very useful in identifying whether or not the Universities use them.

The quantitative data were ascertained using a questionnaire made up of closed-ended questions. The instruments were adapted from existing literature (Shah, 2019; Tanova et al., 2022; Aboramadan, 2022) Three questionnaires namely, the GHRM practices Questionnaire (GHRMPQ), the top management values Questionnaire (TMVQ), and the corporate sustainability performance Questionnaire (CSPQ). This was done using the five-point Likert scale. Pimentel and Pimentel (2019) suggest that the purpose of the five-point Likert scale is to elicit responses from

people affirming or disbelieving a set of inquiries on a particular area of research. The questionnaire for this study asked respondents to rate a series of statements /items on a scale from Never to Always.

After the design of the questionnaire, qualified professionals were required to validate the various questions provided in the instrument and afterwards, the content validity ratio and content validity index were calculated. To establish this, eight panellists, who were composed of experts, researchers and academia (Keller et al., 2020) assisted in adjudging the essentiality and "non-essentiality" of items in terms of GHRM practices, top-management values and corporate sustainability performance. GHRM practices 57 items on, 13 items on top management values (TMV), and 29 items on corporate sustainability performance (CSP).

Thus, the Content Validity Ratio which is used to check the validity of instruments as stated by Almanasreh et al., (2019) was estimated for GHRM, forty (40) were judged to be essential out of fifty-seven (57) generated, eleven (11) items of TMV were recognised out of the thirteen as essential., and finally eighteen (18) items of CSP were retained out of the twenty-nine with CVR ranged (0.75 and 01.00). Furthermore, the CVI was ascertained at 0.60, 0.70 and 0.85 respectively which are highly valid. After the validity test, a pilot survey was then conducted among fifty respondents with a response rate of seventy percent. This was done to enable the researcher to identify possible errors in the survey instrument to help improve it.

Instrumentation

Instrumentation in research refers to the various tools, methodology, or devices used to assemble, measure, and analyse information (Sathiyaseelan, 2015). A research tool can be adapted or adopted on.

When an instrument is adopted, it is a point at which a researcher chooses to use an instrument precisely as the maker expected, with next to no changes. This technique is ordinarily used when the instrument has exhibited to be substantial and reliable for estimating similar factors under practically identical circumstances (Mohamad, Sulaiman, Sern, & Salleh, 2015). Adapted Instrument happens when a researcher changes a current instrument to better suit the demographics or setting of their study. To better gather data relevant to the study's particular situation, the response scale, language, or question wording may be modified.

The study utilised the Adapted instrumentation, which draws on various sources to examine the intuitive impact of Green Human Resource Management (GHRM) and Top Management Values on Corporate Sustainability Performance (CSP) in Ghana's public universities. This strategy was made conceivable by thinking about social significance and fitting the language to the setting of these institutions. The study setting stresses the requirement for enhancements that address explicit attributes of GHRM. This methodology was picked since it enables the development of a well-designed, well-documented instrument while ensuring that it is appropriate for the issue under study's specific characteristics (Sathiyaseelan, 2015; Mohamad et al., 2015). This strategy guarantees that the instruments are solid and legitimate

In this study, the quantitative data comprised of statements to indicate whether the school performs the Green HRM functions stated. These statements were analysed using the five-point Likert scale, that is, 1=Never, 2=Rarely, 3=Occasionally, 4=Often and 5=Always. The measurement for these statements was done using the ordinal level and measured as stated above.

Study Procedures and Ethical Assurances

Ethical Issues, Safeguards and Considerations

To protect the subjects in this investigation, ethical precautions were implemented. Respondents were required to omit their names, and no names were mentioned in the reporting of the research's findings to maintain the participants' confidentiality and protect their identities (Nichol et al., 2021). In the qualitative portion of the study, participants' sole means of identification were the use of abbreviations made on the informed permission form that was distributed and signed at the first interview session. If they were interested in taking part in the study and giving permission to record the interview, participants were asked to read the form and sign it (Alderson & Morrow, 2020). It is critical to conduct research in an ethical manner, whether that means respecting participants or accurately and completely disclosing results. The researcher kept to my ethical standards for the research to be fruitful and relevant. To be successful in my research pursuits, the researcher needed to be aware of ethical issues (Armond et al., 2021).

The researcher made a special effort to uphold trust and confidentiality with the principals of these schools while conducting this study. The researcher was helped in conducting myself in a diligent and ethical manner during this procedure by carefully reading the instructions provided by the Institutional Review Board (IRB) (Barak & Green 2021). Also, in the administering of the questionnaires the researcher had no influence on the answers provided by the participants. Explanations on the concept were only provided to those who had little knowledge about the area of study. As a result, the researcher adopted the position of an "independent researcher," meaning that neither they nor the research subject have any influence on them (Belotto, 2018).

Methods of verification: Dependability and Trustworthiness

In qualitative research, it is important to talk about the dependability and credibility of the qualitative data that will be gathered and processed (Stahl & King 2020). A crucial component of every qualitative research is the creation and dissemination of valid information, which in reality, is reflected in the study findings (Liamputtong, 2020). In this study on how Green HRM and Top Management Values affect Corporate Sustainable Performance, various precautions were taken to ensure credibility during data collection and analysis (Adler,2022).

One action the researcher took to uphold the credibility of the research was to provide participants with a copy of the interview procedure and vivid explanation of what the research entails prior to the actual interview session to increase the level of rigour and trust (Silva et al., 2021). It was crucial to tell the participants about secure access to identify information, data, and findings to retain credibility (McGinley et al.,2021). Participants were made aware that all digital data was kept on a password-protected computer that was only available to the researcher and all hard copy questionnaires were kept safely in locker (Kyngäs et al.,2020). The researcher also informed participants that they would be identified in all data and published materials using the abbreviations provided.

Validity

Validity refers to an instrument's capacity to precisely gauge what it is intended to quantify. It surveys the credibility and reliability of research findings, guaranteeing that the results produced from the information precisely address reality. There are different kinds of validity, including: content validity, construct validity, criteria validity, ecological validity, and face validity.

Content Validity determines whether an instrument adequately covers the full subject under consideration, ensuring that all important features are included. Construct Validity decides whether the instrument precisely gauges the theoretical construct for which it is intended. This incorporates guaranteeing that the instrument meets theoretical assumptions and fittingly mirrors the abstract concept.

Kinds of Construct Validity:

Convergent Validity demonstrates that the instrument relates well with different measures that measure the same construct. Divergent (or Discriminant) Validity: Shows that the instrument does not associate with different instruments evaluating various develops, guaranteeing special estimation. Criterion Validity: This model surveys whether an instrument corresponds with an outside norm; an action or result that it ought to theoretically be connected with. There are two sorts of Criterion Validity. Ecological Validity: Ecological Validity refers to how much study discoveries can be utilised in genuine circumstances. This is particularly significant for examinations conducted under controlled conditions or in research centre settings.

Face Validity: Face Validity is a fundamental kind of Validity that evaluates whether an instrument hopes to quantify what it claims to measure at first glance. Despite the fact that it is not generally so thorough as different kinds of validity, it is, however, an effective first assessment. In this study, face validity, content validity, and construct validity were used.

In this study, there was an up-close and personal conversation with the supervisor to examine the instrument's validity. To guarantee face Validity, an eye-to-eye meeting with the supervisor was held to inspect the instrument's importance and lucidity. During the gathering, the supervisor investigated the inquiries and made contributions to guarantee that the instrument was fitting for evaluating the designated thoughts. Face Validity guarantees that the instrument seems

fitting and clear to both the researcher and the respondents, improving the probability that the questions will be understood accurately. To approve the instrument, research experts were counselled with respect to its content validity. Content is not entirely settled by discussions with research-trained professionals. This involved mentioning researchers in Green Human Resource Management (GHRM), Top Management Values, and Corporate Social Responsibility (CSP) to examine the instrument and see whether it covered the significant parts of the constructs. By including these trained panellists, the study guaranteed that all parts of the ideas for example, various elements of GHRM practices, top management values, and sustainability performance indicators were enough addressed, thus working on the instrument's completeness and exactness.

In the next stage of the validation process of the study, construct validity was determined utilising factor analysis. Construct Validity guarantees that the instrument precisely surveys the theoretical components it is intended to assess, explicitly those connected to Green Human Resource Management (GHRM), Top Management Values, and Corporate Sustainability Performance. Factor analysis is a statistical technique for determining Construct Validity by surveying how distinct items on an instrument gather, or "load," onto explicit variables addressing underlying constructs. This procedure permits researchers to find clusters of comparable things that are reliable with the theoretical notions being measured. Factor analysis is a statistical methodology used to test construct Validity by dissecting the number of things on an instrument that gather, or "load," onto explicit variables that address underlying constructs.

Using this system, researchers can distinguish groupings of related things that correlate to the theoretical concepts being tested. Identifying Constructs: Factor analysis demonstrated that the survey items were separated into three classes: GHRM practices, top management values, and CSP. Each component shows a discrete construct, exhibiting that the instrument items assess

particular and significant dimensions. As per analysis factor, the study items fell into three classes: CSP, top management values, and GHRM practices. The fact that each factor addresses a distinct construct shows that the instrument's items evaluate diverse and relevant dimensions. The study utilised factor analysis to distinguish things that did not essentially stack onto the normal parts. Such items could be changed or eliminated to work on the instrument's accuracy, guaranteeing that every item assists with estimating the appropriate construct. A factor analysis was directed to distinguish parts that did not fundamentally stack onto the expected variables. Such items could be modified or removed to expand the instrument's accuracy and guarantee that each part adds to the right form estimation. Factor analysis further develops construct Validity by guaranteeing that each variable (for instance, GHRM, top management values, and CSP) is distinct and consistently measured. This works on the instrument's reliability and Validity, making the findings more trustworthy and relevant to the study's aims.

Significance of Factor Analysis in Establishing Construct Validity

Utilising factor analysis to lay out construct Validity is helpful since it: It validates the constructs' theoretical construction by affirming that items cluster together as expected. Items that do not stack as expected can be addressed to guarantee that every item precisely gauges the ideal form. Factor analysis increases construct Validity by guaranteeing that every component (e.g., GHRM, top management values, and CSP) is specific and completely studied. Subsequently, the instrument's Validity and reliability are improved, and the discoveries are sounder and more applicable to the study's points. Factor analysis reinforces the approval interaction by further developing certainty that the instrument precisely reflects theoretical notions.

However, the challenge of establishing validity in this study stemmed from the absence of pre-existing instruments suitable for measuring the constructs under investigation. This

necessitated a meticulous process of instrument development and validity assessment. Although the survey drew upon established research related to the constructs it intended to measure, ensuring precise construct validity remained a considerable challenge. However, the study employed various validity metrics, including face and content validity, to enhance the validity of the instruments used (Compton et al., 2020). Through a pilot study involving the interview protocol and scenario instrument, the researchers were able to gauge face and content validity effectively. An expert panel comprising eight research professionals in the relevant field was convened to assess the instruments' validity for the quantitative section. Subsequently, measures such as the content validity ratio (CVR) and content validity index (CVI) were computed to ascertain the instruments' validity, contributing to the robustness of the research design (Almanasreh et al., 2019).

By undergoing a rigorous validation process, the study ensures that the instruments employed possess the necessary validity to measure the targeted constructs accurately. This methodological approach not only enhanced the credibility and trustworthiness of the research findings but also underscored the researchers' commitment to methodological rigour and quality. The utilisation of expert judgments, validity metrics, and pilot testing reflected a systematic and thorough validation strategy, mitigating potential threats to the validity of the research instruments. Overall, establishing validity in instrument development was critical for ensuring that the data collected aligned with the research objectives and contributed meaningfully to the advancement of knowledge in the field of Green HRM and top management values.

CVR/CVI Calculations

CVR CALCULATIONS

When all panellists agree that the tested knowledge or ability is "essential" or when none do, depending on the circumstance, we can be sure that it is or is not genuinely essential. When the level of the consensus shifts from unanimity to a 50/50 split, issues start to arise.

Two suppositions are both consistent with accepted psychophysical principles:

There is some degree of content validity for every item whose performance is deemed "essential" by more than half of the panellists.

The more panellists (beyond 50%) who see the item as "essential.," the bigger the extent or degree of its content validity.

With these assumptions in mind, the following formula for the content validity ratio (CVR) was devised:

$$\text{CVR} = (N_e - N/2)/(N/2)$$

N_e denotes the number of panellists who marked themselves as "essential.," and N denotes the total number of panellists. The utility of the CVR comes from its properties, even if it is a direct linear transformation from the proportion that indicates "essential":

The CVR is negative when less than half select "essential."

If just half of respondents select "essential.," and half do not, the CVR is 0.

The CVR is calculated to be 1.00 when everyone responds "essential" (It is adjusted to .99 for ease of manipulation).

The CVR is between zero and .99 when the "important" number is greater than half but less than all.

According to the study's validity test, a minimum CVR of .75 is needed to meet the five percent criterion when a Content Assessment Panel has eight members. Only items with CVR values that meet this threshold are kept in the test's final iteration.

To establish this, eight panellists which composed of experts, researchers and academia (Keller et al., 2020) assisted to adjudge the essentiality; and "non-essentiality" of items in terms of GHRM practices, top-management values and corporate sustainability performance (Lawshe, 1975). 57 items on GHRM, 13 items on top management values (TMV), and 29 items on corporate sustainability performance (CSP).

Thus, the CVR was estimated for GHRM, forty (40) were judged to be essential out of fifty-seven (57) generated, eleven (11) items of TMV were recognised out of the thirteen as essential., and finally eighteen (18) items of CSP were retained out of the twenty –nine with CVR ranged (0.75 and 01.00) (Lawshe, 1975). Furthermore, the CVI was ascertained at 0.60, 0.70 and 0.85 respectively which are highly valid (Lawshe, 1975).

Reliability

In research, reliability refers to a measurement or instrument's consistency and stability across time. When utilised reliably, a dependable instrument creates predictable outcomes, guaranteeing that discoveries are repeatable instead of the consequence of irregular blunders. Establishing reliability is basic for expanding certainty that the instrument gets the necessary information and establishing the Validity of the discoveries. There are a few kinds of reliability; for this study, we utilised a pilot study and Cronbach's alpha. To guarantee the reliability of the research instrument, I directed a pilot study utilising Cronbach's Alpha in this research. These systems affirmed the instrument's dependability and consistency in assessing components like corporate sustainability performance (CSP), top management values, and green human resource management (GHRM).

Cronbach's Alpha

Cronbach's Alpha is a statistical marker that measures a scale's internal consistency and dependability. It assesses the level of relationship between items on a scale and is normally used to decide if a few items precisely measure a similar hidden construct. To guarantee inside consistency, I determined Cronbach's Alpha for the GHRM, top management values, and CSP items. Items with a high Cronbach's Alpha (frequently more than 0.7) are closely related and properly measure a similar concept.

Benefit: Utilising Cronbach's Alpha, I had the option to guarantee that the things on the instrument were steady with each other, expanding the information's dependability.

Pilot study

A pilot study is an underlying assessment of a research instrument conducted with a small sample chose from the target group. It gives a starter reliability evaluation and helps in distinguishing any possible issues in the instrument, for example, muddled questions or innovation issues. The pilot study permitted me to administer the instrument to few members who were like the planned study group (e.g., understudies from Ghanaian public universities). This group's feedback was basic in working on the instrument's clearness and constancy preceding significant data collection. By conducting a pilot study and revising the instruments depending on participant feedback, the instruments were improved for better clarity and reliability for final study.

The significance of utilising a pilot study with Cronbach's alpha. Consolidating Cronbach's Alpha with a pilot study on increased credibility of this research. The pilot study gave us significant data about how the instrument functioned in a genuine setting, permitting us to make upgrades that improved its general reliability. Cronbach's Alpha affirmed the inward consistency, guaranteeing that things inside each construct (GHRM, Top Management Values, and CSP) reliably measured a similar fundamental variable. At the point when these techniques were utilised, they expanded the instrument's strength and trustworthiness, yielding more solid outcomes about the connections between GHRM, Top Management Values, and CSP in Ghanaian Public Universities. Before the instrument was dispersed to study participants, the outcomes were thoroughly assessed to guarantee dependability.

To ensure the reliability and internal consistency of the research instrument, a pilot survey was conducted following guidelines established by Moon (2019). Given that the data obtained from the survey was ordinal in nature, the test-retest approach was employed to evaluate the

instrument's stability over time. This involved administering the test to a pilot group comprising fifty respondents, including lecturers and senior staff members (Campbell & Stanley, 2015).

The utilisation of the Cronbach's Alpha in the pilot survey serves as a robust method for assessing the reliability of the research instrument. By examining the level of agreement between responses obtained at two different points in time, researchers can ascertain the stability and consistency of the instrument's measurements (Carmines & Zeller, 1979). This methodological step is crucial in establishing the instrument's reliability, which is fundamental for ensuring that the data collected accurately reflects the intended constructs and can be relied upon for drawing valid conclusions in the research study (DeVellis, 2016).

Green HRM

Parallel analysis suggests that the number of factors = 5 and the number of components = NA

Figure 2

Parallel analysis of GHRM Construct (Parallel Analysis Screen Plots)

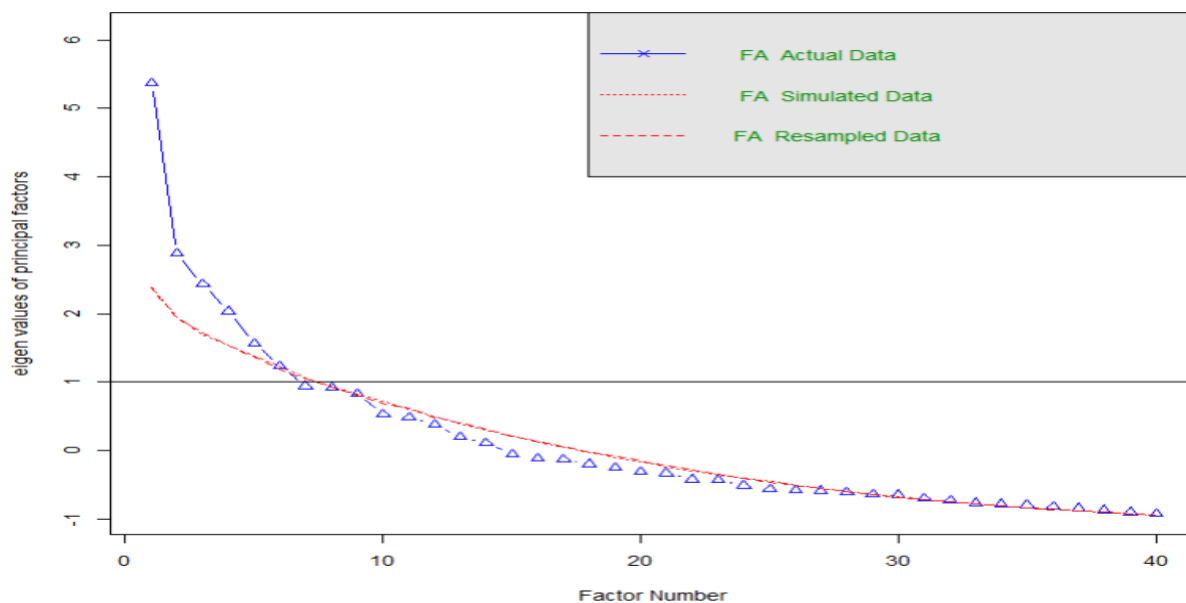


Figure 2 presents the parallel analysis of GHRM. The figure shows that the number of triangles above the red dotted line are five (5). This implies that the actual data indicates that there are five (5) factors in GHRM construct based on eigen value of 0.3. These 5 factors are specified with their loadings as follows:

Table 2

Factor loadings

MR1	MR2	MR3	MR4	MR5
Item 30	Item 38	Item 9	Item 11	Item 15
Item 24	Item 40	Item 14	Item 1	Item 29
Item 25	Item 37	Item 6	Item 19	Item 20
Item 27	Item 36	Item 22	Item 26	Item 35
Item 13	Item 39	Item 7	Item 4	Item 18
Item 10	Item 28	Item 8	Item 2	
Item 34	Item 31			
Item 23				
Item 33				
Item 16				
Item 21				
Item 12				
Total = 12 items	Total = 7 items	Total = 6	Total = 6 items	Total = 5

Figure 3

Path model for factor loadings of GHRM Construct

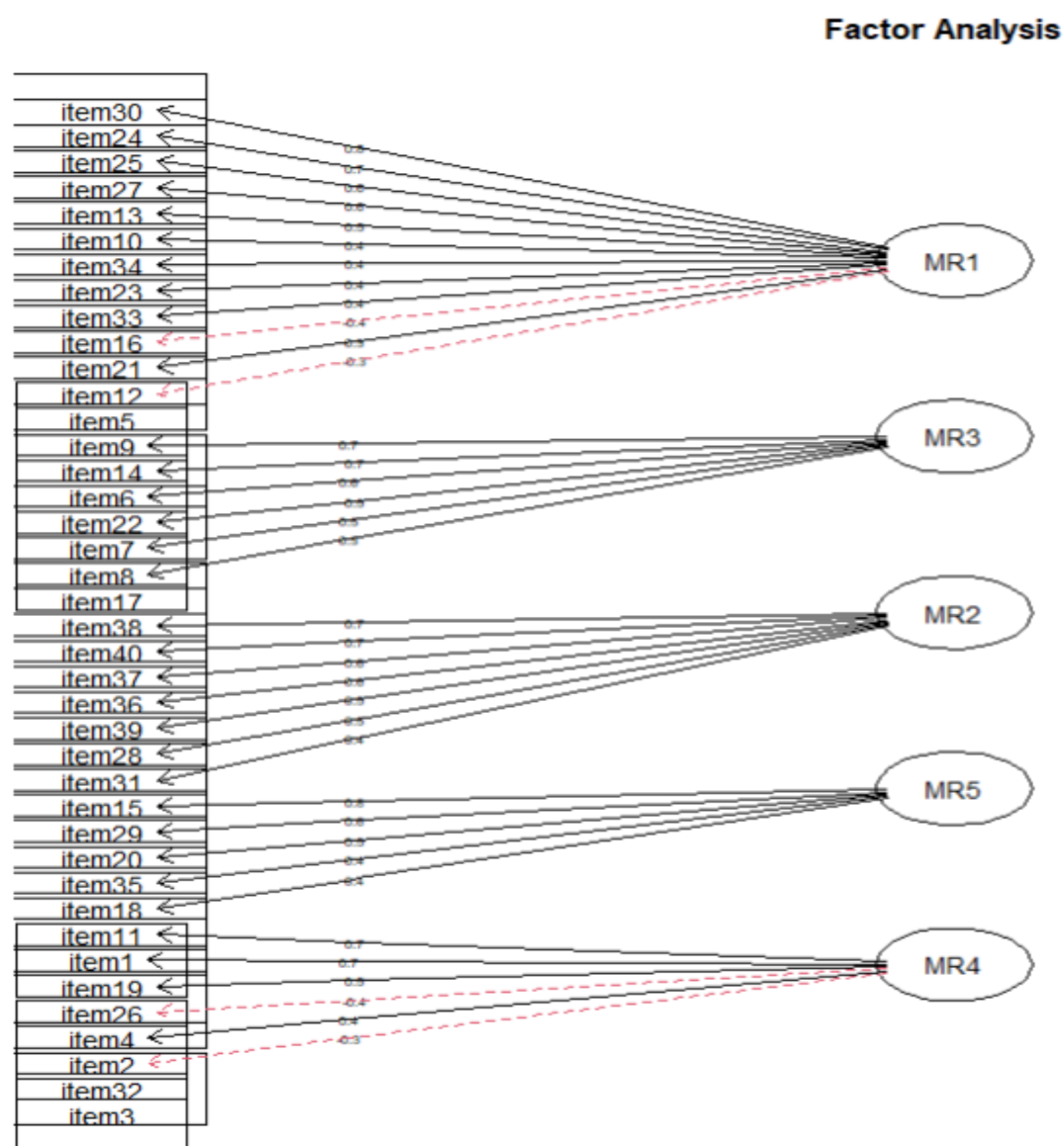


Figure 3 shows the number of items that loaded under each of the factors. These can be tabulated in Table 3.

Table 3*GHRM Factors and loadings*

MR1	MR2	MR3	MR4	MR5
Item 30	Item 38	Item 9	Item 11	Item 15
Item 24	Item 40	Item 14	Item 1	Item 29
Item 25	Item 37	Item 6	Item 19	Item 20
Item 27	Item 36	Item 22	Item 26	Item 35
Item 13	Item 39	Item 7	Item 4	Item 18
Item 10	Item 28	Item 8	Item 2	
Item 34	Item 31			
Item 23				
Item 33				
Item 16				
Item 21				
Item 12				
Total = 12 items	Total = 7 items	Total = 6	Total = 6 items	Total = 5

Table 3 shows that there are 12 items that loaded under factor 1 (MR1), 7 items under factor 2 (MR2), 6 items under factor 3 (MR3), 6 items under factor 4 (MR4) and 5 items under factor 5 (MR5). This gives a total of 36 items for GHRM. It was observed from the result of the loadings and in Figure 3 that items 3, 5, 17 and 32 could not load under any factor. This is an indication

that the item is bad and should be reworked or deleted. Also, the dotted red lines are an indication that those items are negatively related and weak. Hence, not too good items.

Reliability index of Green HRM

Call: alpha(x = GHRM1\$rho, check.keys = T)

raw_alpha std.alpha G6(smc) average_r S/N median_r

0.86 0.86 0.95 0.13 6 0.13

95% confidence boundaries

lower alpha upper

Feldt 0.79 0.86 0.91

r.drop (Item-Total Correlation): Reflects how each item's removal affects the overall score.

Table 4

Reliability index of Green HRM

Item	r	r.cor	r.drop
item1	0.10	0.093	0.036
item2	0.41	0.411	0.359
item3	0.28	0.277	0.224
item4-	0.13	0.117	0.065
item5	0.37	0.355	0.315
...	...	...	...
item40	0.39	0.391	0.335

The ordinal alpha reliability of the GHRM instrument yielded an estimate of 0.86. This means that instrument is reliable. (Even though there were cases of double barrel items, they were taken care of at item development level. Responses to negatively worded were reversed).

TMV

Parallel analysis suggests that the number of factors = 3 and the number of components = NA

Figure 4

Parallel analysis of TMV Construct

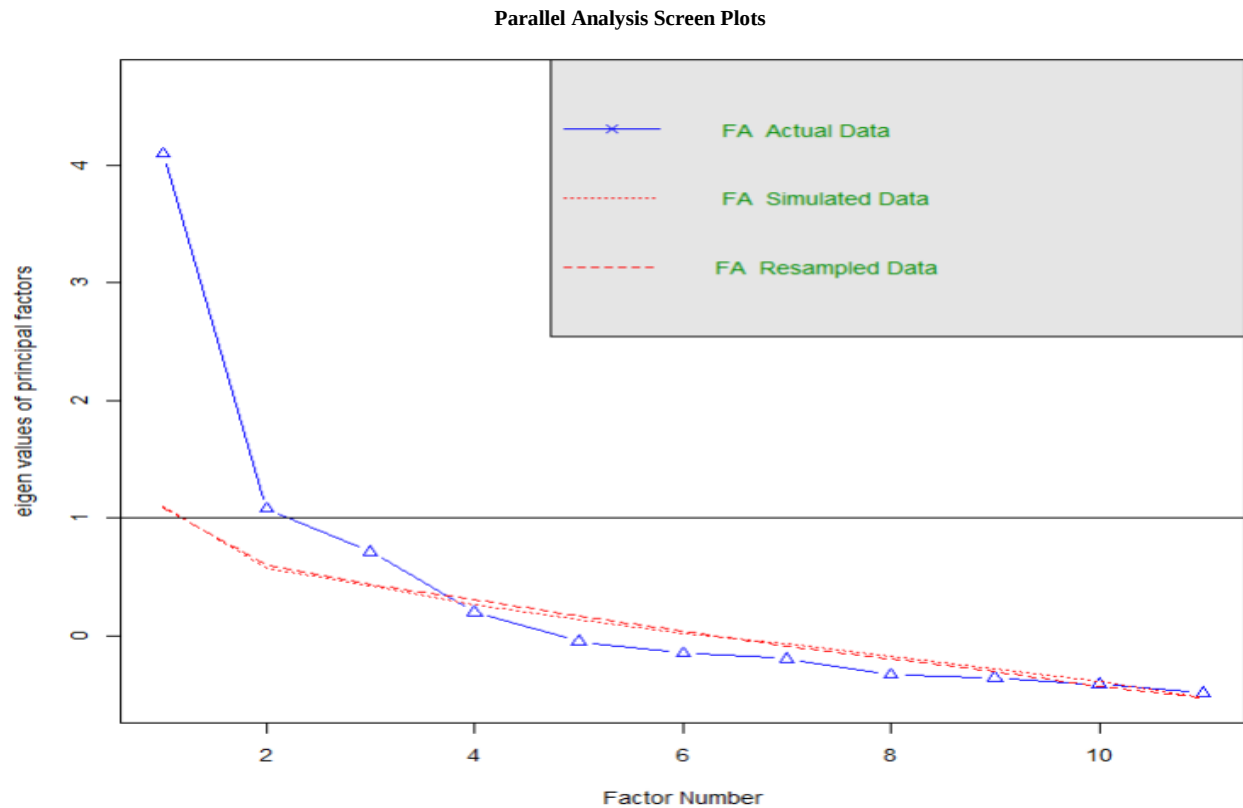


Figure 4 present the parallel analysis of TMV. The figure shows that the number of triangles above the red dotted line is three (3). This implies that the actual data indicates that there are three (3) factors in TMV construct based on eigen value of 0.3. These 3 factors are specified with their loadings as follows:

Table 5

Parallel Analysis Results for TMV Construct

Factor	Item Loadings	SS Loadings	Proportion of Variance	Cumulative Variance
MR2	Item1 (0.624), Item2 (0.322), Item3 (0.841), Item4 (0.659), Item5 (0.37 6), Item6 (0.388)	1.945	0.177	0.177
MR3	Item5 (0.422), Item6 (0.614), Item8 (0.458), Item9 (0.598), Item10 (0.8 34), Item11 (0.706)	1.890	0.172	0.349
MR1	Item7 (0.881), Item8 (0.585)	1.739	0.158	0.507

Figure 5

Path model for factor loadings of TMV Construct

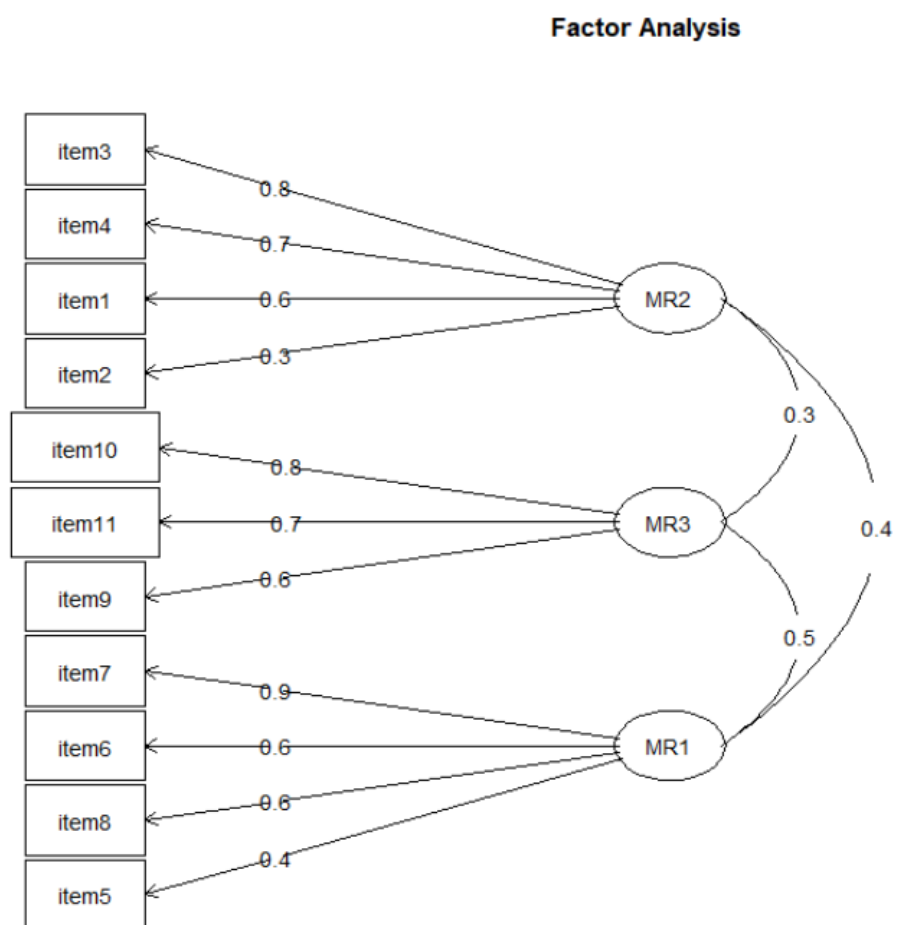


Figure 5 shows the number of items that loaded under each of the factors. These can be tabulated in Table 6.

Table 6

TMV Factors and loadings

MR1	MR2	MR3
Item 7	Item 3	Item 10
Item 6	Item 4	Item 11
Item 8	Item 1	Item 9
Item 5	Item 2	
Total = 4 items	Total = 4 items	Total = 3

As can be seen in Table 6, there are 4 items that loaded under factor 1 (MR1), 4 items under factor 2 (MR2) and 3 items under factor 3 (MR3). This gives a total of 11 items for TMV. It was observed from the result of loadings and in Figure 5 that all the items were good as they loaded under a factor.

Table 7

Reliability and Item Statistics for the Scale

Reliability index of TMV

Measure	raw_alpha	std.alpha	G6(smc)	average_r	S/N	median_r
Overall	0.88	0.88	0.95	0.40	7.3	0.36

95% Confidence Boundaries for Alpha

Measure	Lower	Alpha	Upper
Feldt	0.74	0.88	0.96

Call: alpha(x = TMVa1\$rho)

Reliability If Item Is Dropped

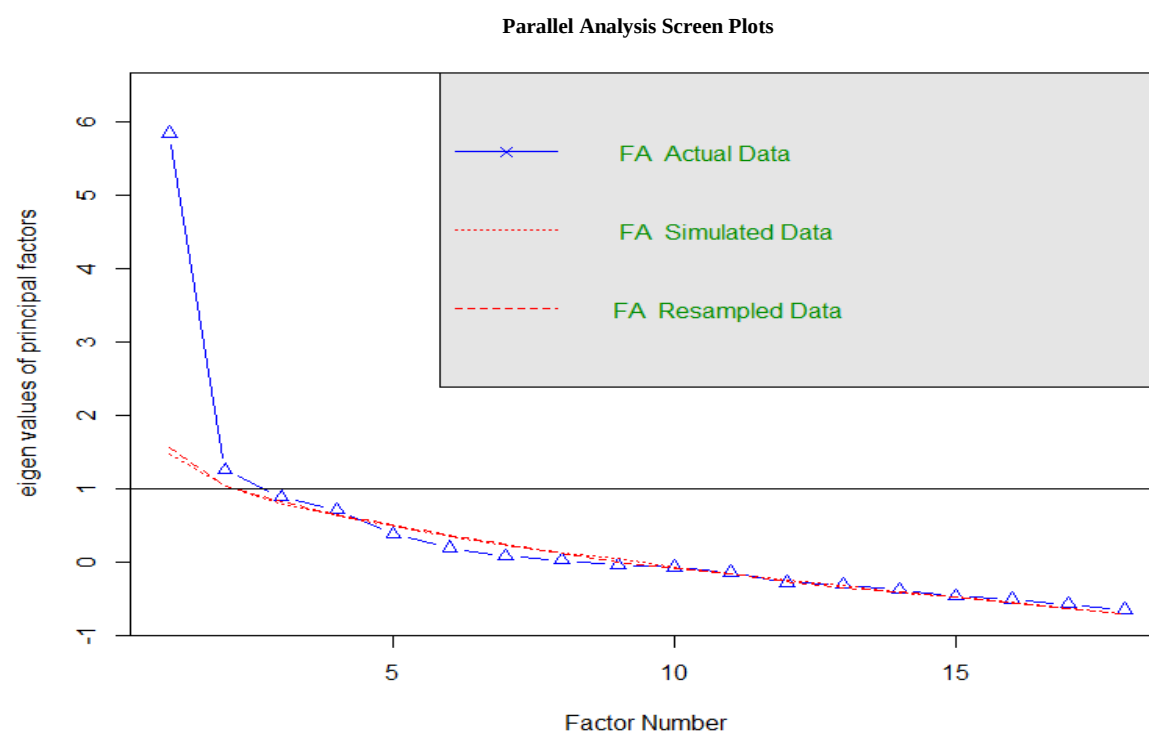
Table 8*Reliability analysis*

Item	raw_alpha	std.alpha	G6(smc)	average_r	S/N	var.r	median_r
Item1	0.88	0.88	0.94	0.41	7.0	0.032	0.38
Item2	0.88	0.88	0.95	0.42	7.3	0.033	0.39
Item3	0.86	0.86	0.93	0.39	6.4	0.032	0.36
Item4	0.86	0.86	0.93	0.39	6.4	0.033	0.34
Item5	0.88	0.88	0.94	0.41	7.0	0.033	0.38
Item6	0.85	0.85	0.92	0.37	5.8	0.031	0.32
Item7	0.87	0.87	0.93	0.40	6.7	0.030	0.38
Item8	0.86	0.86	0.93	0.39	6.3	0.031	0.36
Item9	0.87	0.87	0.94	0.41	6.8	0.033	0.35
Item10	0.86	0.86	0.93	0.39	6.4	0.033	0.34
Item11	0.87	0.87	0.94	0.40	6.8	0.035	0.38

The ordinal alpha reliability of the TMV instrument yielded an estimate of 0.88. This means that the instrument is reliable. (Even though there were cases of double-barrelled items, they were taken care of at the item development level.)

CSP

Parallel analysis suggests that the number of factors = 2 and the number of components = NA

Figure 6*Parallel Analysis Screen Plots***Table 9:***Factor Loadings for CSP Construct*

Item	Factor MR1	Factor MR2
item1	0.392	-0.452
item2	0.772	
item3	0.774	
item4	0.918	
item5	0.689	
item6		0.610

item7	0.393	
item8	0.452	
item9	0.574	
item10	0.500	0.302
item11	0.604	0.359
item12		0.595
item13	0.453	
item14		
item15		0.694
item16		-0.373
item17	0.565	
item18	0.681	

Table 10

Summary of Factor Loadings

Factor	SS Loadings	Proportion of Variance	Cumulative Variance
MR1	5.233	0.291	0.291
MR2	1.896	0.105	0.396

This analysis indicates that **Factor MR1** explains 29.1% of the variance, while **Factor MR2** accounts for an additional 10.5%, with a cumulative variance explained of 39.6%. This two-factor structure helps capture the underlying dimensions of the CSP construct effectively.

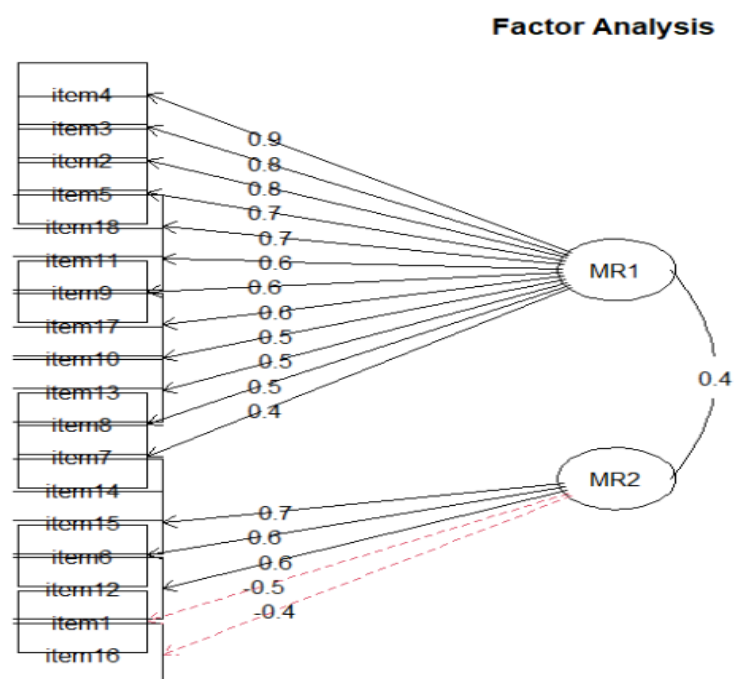
Figure 7*Path model for factor loadings of CSP Construct*

Figure 7 shows the number of items that loaded under each of the factors. These can be tabulated in Table 11.

Table 11*CSP Factors and loadings*

MR1	MR2
Item 4	Item 15
Item 3	Item 6
Item 2	Item 11
Item 5	Item 1

Item 18	Item 16
Item 11	
Item 9	
Item 17	
Item 10	
Item 13	
Item 8	
Item 7	
Total = 12 items	Total = 5 items

As can be seen in Table 11, there are 12 items that loaded under factor 1 (MR1) and 5 items under factor 2 (MR2). This gives a total of 17 items for CSP. It was observed from the result of loadings and in Figure 7 that item 14 could not load under any factor. This is an indication that the item is bad and should be reworked or deleted.

Table 12

Reliability Index of CSP (Corporate Sustainability Performance)

Measure	Value
Raw Alpha	0.90
Standardized Alpha	0.90
G6 (SMC)	0.96
Average Inter-Item Correlation (rrr)	0.33

Signal-to-Noise Ratio (S/N)	8.8
Median Inter-Item Correlation (rrr)	0.34

Table 13*Reliability if an Item is Dropped*

Item	Raw Alpha	Std. Alpha	G6 (SMC)	Average rrr	S/N	Variance rrr	Median rrr
Item 1	0.90	0.90	0.98	0.36	9.4	0.058	0.36
Item 2	0.89	0.89	0.98	0.31	7.7	0.060	0.33
Item 3	0.89	0.89	0.96	0.31	7.7	0.062	0.32
Item 4	0.88	0.88	0.98	0.30	7.4	0.058	0.32
Item 5	0.89	0.89	0.97	0.32	7.8	0.059	0.32
Item 6	0.89	0.89	0.96	0.33	8.2	0.061	0.34
Item 7	0.90	0.90	0.97	0.34	8.7	0.064	0.35
Item 8	0.90	0.90	0.96	0.34	8.6	0.065	0.35
Item 9	0.89	0.89	0.98	0.33	8.2	0.063	0.34
Item 10	0.89	0.89	0.96	0.32	7.8	0.062	0.32
Item 11	0.88	0.88	0.96	0.31	7.7	0.059	0.33
Item 12	0.89	0.89	0.98	0.33	8.2	0.064	0.34
Item 13	0.89	0.89	0.99	0.32	8.1	0.068	0.34
Item 14	0.90	0.90	0.97	0.35	9.0	0.061	0.36
Item 15	0.90	0.90	0.97	0.35	9.2	0.059	0.35

Item 16	0.91	0.91	0.98	0.36	9.7	0.054	0.36
Item 17	0.89	0.89	0.97	0.33	8.5	0.066	0.35
Item 18	0.89	0.89	0.97	0.32	8.1	0.063	0.34

The ordinal alpha reliability of the CSP instrument yielded an estimate of 0.9. This means that is instrument is reliable. (Even though are where many cases of double barrel items, they were taken care of at item development level

Data Collection and Analysis

Considering the research questions, data analysis helps make the research data meaningful, interpretable, and understandable (Castleberry & Nolen, 2018). For Analysing data gathered for research, various research designs and research questions have their own unique set of techniques. As mentioned earlier, this study used concurrent explanatory research whereby data for the quantitative and qualitative sections was collected at the same time (Snowden & Martin, 2011; Bell et al., 2022). The quantitative data comprised of 600 respondents across each of the six schools whilst the three respondents (two lecturers and one human resource staff) were used in the qualitative section.

The quantitative section of the questionnaire sought information on the various practices used in Green HRM, Top Management Values and Corporate Sustainability Performance (CSP). Questionnaires were mostly self-administered by the participants through the sharing of hardcopies to nearby participants whilst online forms were used by those far away to help minimise cost. Under the Green HRM, the practices were grouped under various functions, that is, Green

Recruitment, Selection, Job Design and Analysis, Green Discipline, Green Training and Development, Performance Evaluation, Green Employee Relation and Green Innovation. The questions for this section were all closed-ended type. Respondents were required to indicate the extent to which they use the practices in the school ranging from 1=Never to 5=Always. This was done using the ordinal level of measurement and it will be analysed using the five-point likert scale. Also, the Corporate Social Performance practices were grouped into three thematic areas, that is, Finance, Social and Environment and participants were also required to indicate the extent to which they use the practices in the school ranging from 1=Never to 5=Always. The Top Management Values practices were provided under no thematic area; however, it was also analysed using the five-point Likert scale. Data ascertained from participants was entered in Statistical Package for Social Sciences (SPSS). In the software, the values for each practice was coded as "1=Never", "2=Rarely", "3=Sometimes", "4=Often" and "5=Always". Afterwards, the descriptive statistics was used in calculating the mean index for each practice, the thematic areas and the mean index for Green HRM, Top Management Values and the Corporate Sustainability Performance as a whole. This helped the researcher to know the Green HRM, Top Management Values and Corporate Sustainability Performance practices that the universities' use.

The quantitative data gathered to answer the research questions about Top Management Values (TMV), Corporate Sustainability Performance (CSP), and Green Human Resource Management (GHRM) in Ghanaian public universities were analysed using SPSS and SmartPLS (Partial Least Squares Structural Equation Modelling). To determine the most and least common GHRM practices and investigate their underlying causes, SPSS was used for preliminary data analysis, which included data cleaning, descriptive statistics, validity and reliability analysis. For more complex analysis, Structural Equation Modelling (SEM) was performed using SmartPLS.

Because PLS-SEM can handle complex models, evaluate latent constructs, and offer strong insights into the mediating interactions within the framework, it was a particularly appropriate application for our investigation. A thorough grasp of the relationships between GHRM practices, TMV, and CSP as well as the contextual elements influencing these dynamics in Ghanaian public universities was made possible by this analytical approach.

The qualitative section of the questionnaire also provided information on environmental policies used by the universities, human resource policies for preserving the environment and resource conservation. Also, additional information included the green initiatives used by the universities, the green activities carried out under each human resource function, the prospects and challenges of implementing green human resource management practices and the engagement of top management in green human resource practices. These were all open-ended questions and participants were given the right to give their own responses pertaining to questions provided. This was to allow the respondents to express their views and opinions. These questions were also self-administered or were on self-enumeration basis since the participants were highly learned people. Since the responses of the participants were not quantified as used in most qualitative studies, it was grouped based on similarity.

Therefore, content analysis was employed to examine the qualitative. According to Kyngas (2020), content analysis is used to spot trends, themes, and meanings in data and make deductions about communication or discourse. Thus, the data collected was organised based on the various questions asked after which the researcher went through to help develop themes or patterns using NVivo. The researcher developed a coding scheme or set of categories that captured the main themes in the data. This included assigning labels to specific parts of the data that represent key

ideas, concepts, or patterns. Afterwards, the researcher examined the relationships between codes or identify patterns across different data sources. Lastly, conclusions were drawn from the findings ascertained to make recommendations.

Ethical Considerations

Ethical considerations in research are pivotal in ensuring the dignity, rights, and welfare of all participants while maintaining the integrity of the study. These principles form the foundation of responsible research practices, guiding researchers in navigating complex moral and procedural dilemmas. Ethical research is underpinned by frameworks that protect participants from harm, ensure the accuracy of findings, and uphold public trust in scholarly activities (Flick, 2015). Recognizing the interplay between ethics and the validity of research outcomes, this study adhered to comprehensive ethical standards, particularly in addressing the sensitive nature of Green HRM practices in Ghanaian universities.

Informed Consent was an essential part of this study's ethical protocol, ensuring participants' autonomy and voluntary participation. Participants were provided with detailed information about the study's objectives, methods, potential risks, and anticipated benefits before their involvement. Written consent forms were distributed, explicitly outlining their right to withdraw at any point without fear of reprisal. This practice aligns with ethical guidelines from institutional review boards (IRBs) and the Belmont Report, which emphasises respect for persons as a fundamental principle (Punch, 2013; National Commission for the Protection of Human Subjects, 1979). Special attention was given to ensuring that participants fully understood the information provided, with opportunities for questions and clarifications to foster informed decision-making.

Confidentiality and anonymity were upheld to protect participants' identities and sensitive data. Measures such as anonymizing responses, using unique codes for data analysis, and securely

storing data were implemented to prevent breaches of privacy. As Creswell (2014) highlights, confidentiality is critical in maintaining trust between researchers and participants, particularly in organisational settings where disclosure of sensitive information could have reputational consequences. The ethical obligation to protect participants extended to ensuring that no identifiable information was included in reports, presentations, or publications, safeguarding participants from any direct or indirect harm.

This study underwent a thorough ethical review and approval process by a recognised ethics review board, ensuring that all research activities complied with established ethical standards. This review considered potential risks, the balance of benefits, and the appropriateness of the study design in mitigating harm. Ethical oversight also included managing conflicts of interest and ensuring transparency in reporting. As Silverman (2016) notes, ethical review processes not only protect participants but also reinforce the credibility of the research by holding researchers accountable for their actions.

By prioritising ethical considerations throughout the research process, this study demonstrated a commitment to protecting participants and maintaining research integrity. These measures not only ensured compliance with ethical principles but also enhanced the quality and trustworthiness of the findings. Adherence to ethical standards serves as a reminder that responsible research is not just about generating knowledge but about doing so in a manner that respects the rights and values of all those involved (Flick, 2015; Creswell, 2014; Punch, 2013).

Chapter Summary

This study adopted a mixed method research design, blending both qualitative and quantitative research approaches to provide a comprehensive understanding of the research questions and objectives. The use of mixed methods allows researchers to triangulate data from

different sources, enhancing the validity and reliability of the study findings. This research design enabled the exploration of complex phenomena related to Green Human Resource Management (Green HRM) and top management values within government-funded universities, offering a nuanced perspective that goes beyond mere numerical data.

Aligned with the mixed method approach was the research philosophy of pragmatism, which emphasised practicality and utility in research endeavours. Pragmatism acknowledges the value of combining various research methods and philosophical perspectives to gain a holistic understanding of phenomena. In the context of this study, pragmatism provided a flexible framework that allowed researchers to adapt their methodologies based on the research questions and objectives, ensuring a balanced and comprehensive investigation.

The sampling techniques employed in this study reflect a thoughtful and systematic approach to data collection. For the quantitative phase, a total sample size of six hundred respondents from six public universities was selected using stratified sampling methods and simple random sampling techniques. This approach ensured representation across different universities and enhanced the generalisability of the quantitative findings. On the other hand, the qualitative phase involved three respondents from each university, chosen through purposive sampling to capture diverse perspectives and insights. The use of semi-structured interviews and structured questionnaires further enriched the data collection process, allowing for in-depth exploration of Green HRM practices and top management values. Moreover, rigorous measures such as content validity ratio (CVR) and content validity index (CVI) were employed to ensure the reliability and validity of the research instruments, enhancing the overall quality of the study.

CHAPTER FOUR: RESULTS AND DISCUSSION

Introduction

The fourth chapter of this study presents a comprehensive analysis of the research findings and initiates a profound discussion around the data acquired and analysed. It delves into the outcomes of the research, highlighting key observations and trends that have emerged throughout the study. Additionally, the discussion subsection serves as a pivotal juncture where the research outcomes become tangible, and their relevance in addressing the research questions is examined. It unravels the nuances and patterns inherent in the data, comparing with previous studies and findings and the overall literature in Green HRM practices allowing for a richer interpretation of the findings of this study.

Respondents' Demographic Characteristics

Understanding respondents' demographic characteristics is crucial in research as it helps researchers analyse data more effectively, identify patterns or trends, and draw meaningful conclusions about the population being studied (Babbie, 2016). In the context of this study, examining respondents' demographic characteristics can provide valuable insights into how different groups or subgroups perceive and interact with the variables under investigation, such as age, gender, education level, occupation, and industry sector (Jabbour & de Sousa Jabbour, 2016; 2018; Renwick et al., 2013). By incorporating demographic data into the research analysis, researchers can provide more accurate and context-specific recommendations for improving Green HRM strategies and promoting sustainability in public universities and similar settings.

The study successfully collected and analysed data from 560 out of 600 valid questionnaires administered for the quantitative phase, representing a response rate of 93.3%. For the qualitative component, 12 out of 19 targeted respondents participated in in-depth interviews,

yielding a response rate of 63.2%. The results were presented in various sub sections as respondents' demographic characteristics, answers to research questions, test of hypotheses and discussion of findings. The result on the proportion of respondents sampled on gender, age, education qualification, and the respondent years of work experience basis were presented in this subsection.

Table 14

Distribution of Respondents by Gender

Demographic Background of Quantitative Study Participants

Gender	Frequency	Percentage
Male	210	37.5
Female	350	62.5

Table 14 above presents the result of the analysis of the respondent gender, the result shows that 37.5% of the respondents are males while 62.5% are females. It could be observed that the proportion of females in the sample is higher than that of males.

Table 15

Age Distribution of the Respondent

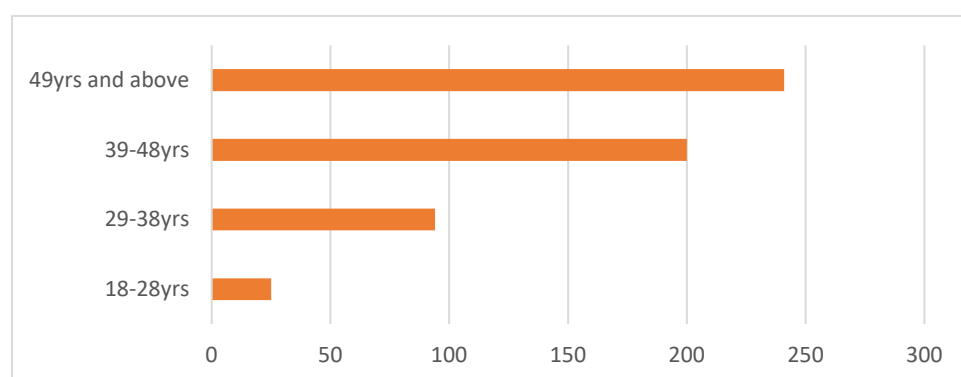
Age	Frequency	Percentage
18-28yrs	25	4.5
29-38yrs	94	16.8
39-48yrs	200	35.7

49yrs and above	241	43.0

The result in Table 15 shows the age distribution of participants of the study. It could be observed that 4.5% of the participants are between age 18-28yrs, 16.8% falls within the age bracket of 29-38yrs, 35.7% have their ages ranging from 39-48yrs while 43.0% are 49yrs and above. The result is an indication that the majority of the respondents are over 49yrs old as it is presented graphically in Figure 8.

Figure 8

Proportion of Respondents based on their Age Category



The result in Figure 8 shows that the proportion of respondents in the age category of 49yrs and above is higher than all other age categories.

Table 16

Respondents' Education Qualification

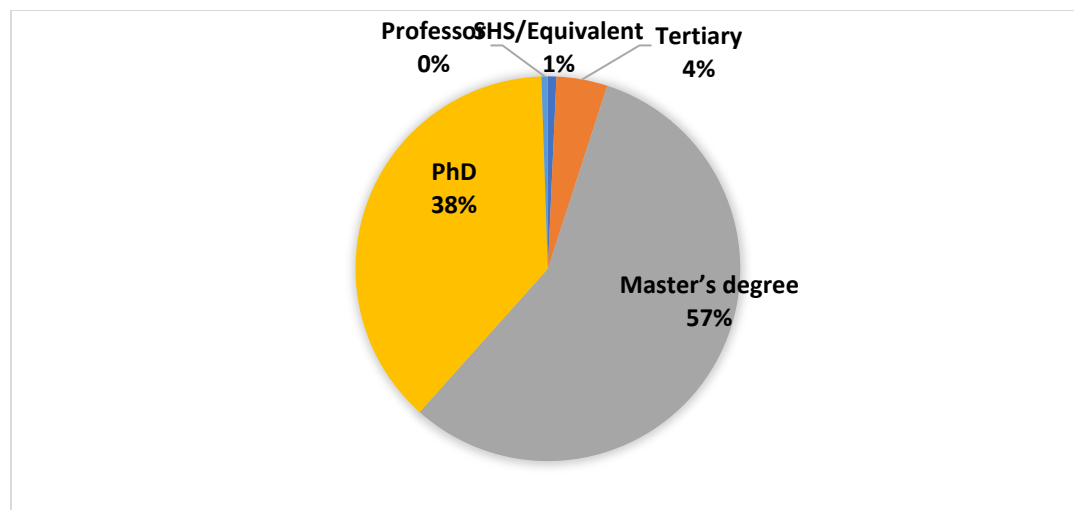
Education Qualification	Frequency	Percentage
SHS/Equivalent	4	0.7
Tertiary (Diploma, Degree & HND	24	4.3

Master's degree)	317	56.6
PhD	212	37.9
Professor	3	0.5

Table 16 presents the result of the education qualification of the respondent. It could be observed that 0.7% of the respondents have SHS or equivalent, 4.3% have tertiary education whether in the categories of Diploma, Degree or HND, 56.6% are master's degree holders while 37.9% and 0.5% are in the categories of PhD and Professor respectively. Inference could make from the result that more than half of the respondents are master degree holders. The pictorial representation of respondents with different education level is presented in Figure 9.

Figure 9

Pictorial representation of respondents with different education



It could be observed from the result in Figure 9 that the proportion of respondent that have master's degree constituted half of the sample.

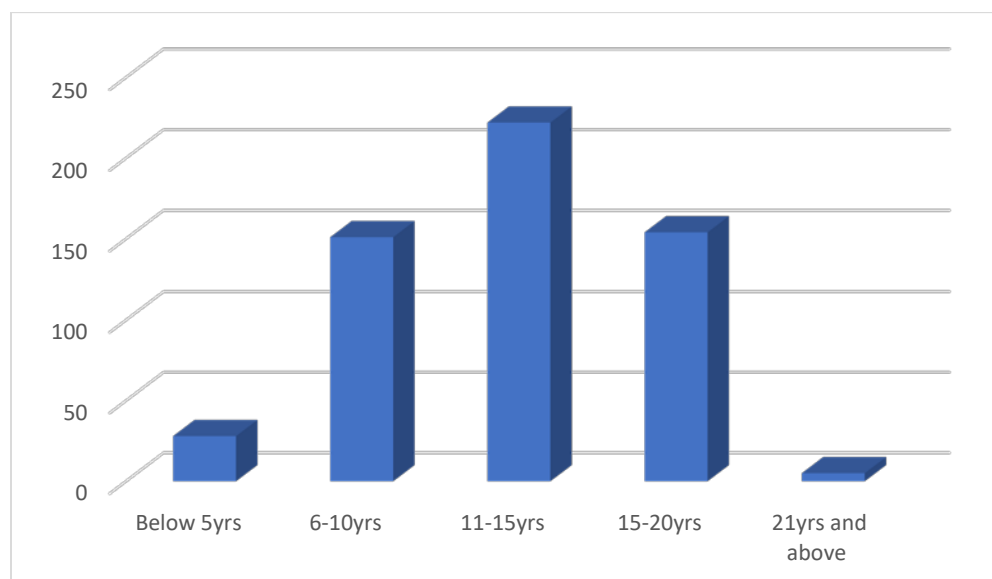
Table 17: *Respondents' Years of Work Experience*

Work experience	Frequency	Percentage
Below 5yrs	28	5.0
6-10yrs	151	27.0
11-15yrs	222	39.6
15-20yrs	154	27.5
21yrs and above	5	.9

Table 17 shows the respondents' work experience based on the year spent. It is be observed that 0.5% of the respondents have spent less than 5yrs on their jobs in public universities in Ghana while 27% have spent 6-10 years. Additionally, 39.6% have spent 11-15yrs with 27.5% and 0.9% have spent 15-20yrs and 21yrs and above respectively. It could be said that the majority of the respondents have spent 11-15 years. Figure 10 below shows a graphical presentation of the various years of work experience of the respondents of the study in public universities in Ghana.

Figure 10

Respondents' Years pof Work Experience



The result shows that the sample comprised almost the same proportion of respondents that have 6-10yrs and 15-20yrs of work experience, a high proportion of respondents with work experience of 11-15yrs and a few numbers of people who had work experience that is below 5yrs and 21yrs and above.

Demographic Background of Qualitative Study Participants

The presented table reveals a diverse composition of respondents participating in the study titled interview section of the data collection. These respondents hail from a wide spectrum of public universities in Ghana, encompassing institutions like AAMUSTED, KNUST, UCC, UDS, UENR, UEW, and UG. This institutional diversity is invaluable, as it allows for a more holistic exploration of the research subject, acknowledging that different universities may possess distinctive contexts and strategies concerning corporate sustainability.

Table 18 below shows that qualitative study comprises a diverse group of participants with varied demographic backgrounds. It includes both male and female participants, although the male contingent is slightly larger, offering a balanced gender perspective. The age range of participants falls into two categories: 41 to 50 years and 50 years or more, indicating that the study primarily involves mature professionals with substantial experience. Their educational backgrounds vary, with some holding master's degrees and others possessing PhDs, reflecting a broad spectrum of academic qualifications.

Table 18

Summary of Demographic Background of Qualitative Study Participants

University/ Institution	Gender	Age	Level of Education	Community Work	Position	Years of Experience

AAMUSTED	Male	50 years or more	Master's Degree	Welfare	HR Admin	6 years
UCC	Male	41 - 50 years	PhD	Exam committee	Senior Lecturer	10 years
UCC	Female	41 - 50 years	PhD	Faculty Academic Board Member	Senior Lecturer	10 years
KNUST	Male	50 years or more	PhD	Research Committee	Lecturer	6 years
UCC	Male	41 - 50 years	Master's Degree	Academic affairs committee	HR Admin	7 years
UCC	Male	41 - 50 years	Master's degree	Academic affairs committee	HR Admin	7 years
UEW	Male	50 years or more	PhD	Research Committee	Lecturer (HR)	5 years
UDS	Male	41 - 50 years	Master's Degree	Studies Affairs	Senior Lecturer	10 years
UENR	Male	41 - 50 years	PhD	Admissions Committee	Senior Lecturer	12 years
UEW	Female	41 - 50 years	PhD	Research Committee	Lecturer	8 years
UG	Female	41 - 50 years	PhD	Academic Affairs	Senior Lecturer	10 years
UG	Male	41 - 50 years	PhD	Faculty welfare	Senior Lecturer	8 years

NOTE: **AAMUSTED** – Akenteng-Appiah Menka University of Skills Training and Entrepreneurial Development; **KNUST** – Kwame Nkrumah University of Science and Technology; **UCC** – University of Cape Coast; **UDS** – University for Development Studies;

UENR – University of Energy and Natural Resources; **UEW** – University of Education, Winneba;
UG – University of Ghana

In addition to their diverse educational backgrounds, participants are actively engaged in various committees and community work within their respective universities. These committees include exam committees, faculty academic boards, research committees, academic affairs committees, studies affairs, and admissions committees. Moreover, the participants occupy different positions, ranging from HR administrators to senior lecturers and lecturers, demonstrating the multidimensional roles within their academic and administrative domains. Finally, their years of experience span from 5 to 12 years, suggesting a mix of both early-career professionals and those with extensive experience. This rich diversity in the demographic background of the participants contributes to a comprehensive exploration of the study's subject matter, offering various viewpoints and experiences for a holistic understanding.

Study Results

The study adopted embedded design for the analysis of the data collected. Embedded design is a mixed method approach where one set of data plays a supporting role to the primary focus on the other data type (Creswell, et al., 2003). It acknowledges that a single dataset might not suffice for complex research questions, especially when different types of questions require diverse data forms (McCrudden et al., 2019; Onwuegbuzie et al., 2003). In this study, embedded design is used to integrate qualitative insights into a predominantly quantitative framework (Teddle & Tashakkori, 2009; Green, 2007). This design proves valuable in the exploration of the multifaceted relationship between Green HRM practices and corporate sustainability performance, allowing for a comprehensive understanding by combining quantitative and qualitative data.

The results from the quantitative study offer a comprehensive insight into the various dimensions of Green Human Resource Management (GHRM) and its impact on Corporate Sustainability Performance (CSP). This section delves into the key findings derived from an extensive analysis of collected data, shedding light on critical aspects such as the level of corporate sustainability performance in Ghanaian public universities, and the influence of GHRM indicators on CSP. Through a quantitative lens, the study aims to provide a nuanced understanding of the relationships and dynamics between GHRM practices and universities sustainability in the higher education context.

The quantitative analysis primarily focused on examining the level of Corporate Sustainability Performance in Ghanaian public universities, dissecting indicators related to finance, social, and environmental aspects. Additionally, the study delved into the challenges faced by these institutions in the implementation of Green HRM policies, providing valuable insights into the barriers that need to be addressed for effective integration. Furthermore, the results bring to the forefront the intricate relationships between GHRM indicators such as recruitment and selection, job design, discipline, training and development, and performance evaluation, and their influence on the overall Corporate Sustainability Performance. This quantitative exploration is organized according to the various objectives and research questions of the study.

In order to control biases, a variety of data sources, integrating third-party evaluations, and following standardised sustainability standards, this study took a multifaceted strategy to reduce biases and improve the trustworthiness of the results. The evaluation criteria were broadly accepted and in line with industry best practices thanks to the incorporation of these frameworks. In order to collect genuine viewpoints from participants and lessen the possibility of response bias or social desirability effects, anonymous surveys were also used. Cross-institutional comparisons were

conducted across a variety of universities to further validate the findings and provide a standard for accuracy and consistency. By limiting the possibility of unduly optimistic or inflated results, these combined methods helped to ensure that the results were both objective and representative. The study's legitimacy is supported by its thorough methodology, which also adds to its applicability in larger academic and real-world situations.

The qualitative component of the study employed a thematic analysis approach to derive meaning from the interview transcripts gathered from 12 participants across selected public universities in Ghana. This approach followed Braun and Clarke's (2006) six-phase framework for thematic analysis, ensuring a structured and rigorous interpretation of the data. The steps included: (1) familiarisation with the data, (2) initial coding, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the final report.

Data coding was carried out manually and iteratively, using a deductive-inductive approach. Initially, broad categories were established based on the study's conceptual framework particularly around Green Human Resource Management (GHRM), Top Management Values, and Corporate Sustainability Performance (CSP). These categories were refined through inductive reading of the data to allow for context-specific themes to emerge organically (Nowell et al., 2017). NVivo software supported the organisation of codes and pattern identification, although final interpretation rested on the researcher's analytical judgement, peer debriefing, and member checking to ensure credibility and trustworthiness (Lincoln & Guba, 1985).

Three main themes and a set of associated sub-themes were ultimately identified. These themes reflected the participants' nuanced experiences and perspectives on the operationalisation of GHRM and leadership dynamics within their institutions. A summary of the final thematic structure is provided below:

Table 19

Summary of Main Themes and Sub-Themes from Qualitative Analysis

Main Theme	Sub-Themes
1. Top Management Leadership Commitment	- Vision articulation for sustainability - Executive accountability - Role modelling of green values
2. Strategic Direction and Governance	- Policy alignment with sustainability goals - Resource allocation for GHRM - Strategic HR integration
3. Executive Responsiveness and Engagement	- Feedback mechanisms - Adaptive leadership practices - Stakeholder responsiveness

Each theme was derived by clustering codes that shared conceptual similarities. For example, frequent references to vice chancellors' involvement in GHRM efforts and their ability to influence university-wide culture led to the formation of *Top Management Leadership Commitment* as a distinct theme. Similarly, statements that underscored the presence or absence of policies, governance structures, and strategic alignment were grouped under *Strategic Direction and Governance*. The third theme, *Executive Responsiveness and Engagement*, emerged from data describing how leadership responded to emerging sustainability needs and feedback from staff.

This thematic configuration offers a comprehensive lens through which the interactive effects of GHRM and leadership values on CSP can be interpreted. By mapping real institutional practices and leadership behaviours onto these themes, the study contributes to a growing body of evidence supporting the role of leadership and HRM in advancing organisational sustainability in the higher education context (Renwick et al., 2013; Jackson et al., 2011).

RQ1: What are the most common GHRM practices in Ghanaian public universities?

The first objective of the study assesses the most common GHRM Practices in Public Universities in Ghana. To achieve this objective, the answers to the research question were

analysed and presented in the form of frequency counts, percentages, and weighted mean. The mean responses were used to take a decision on whether the overall response falls into a particular response category in the response format of Never (1), Rarely (2), Occasionally (3), Often (4), and Always (5). The mean responses were also used as standard for comparison among different indicators of a variable.

Table 20 presents the result of the analysis of the common GHRM in Ghanaian public universities. It could be observed that the weighted mean average of all kinds of GHRM practices revolves around 2.4 which is approximately in category 3 (occasionally) of a 5-point scale used as response options. This implies that green HRM is occasionally practiced in public Ghanaian universities. Moreover, the mean response of each practice is 2.46, 2.47, 2.48, 2.47, and 2.44 for selection and recruitment (SR), Job design and analysis (JDA), Green discipline, Training and development, and Performance evaluation. The result on the weighted mean average shows that Green Discipline (GD) has the highest mean and it is the most popular or common Green HRM practice. The pictorial representation of the practices is shown in figure 11.

Table 20

Green HRM Practices in Ghanaian Public Universities

Recruitment and Selection (RS)	1	2	3	4	5	Mean
In my university:						
Interview is conducted remotely via	2	343	190	11	14	2.45
telephone, Skype, or video conferencing for	0.4%	61.3%	33.9%	2.0%	2.5%	
candidates in my school						

Environmental criteria are incorporated	3	350	178	13	16	2.44
into the recruitment advertisement and	0.5%	62.5%	31.8%	2.3%	2.9%	
invitation						
The university incorporates environmental	4	341	185	15	15	2.46
initiatives and policies into the university's	0.7%	60.9%	33.0%	2.7%	2.7%	
recruitment policy.						
My university does not force people to	6	338	175	18	23	2.49
become green employees as part of	1.1%	60.4%	31.3%	3.2%	4.1%	
recruitment processes.						
Certain environmental values (e.g. be a part	5	341	179	12	23	2.48
of the green team of the university, or we	0.9%	60.9%	32.0%	2.1%	4.1%	
are a socially and environmentally						
responsible employer) are expressed in the						
job advertisements of the institution.						
Applicants are selected based on their	14	337	176	14	19	2.44
interest in the environment activities	2.5%	60.2%	31.4%	2.5%	2.5%	
During the interview, applicants are asked	4	345	173	18	20	2.47
questions about the environment-related	0.7%	61.6%	30.9%	3.2%	3.6%	
issues.						
Candidates who have been greening as	6	343	179	10	22	2.46
individual within the context of their own	1.1	61.3%	32.0%	1.8%	3.9%	
lives are selected for employment.						

Weighted Mean Average						2.46
Job Design and Analysis (JDA)	1	2	3	4	5	Mean
In my university:						
A variety of environmental protection-	5	337	182	13	22	2.48
related tasks, obligations, and	0.9%	60.2%	32.7%	2.3%	4.0%	
responsibilities in each work are include						
into job description						
The university includes environmental.,	2	339	183	14	22	2.49
social., personal., and technical needs into	0.4%	60.5%	32.7%	2.5%	3.9%	
job descriptions and job specifications.						
Job analysis information is essential when	2	341	181	15	21	2.49
determining compensation.	0.4%	60.9%	32.3%	2.7%	3.8%	
The university includes an environmental	3	344	181	14	18	2.46
component as a job requirement.	0.5%	61.4%	32.3%	2.5%	3.2%	
The university clearly specifies	2	350	181	9	18	2.45
environmental/eco-friendly qualities in job	0.4%	62.5%	32.3%	1.6%	3.2%	
descriptions.						
Job analysis information is useful in	2	342	182	13	21	2.48
identifying possible job hazards and	0.4%	61.1%	32.5%	2.3%	3.8%	
working conditions associated with jobs.						
Weighted Mean Average						2.47
Green Discipline (GD)	1	2	3	4	5	Mean

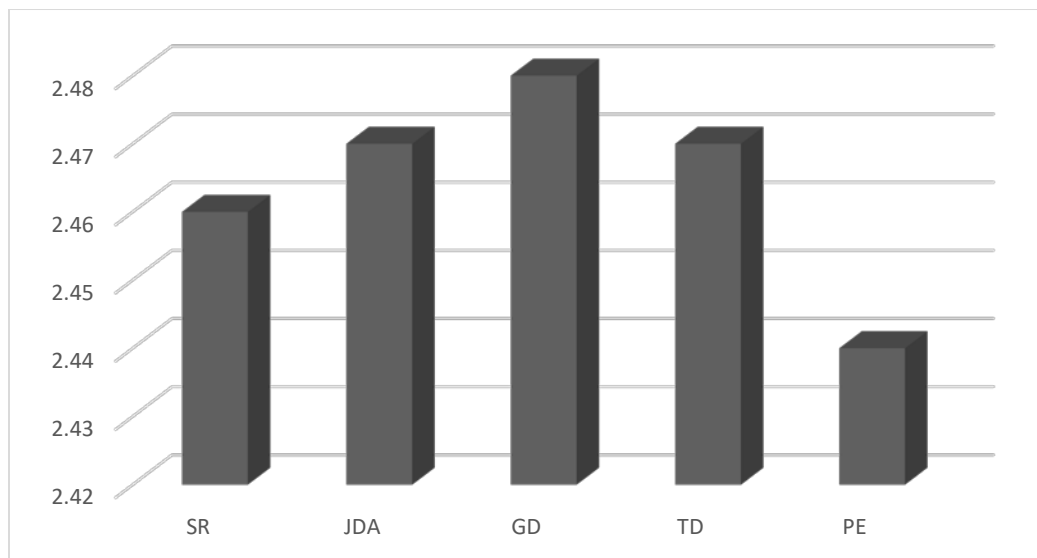
The university gives staff members	1	346	178	16	19	2.48
environmental training to help them obtain	0.2%	61.8%	31.8%	2.9%	3.4%	
the necessary skills and knowledge						
Staff members are trained on how to use	3	335	183	17	22	2.50
environmentally friendly best practices (e.g.	0.5%	59.8%	32.7%	3.0%	3.9%	
reducing long-distance business travel and						
recycling).						
The university creates "environmental	1	336	185	18	20	2.50
awareness" among the staff members	0.2%	60.0%	33.0%	3.2%	3.6%	
The university educates staff members	2	339	183	18	18	2.48
about the environment.	0.4%	60.5%	32.7%	3.2%	3.2%	
The university educates staff members on	2	343	180	16	19	2.48
how to conduct a workplace green analysis	0.4%	61.3%	32.1%	2.9%	3.4%	
The university applies employment	5	326	202	10	17	2.46
rotation to train future green staff	0.9%	58.2%	36.1%	1.8%	3.0%	
Training needs are conducted to analyse	4	346	182	13	15	2.44
staff members ' green training needs.	0.7%	61.8%	32.5%	2.3%	2.7%	
Training needs about eco-friendly activities	1	342	192	16	9	2.45
are done frequently.	0.2%	61.1%	34.3%	2.9%	1.6%	
The university conducts a serious and	2	343	191	15	9	2.44
systematic training programme for staff	0.4%	61.3%	34.1%	2.7%	1.6%	
members to provide needed knowledge,						

skills and attitudes for good environmental management.						
Senior members/staffs are made encouraged to be ambassadors of sustainable culture.	1	332	192	25	10	2.48
	0.2%	59.3%	34.3%	4.5%	1.8%	
Weighted Mean Average						2.47
Performance Evaluation (PE)	1	2	3	4	5	Mean
In my university:						
There are established environmental audits and an environmental management information system (EMIS).	2	342	191	17	8	2.44
	0.4%	61.1%	34.1%	3.0%	1.4%	
The university integrates corporate environmental management goals and targets with the institution's method for evaluating staff member's performance.	2	341	195	15	7	2.44
	0.4%	60.9%	34.8%	2.7%	1.3%	
The university incorporates green criteria into performance reviews or grading a staff members' work performance.	4	338	195	17	6	2.43
	0.7%	60.4%	34.8%	3.0%	1.1%	
The university has established green objectives, targets, and duties.	3	336	190	20	11	2.46
	0.5%	60.0%	33.9%	3.6%	2.0%	
Weighted Mean Average						2.44
Overall Weighted Mean Average for popular GHRM						2.46

Decision rule: Mean value: above 2.5 = High, below 2.5=low & 2.5=moderate

Figure 11

Most common GHRM Practices among Public Ghanaian Universities



The result in Figure 12 revealed that the frequency of Job design and analysis is the same as the frequency of Training and Development. The practice of employee selection and recruitment is more frequent than performance evaluation but less frequent than Job design and analysis as well as Training and Development. However, Green Discipline is the most common practice among Green HRM duties.

Results from Qualitative Study of GHRM Practices in Ghanaian Public Universities

Embrace of Digital Communication and Paperless Policies: Respondents have consistently emphasised the adoption of paperless policies and digital communication as integral facets of green Human Resource Management (HRM) practices within Ghanaian public universities. The implementation of paperless policies and the utilisation of digital mediums are central tenets within these universities' HRM approaches. As one respondent articulated,

"Alright, we know about paperless policy that is running in my university. And I also know about online classes and virtual classes that are being put on board in my university."

Another also noted, ...

first university would have to post notifications on notice boards all around the school, which is papers. And nowadays, they don't do that, either send you SMS, or maybe they do a virtual., you know, call with you. So that you get enforced send you a message is straightforward.

Waste Management and Recycling Initiatives: Another recurrent theme pertains to the conscientious initiatives surrounding waste management and recycling. The discussions among respondents shed light on the institutions' commitment to responsible waste disposal and an earnest participation in recycling endeavours. This substantiates a prevailing green HRM agenda.

A respondent succinctly noted,

"I know of segregation of wastes where they are ... they are allocated that space, where we put a particular type of waste in a particular dustbin, and we put another one in a different manner."

Another participant asserted that

"eco-friendly cleaning supplies, which has helped us to minimize the environmental impact of our cleaning processes. Additionally, we have waste sorting and recycling initiatives we have put in place that are promoted to our employees. These practices contribute to creating a more sustainable and environmentally conscious workplace." *Also,*

Flexible Work Arrangements to Reduce Commuting: The theme of endorsing flexible work arrangements with a view to mitigating the environmental footprint associated with daily commuting emerges prominently. Respondents highlight the pivotal role of green HRM in fostering policies that support flexible working, thereby reducing the environmental consequences of daily travel to the workplace. As articulated by one respondent,

"We have implemented some green HRM practices. One of them is the policy requiring the eco-friendly cleaning supplies, which has helped us to minimize the environmental impact of our cleaning processes."

Another participant indicated that the advent of COVID-19 has impacted the shift towards Green HRM practices as the participant asserted that

“during the COVID-19 era we implemented a flexible working policy in place that aimed to reduce the need for commuting. By allowing employees to work from home or have flexible working hours, we can minimize the environmental impact caused by daily commuting. Additionally, some efforts are made to encourage the use of environmentally friendly transportation among employees. This, this includes promoting the use of public transportation, carpooling, or cycling to work.”

Emphasis on Environmental Training and Awareness: Acknowledgment of the significance of environmental training and fostering environmental awareness is palpable among select respondents. This emphasis extends to a range of topics including sustainable printing techniques and water conservation, aligning with the principles of green HRM. As one respondent aptly articulated,

"One of the practices we have adopted is the online recruitment and selection process. Instead of relying solely on traditional paper-based methods, we encourage applicants to submit their CVs and application materials electronically, reducing paper waste."

Transition to Online Recruitment and Selection: An evident paradigm shifts towards the adoption of online recruitment and selection processes, as opposed to traditional paper-based methods, encapsulates a salient theme. The transition to digital recruitment not only signifies the alignment with green HRM principles but also serves as a practical manifestation of this alignment.

As underscored by one respondent,

"Now, I will say that we are bringing in more of the online system, sometimes we let you send your CV to an email, sometimes we will do a zoom interview, if you are not close, but it's not regular as compared to the traditional one, we really do it."

Varied Degrees of Implementation: A nuanced theme arises in the form of varying degrees of implementation of green HRM practices. Some respondents acknowledge that these practices are relatively new and not yet fully engrained within their respective institutions. As disclosed by one respondent,

"At UDS, we have started implementing some green HRM practices, although it is still a relatively new concept for us."

Green Human Resource Management has acquired significant popularity in higher education, particularly in Ghana's public universities. Among the numerous GHRM practices, Green Discipline (GD) is the most commonly adopted, with a mean score of 2.48. This high score suggests that GD is not just extensively used but also regarded as an important part of day-to-day operations at these colleges. This helps explain why employees engage in GD even though there may be a lack of formal legislation requiring them to do so. This analysis fits the Institutional Theory framework to help appreciate the consequences of this finding.

When we declare that GD has the highest mean score, we are demonstrating several key things. A mean score of 2.48 indicates that the notion of GD is deeply embedded in the university culture. Employees adopt GD not only as a collection of mandated processes, but as an integral part of their daily operations. The high mean score indicates that employees see green activities as vital to their jobs. This suggests that sustainability is becoming ingrained as a key value among employees. They believe that participating in GD is a responsibility that is consistent with their professional identity. Given this situation, GD appears to meet normative expectations within the institution. Employees may feel social pressure or moral obligation to participate in green activities, which strengthens their commitment to sustainable methods.

To understand the dynamics of GD implementation, we can use Institutional Theory, which holds that universities actions are changed by multiple pressures from top management. Normative isomorphism is the theory that society norms and values influence individual behaviour. Because GD is the most commonly accepted GHRM practice, it means that employees have reached a consensus that participating in green activities is anticipated. In essence, seeing their coworkers engage in sustainable behaviours instill a sense of responsibility to do the same. For example, if faculty members see colleagues participating in recycling programs or energy saving activities,

they are more likely to feel obliged to participate too, promoting GD as a normative expectation in the workplace.

The cognitive part focuses on shared beliefs and understandings. Employees may see GD as an aspect of their universities' identity. This understanding generates emotional commitments to sustainability because people believe their actions contribute to a greater good. Employees, for example, may build green curriculum or participate in sustainability-focused research as core components of their university identity, rather than as jobs. Although the studies show that there are no explicit constraints on GD, there may still be implicit rules and frameworks guiding behaviour. National policies encouraging sustainability in higher education may reinforce this normative behaviour by establishing an atmosphere in which GD is viewed as a reasonable and necessary action. If the government pushes colleges to embrace sustainability practices, employees may be more likely to follow suit, seeing their activities as connected with larger society interests.

Given these findings, the widespread adoption of GD has various consequences for colleges. Positive perceptions of GD help to strengthen the institution's overall culture. A culture that encourages sustainability can boost staff morale and Collaboration by focusing everyone on a similar objective. Employees who are highly engaged in GD have a strong feeling of responsibility. When people believe their actions contribute to the university's mission, they are more likely to stay committed and inspired. The findings point to the need for more institutional mechanisms to support GD. While employees may already feel normative pressures to participate, having specific policies can provide extra clarity and legitimisation of green activities, ensuring that they are not merely a trend but a cornerstone of the institution.

Strong engagement in GD positions universities as sustainability leaders. This can attract students and staff who want to participate in new activities and research on environmental

challenges, thereby improving the institutions' reputations. The study discovered that Green Performance Evaluation (GPE) was the least practiced part of GHRM with a mean of 2.44. Several essential variables explain why Green Performance Evaluation is being implemented slowly, particularly in a developing country like Ghana.

One major problem is a lack of knowledge and experience in environmental management. The study found that low environmental management expertise, particularly among managers, considerably impedes the adoption of GHRM methods. Many institutions may struggle to build comprehensive and effective green performance measurements unless they have a solid understanding of green evaluation criteria as well as the necessary capabilities. This knowledge gap prohibits employees from effectively integrating green initiatives into performance evaluations because they lack the necessary training to accurately assess environmental impact or sustainability activities.

Another major impediment to Green Performance Evaluation is budgetary constraints. Implementing green efforts, such as environmental audits or Environmental Management Information Systems (EMIS), frequently necessitates substantial financial commitment. Both stated that high costs. For public colleges, which frequently face budget constraints, justifying the cost of GHRM-related infrastructure or staff training can be especially difficult. This financial strain makes it difficult for institutions to prioritise GHRM projects over other, more pressing budgetary requirements, resulting in limited or inconsistent implementation.

Furthermore, cultural and universities resistance to change has been well documented as a barrier to GHRM adoption. Employees frequently resist new assessment criteria based on green principles, especially if these criteria are not properly explained or connected with personal or universities goals. This hesitancy may originate from a lack of understanding about the

significance of green numbers or a general fear about new performance measurement. When employees do not understand or value the incorporation of environmental variables into performance assessments, the effectiveness of such evaluations suffers, and motivation to execute them wanes. The lack of a unified institutional framework to support and align green objectives with performance indicators adds to Green Performance Evaluation's poor uptake. Without a top-down plan that integrates sustainability with HR practices, efforts to incorporate green targets into performance assessments are frequently unsustainable. In public universities, where several departments and layers of management may be engaged, the absence of a coherent approach might make it even more difficult to sustain consistent GHRM policies.

Finally, poor government backing and regulatory pressure add to the difficulty of adopting Green Performance Evaluation in emerging environments. Inadequate environmental legislation and restricted governmental mandates sometimes hinder universities from pursuing green activities. Institutions in emerging economies, such as Ghana, which frequently lack substantial government support for sustainability issues, have little incentive to embrace and rigorously enforce GHRM principles. Without external regulatory pressure, universities may view sustainability goals as less important, resulting in less consistent or effective implementation of GHRM policies.

In conclusion, the limited use of Green Performance Evaluation in Ghana's public universities can be linked to a number of interconnected reasons, including knowledge gaps, financial constraints, cultural opposition, a lack of institutional frameworks, and weak regulatory backing. These limitations underscore the difficulties that institutions confront when implementing GHRM principles, particularly in situations when resources and policy support for sustainability projects are limited. Addressing these challenges would most likely necessitate a multimodal

approach that includes higher investment in environmental training, improved communication about green values, and stronger regulatory incentives to create a more favourable environment for sustainable human resource management practices.

RQ2: What are the prospects of implementing green HRM in Ghanaian public universities?

To understand the prospects of green HRM implementation among public universities in Ghana, the investigation as interviewees questions in this aspect. This is also geared towards achieving the second objective which seeks to evaluate the prospects on implementing Green HRM in public universities in Ghana. The responses given by individuals associated with these institutions indicated that green HRM practices or policies offer potential benefits in reduction in paper usage, encompassing cost savings, improved brand positioning, among others. As a respondent succinctly states,

"Well, I believe that based on what you told me about green HRM, I believe that implementing green HRM will help in our brand, it'll position ourselves well, it's going to save cost, I think it's going to be a very good thing of implementing the green HRM in my university."

The details of the responses are shown below.

Reduction of Waste and Cost Savings: Central to the discussion is the recurrent theme of reducing waste and cost savings as an outcome of Green HRM practices. The reduction of waste is linked to a meticulous approach involving waste segregation, and the ensuing cost savings are attributed to the shift towards paperless policies and the reliance on digital communication. A respondent succinctly captures this,

"Oh, yes, yes. So, some of the benefits, I think, we will start noticing will be the reduction of waste... with the paperless, it will help reduce the cost for printing and stuff since we have more SMS systems to support."

Employee Well-being and Job Satisfaction: Another recurrent theme revolved around the perceived enhancement of employee well-being and job satisfaction through the implementation

of Green HRM practices. The recognition that employees take pride in their university's commitment to sustainability and environmental responsibility is highlighted as a key driver of job satisfaction. As aptly stated,

"I would say that implementing Green HRM can bring, it can bring several benefits to our institution... Firstly, it can contribute to employee well-being and job satisfaction."

Strengthening Partnerships and Compliance: Lastly, the discourse brings forth the potential for Green HRM practices to strengthen partnerships with environmentally focused universities and enhance compliance with environmental regulations. This is viewed as an avenue for fostering Collaborations, sharing knowledge, and furthering the institution's environmental goals. As one respondent succinctly states,

"I believe that implementing Green HRM practices can bring about several potential benefits for our institution... Secondly, implementing Green HRM practices can strengthen our partnerships with environmentally focused universities and businesses."

In summary respondents underscore the notable advantages of implementing Green HRM, including a significant reduction in paper usage leading to a cleaner university environment. The potential benefits span cost savings, enhanced brand positioning, and improved environmental performance and reporting. Facilitating factors encompass funding and institutional commitment. The reduction of waste and the resulting cost savings are emphasised, as are the positive impacts on employee well-being and job satisfaction. These findings collectively highlight the multifaceted potential of Green HRM practices in Ghanaian public universities, with sustainability, cost-effectiveness, and employee satisfaction at the core of their appeal.,

RQ3: What are the challenges associated with green HRM practices in Ghanaian public universities?

The third objective of the study sought to investigate the challenges public universities in Ghana face in the implementation of green HRM policies. The interview with the respondents revealed exciting findings which are presented below.

Lack of Awareness, Monitoring and Evaluation: A prevalent theme in the text is the need for awareness and education regarding Green HRM practices among university employees. Respondents uniformly stress the importance of enhancing knowledge and comprehension in this relatively novel concept. One respondent assert,

"Well, you know like I said, change is difficult and if the people are not well educated about the green HRM, it's likely that we're going to face challenges."

The text underscores the necessity of regular, comprehensive awareness programs to acquaint university staff with the concept and benefits of Green HRM practices.

Also, another participant pointed out the lack of monitoring and evaluation systems to assess the successes or otherwise of Green HRM implementation. Saying that

"challenges faced by Ghanaian public universities in implementing green HRM practices is the inadequate monitoring and evaluation systems to assess the effectiveness and impact of these initiatives. It's important to have robust systems in place that... that can measure the results and so you can identify areas for improvement. there may also be resistance or limited awareness among staff and faculty about the importance and benefits of green HRM practices. So it means overcoming these challenges requires umm... continuous communication, education, and engagement with all stakeholders to foster a culture of sustainability"

Resistance to Change: Another salient theme is the inherent challenge of resistance to change, frequently associated with shifting from conventional paper-based processes to more sustainable, digital alternatives. Resistance was often linked to a lack of understanding and adaptation difficulties. As one respondent explains,

"If there is delay and, on these networks, let's say eh... there's a virtual class, and they don't have good machines or good network to process these online classes. There'll be an obstacle on the side of the students and an obstacle on the side of lecturers, too."

The inclination to adhere to established, paper-centric practices hamper the successful implementation of Green HRM.

Financial Constraints: The financial constraints theme highlights the consistent challenge of insufficient resources, particularly in financial terms. The implementation of Green HRM practices necessitates funding for training, technology, and sustainable initiatives. Respondents collectively express that financial obstacles hinder the adoption and effectiveness of these practices. One respondent articulates,

"Yeah, these changes are great and good for the environment. But it requires money, which is a financial problem. So, I think basically, there's a financial cost to all these implementations that have to come on board."

The lack of resources, especially financial ones, poses a substantial hindrance to the execution of Green HRM practices.

Alignment with External Stakeholders: The theme of alignment with external stakeholders emphasises the difficulties concerning government agencies or suppliers whose priorities may not align with sustainability efforts in universities. This misalignment complicates the integration of university policies with external practices. A respondent highlights the challenge by stating,

"One of the challenges faced by Ghanaian public universities in implementing green HRM practices is the resistance from external stakeholders, such as government agencies or suppliers, who may not necessarily prioritise or fully support sustainability efforts." Also, "when we bring everybody together when everybody I mean the stakeholders, the community, the school is in and everybody together and we train them on how to maintain these things that will help".

In conclusion, the challenges associated with implementing Green HRM practices in Ghanaian public universities are multifaceted. Lack of awareness and understanding, resistance to change, financial constraints, and alignment with external stakeholders are the key themes that

emerged from the text. These challenges underscore the complex nature of implementing GHRM practices in the context of higher education institutions. To address these challenges effectively, comprehensive awareness programs, educational initiatives, financial support, and Collaboration with external stakeholders are imperative.

RQ4: What is the level of CSP in Ghanaian public universities?

The answer provided to research question four was hinged on the weighted mean response calculated for items under each indicator of corporate sustainability performance (CSP). The two indicators with the response options of Never (1), Very Low (2), Low (3), High (4), and Very High (5) were subjected to the mean rating as shown in Table 21.

Table 21

Level of Corporate Sustainability Performance in Ghanaian Universities

CORPORATE SUSTAINABILITY PERFORMNACE (CSP)	1	2	3	4	5	Mean
FINANCE						
My university operates surplus budget	146 26.0%	265 47.2%	107 19.1%	27 4.8%	16 2.9%	2.11
University spending is in accordance with her budget	142 25.3%	256 45.6%	95 16.3%	41 7.3%	27 4.8%	2.20
An external body audit of the university's accounts	15 2.7%	31 5.5%	36 6.4%	49 8.7%	430 76.7%	4.51
My university is dedicated to sustainability to generates funding for institutions	14 2.5%	34 6.1%	25 4.5%	313 55.8%	175 31.2%	4.07
The entire university budget includes a sustainability fund.	26 4.6%	46 8.2%	26 4.6%	296 52.8%	167 29.8%	3.95
Research funding for sustainability is available at my university.	27 4.8%	38 6.8%	30 5.3%	298 53.1%	168 53.3%	3.96
Weighted Mean Average						3.46
SOCIAL AND ENVIRONMENT	1	2	3	4	5	Mean
My university frequently takes part in charitable activities.	25 4.5%	38 6.8%	26 4.6%	300 53.5%	171 30.5%	3.99

My university is concerned about actions that safeguard the surrounding local/host communities.	24 4.3%	37 6.6%	21 3.7%	306 54.5%	173 30.9%	4.01
My university frequently participates in community improvement/development	26 4.6%	34 6.1%	24 4.3%	304 54.2%	173 30.9%	4.00
With interested parties and pressure groups, my university shares values with cooperate bodies and university.	24 4.3%	36 6.4%	25 4.5%	302 53.8%	174 31.0%	4.01
My university is particularly committed to upholding its ethical obligations.	26 4.6%	27 4.8%	16 2.9%	308 54.9%	184 32.8%	4.06
My university is concerned about a healthy and educated workforce	26 4.6%	33 5.9%	22 3.9%	300 53.5%	180 32.1%	4.02
In my university, most spaces are occupied with green grass.	26 4.6%	33 5.9%	23 4.1%	249 44.4%	230 41.0%	4.11
My university employed energy-efficient appliances.	13 2.3%	34 6.1%	35 6.2%	304 54.2%	175 31.2%	4.06
My university has a policy on the use of renewable energy.	16 2.9%	50 8.9%	23 4.1%	303 54.0%	169 30.1%	3.99
There is a programme on recycling garbage from the university.	15 2.7%	40 7.1%	32 5.7%	298 53.1%	176 31.4%	4.03
Weighted Mean Average						4.045
Overall weighted mean for CSP						3.75

Decision rule: Mean value: above 2.5 = High, below 2.5=low & 2.5=moderate

From the table above, the weighted mean for each item was used to calculate the weighted mean.

The result revealed that the weighted mean for Finance is 3.46 which implies that the majority of the respondents' responses fell in category 4 which shows that Corporate Sustainability Performance in terms of finance is high. The weighted mean average for the corporate sustainability performance in terms of Social and Environment is 4.05 which is an indication that most respondents' responses fell in the category beyond 4. And implies that the corporate sustainability performance in terms of social and environmental is very high. Therefore, the result show that that the level of corporate sustainability performance in Ghanaian universities is high with the overall weighted mean average that is 3.75 on a scale of 5.0.

Qualitative Analysis of CSP in Ghanaian Public Universities

The fourth objective of the study sought to examine the level of corporate sustainability practices at public universities in Ghana. The interviews with the various respondents revealed the following themes which reflect key aspects of corporate sustainability performance as discussed by the respondents:

Engagement with Stakeholders: A prominent theme is the emphasis on **engagement with stakeholders** as a positive indicator of corporate sustainability performance. Respondents consistently highlight the efforts made by their universities to involve various stakeholders, both internal and external, in sustainability initiatives. For instance, one respondent affirms,

"if we talk about stakeholders, we are doing very good at that and inviting others, I mean, big stakeholders out there to come and help on these changes."

This demonstrates a proactive approach to involving multiple parties in achieving sustainability goals.

Economic and Social Impact: Another recurrent theme revolves around the economic and social impact generated by the universities. The text suggests that these institutions are aware of their influence on the local economy and society. One respondent underscore,

"in KNUST, when we're on vacation it affects the economy of the surrounding communities, so we have a lot of positive impacts."

This theme illustrates the awareness of the broader implications of university activities on the economic and social aspects of the region.

Good Governance and Transparency: The theme of good governance and transparency emerges as vital for evaluating corporate sustainability performance. Respondents often emphasize the importance of governance practices that ensure accountability and transparency. A respondent states,

"By considering these factors and monitoring our progress in achieving sustainability goals, we can assess the level of our university's corporate sustainability performance."

This theme highlights the significance of administrative practices that support corporate sustainability.

Training and Awareness: An essential theme relates to training and awareness as fundamental components for improving corporate sustainability performance. Respondents express the need for education and training, both within the university community and among stakeholders. One respondent suggests,

"the awareness training is very important. If people are in charge of what's going on... and I'll help and talk to my university about bringing onboard many stakeholders to help, make this go well."

This emphasizes the role of education and awareness programs in enhancing sustainability practices.

Continuous Improvement: The theme of continuous improvement is apparent throughout the text. Respondents acknowledge that their universities are works in progress when it comes to corporate sustainability performance. They stress the importance of setting goals, monitoring progress, and involving all stakeholders. A respondent aptly states,

"Our aim is to continuously improve our CSP. It requires collective effort and commitment from everyone in the university community to create a more sustainable future."

This theme underscores the dynamic nature of corporate sustainability and the commitment to ongoing enhancement.

Moreover, this study emphasized the social, cultural, and institutional factors that either facilitated or hindered the adoption of green practices in the higher education sector in Ghana. These factors included organizational culture, leadership values, the influence of national policies, and the broader socio-political environment (Shahriari et al., 2019; Roscoe et al., 2019).

Cultural factors, such as the value placed on environmental sustainability and the general attitudes towards environmental issues within the university community, significantly shaped the willingness and motivation of staff and administrators to adopt Green HRM practices (Likhitkar & Verma, 2017). In Ghanaian universities, where traditional practices and hierarchical organizational structures often dominated, the extent to which sustainability was viewed as an organizational priority depended on how aligned it was with existing values and norms (Tarique & Schuler, 2010). Institutional factors, such as the availability of resources, institutional capacity for change, and the level of awareness of environmental issues, also played a crucial role in shaping the extent to which Green HRM practices were adopted and implemented effectively (Blandón, 2019).

The qualitative aspect of the study included semi-structured interviews with key stakeholders such as university administrators, HR managers, and faculty members to gain insights into how these factors impacted the decision-making process related to the adoption of GHRM practices. In particular, the research examined how institutional policies, leadership support, and the overall organizational culture influenced the willingness of universities to implement Green HRM initiatives, such as Green Recruitment, Green Training, and Green Performance Evaluation (Zhang & Zhao, 2019). The inquiry also explored the perceived challenges in integrating sustainability into HRM practices and the role of top management in driving the green agenda within these institutions.

By integrating this qualitative dimension, the study aimed to contribute to the theoretical understanding of how GHRM practices could be effectively embedded in organizational contexts, especially in the unique cultural and institutional setting of Ghanaian public universities. The findings provided a richer, more nuanced understanding of the barriers and enablers of Green HRM

adoption, complementing the quantitative analysis of the relationship between GHRM and corporate sustainability performance (Ward et al., 2021). The addition of this qualitative inquiry enhanced the study's ability to offer practical recommendations for improving the integration of sustainability into HRM practices, ultimately contributing to the development of more sustainable and environmentally responsible higher education institutions in Ghana.

In summary, the themes revealed in the text analysis showcase the multifaceted nature of corporate sustainability performance within Ghanaian public universities. The institutions are actively engaging stakeholders, recognizing their economic and social impacts, prioritizing good governance, focusing on training and awareness, and pursuing continuous improvement. These themes collectively reflect the comprehensive approach taken by these universities to enhance their corporate sustainability performance.

Recent study has shed light on the importance of Green Human Resource Management (GHRM) and top management values in improving business sustainability performance. The study's findings reveal a high degree of business sustainability performance, with an exceptional average score of 3.75. This indicates that universities are successfully implementing sustainable practices that address the three pillars of sustainability: environmental, social, and economic elements.

Corporate sustainability performance (CSP) refers to an university's capacity to strike a balance between economic viability, social responsibility, and environmental stewardship. The study's findings show that GHRM practices and the impact of leadership principles are critical components in achieving high sustainability performance. The interaction of these aspects represents the need for them to coexist and complement one another in order to develop a culture of sustainability within universities across all three pillars.

The average score of 3.75 indicates that participating university outperforms in sustainability criteria, demonstrating their dedication to the three pillars. This excellent outcome might be viewed in a variety of ways. For starters, it demonstrates successful integration of sustainability practices into the core corporate strategy, which aligns financial objectives with social and environmental aims. Universities with strong corporate sustainability performance frequently prioritise sustainability as a core component of their overall mission, incorporating these ideals into operational procedures and decision-making processes.

Furthermore, good success in sustainability can be ascribed to proactive staff participation in green activities. When universities principles align with individual employee values, employees feel a feeling of belonging, which motivates them to actively contribute to sustainability goals. This alignment improves universities performance across all three pillars by allowing people to work together toward common goals.

Hypotheses Testing

The following hypotheses were tested in this section pursuant to the relevant research questions and objectives.

H1: GHRM (Recruitment and Selection, Job design and analysis, Discipline, Training and development, and Performance evaluation) has no positive influence on CSP.

The data collected were subjected to multiple regression analysis. Multiple regression analysis was ran using each indicator of GHRM as predictors variables against each indicator of CSP as criterion or dependent variables. The result of the analysis for each dependent variable was presented in Table 22 and 23 respectively.

Table 22:
Influence of GHRM on CSP

Dependent	Predictors	β	t	P	R	R^2	F	P
Finance	SR	-.392	-2.872	<.05				
	JDA	.719	3.504	<.05				
	GD	-.001	-.004	>.05	.192	.037	4.18	<.05
	TD	-.547	-2.212	<.05				
	PE	.271	2.635	<.05				

Table 22 shows the result of regression analysis for the joint and relative influence of predictor variables (Selection and Recruitment (SR), Job Design and Analysis (JDA), Green Discipline (GD), Training and Development (TD), and Performance valuation (PE)) on the dependent variable (finance). The result revealed an R-value of 0.192 which implies that multiple correlations between dependent and predictor variables is low. The R^2 of 0.037 is an indication that independent variables accounted for 3.7% of the total variance observed in finance, leaving the remaining 96.3% to the error or other variables that were not in the model. The result further revealed the ANOVA value ($F_{(4, 555)} = 4.18$) showing that independent variables are valid predictors of CSP in terms of finance. Hence, the null hypothesis was rejected.

Also, Table 23 revealed the relative of SR, JDA, GD, TD, and PE on finance, The result shows that SR ($\beta = -0.392$, $t = -2.872$, $p < 0.05$), JDA ($\beta = -0.0719$, $t = 3.504$, $p < 0.05$), TD ($\beta = -0.547$, $t = -2.212$, $p < 0.05$), PE ($\beta = 0.271$, $t = 2.635$, $p < 0.05$) made the significant influence of university finance while GD contribution is not significance ($\beta = -0.001$, $t = -0.004$, $p > 0.05$) all made significant. Therefore, the null hypothesis was rejected for Green Discipline while research failed to reject the null hypothesis for other indicators.

Table 23:
Contribution of GHRM on CSP (Social and Environment)

Dependent	Predictors	β	t	P	R	R ²	F	P
CSSE	SR	-.310	-2.320	<.05				
	JDA	.647	3.222	<.05				
	GD	-.192	-1.030	>.05	.286	.082	9.72	<.05
	TD	-.399	-1.647	>.05				
	PE	.460	4.570	<.05				

Table 23 shows the result of multiple regression analysis performed on the influence of GHRM on Corporate sustainability performance (Social and Environmental). The result revealed that R-value of 0.286 and an R² value of 0.082 which implies that the predictor variables can only explain 8.2% of the total variance in the criterion variable. However, the joint influence of the predictor variables is significant F (5,555) =9.72. The result revealed further that the relative influence of SR (β =-0.310, t =-2.322, p <0.05), JDA (β =0.647, t =3.222, p <0.05) and PE (β =0.460, t =4.570, p <0.05) whereas the relative influence of GD and TD were not significant. Therefore, the null hypothesis was not rejected for GD and TD whereas it was rejected for other variables or indicators.

Table 24
Contribution of GHRM to CSP

Dependent	Predictors	β	t	P	R	R ²	F	P
CSP	SR	-.869	-2.573	<.05				
	JDA	1.895	3.403	<.05				
	GD	-.540	-.773	>.05	.258	.067	7.81	<.05
	TD	-1.03	-1.85	>.05				

PE	2.238	4.151	<.05

Table 24 presents the result of the analysis on the composite and relative influence of GHRM on CSP. It could be observed that the relative influence of SR ($\beta=-.869$, $t=-2.573$, $p<0.05$), JDA ($\beta=1.895$, $t=-2.573$, $p<0.05$), and PE ($\beta=2.238$, $t=4.151$, $p<0.05$) made significant influence on CSP while the relative influence of GD ($\beta=0.540$, $t=-0.773$, $p>0.05$) and TD ($\beta=-1.03$, $t=-1.85$, $p>0.05$) was not significant. However, the composite influence of all the predictors was significant ($F_{(5,555)} = 7.81$, $p<0.05$). Therefore, the null hypothesis was rejected.

H2: Top management values (Vision and responsibility, drive and effectiveness, and pragmatism and coordination) have no positive influence on CSP.

Table 25:

Influence of Top Management Values on CSP (Finance)

Dependent	Predictors	β	t	P	R	R ²	F	P
Finance	VR	.084	.702	<.05	.229	.052	10.151	<.05
	DE	-.435	3.348	<.05				
	PC	.512	3.661	<.05				

Table 25 presents the result of the analysis on the influence of Top management Value on corporate sustainability performance (Finance). The result revealed an R-value of 0.229 and an R² value of 0.052. which shows that the predictor variables (VR, DE, and PC) accounted for 5.2% of the total variance observed in the university's corporate sustainability performance in terms of finance. The ANOVA value also revealed that the joint contribution of the predictor variables is significant $F_{(3,557)} = 10.151$. The result further revealed that the relative ss of VR ($\beta=0.84$, $t=0.72$, $p<0.05$), DE ($\beta=-0.435$, $t=-3.348$, $p<0.05$) and PC ($\beta=0.512$, $t=3.661$, $p<0.05$) are significant. Therefore,

there is no statistical reason why null hypothesis should not be rejected; hence, null hypothesis was rejected.

Table 26:

Contribution of Top Management Values on CSP (Social & Environment)

Dependent	Predictors	β	t	P	R	R ²	F	P
Social & Environment	VR	.059	.482	>.05				
	DE	-	-	>.05	.366	.134	28.017	<.05
	PC	.243	1.961					
	PC	.530	3.982	<.05				

The result in Table 26 shows the multiple regression analysis performed for the influence of Top Management Value on the Corporate Sustainability Performance in terms of social and environment. The result revealed beta weight, R and R² values. The R-value of 0.366 and R² of 0.134 is an indication that predictor variables accounted for 13.4% of the total variance in dependent variables (Social and environment). The result revealed that the composite influence of predictor variables is significant F (3,557) = 28.017. The result on the relative influence of the predictors shows that only PC made significant relative influence ($\beta=0.530$, $t=3.982$, $p<0.05$) whereas the relative influence of VR and DE are not significant. Hence, the null hypothesis was rejected for VR and DE.

Table 27:

Contribution of TMV to CSP

Dependent	Predictors	β	t	P	R	R ²	F	P
	VR	.506	.668	>.05				

CSF	DE	-1.59	-2.51	<.05	.329	.109	22.161	<.05
	PC	1.747	3.94	<.05				

Table 27 presents the result of the analysis of the influence of the Top Management Value on Corporate Sustainability Performance. The result revealed that DE ($\beta=-1.59$, $t=-2.51$, $p>0.05$) and PC ($\beta=1.747$, $t=3.94$, $p<0.05$) made a significant influence on CSP while the contribution of VR ($\beta=0.506$, $t=0.66$, $p>0.05$) was not significant. However, the composite contribution of all indicators of TMV was significant ($F_{(3,557)}=22.161$, $p<0.05$). Therefore, the null hypothesis was rejected, hence, it could be concluded that DE and PC are influential predictors of CSF.

H3: Top management values do have positive mediate relationships between GHRM and CSP

In order to test hypothesis 3, a Partial Least Square Structural Equation Model (PLS-SEM) was built, and direct and indirect influence of GHRM indicators on Corporate Sustainability Performance (CSP) mediated by Top management value was calculated to arrive at the result. The procedure followed are:

Model building and parameters estimation

Model Evaluation and

Result Interpretation

Model Building/Modelling

The outer and inner models for the mediation effects of top management values (Vision and Responsibility (VR), Pragmatism and Coordination (PC) and Drive and effectiveness (DE)) between GHRM and Corporate sustainability performance (CSP) built and its parameters was estimated as in Figure 12.

Figure 12:

Inner and Outer Model for Mediation Effects of Top Management Values

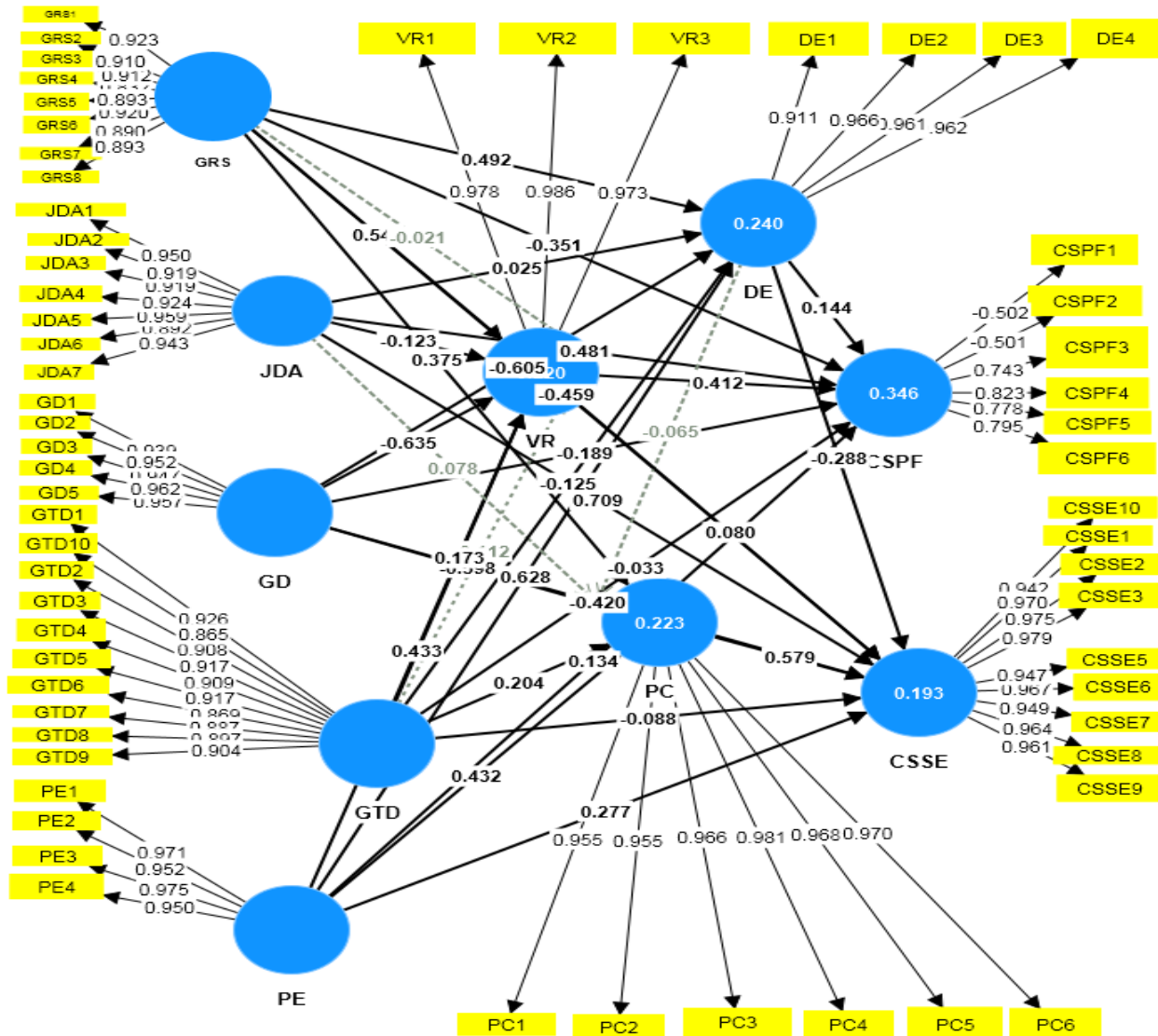


Figure 12 shows the parameter estimates for inner and outer models. The inner model revealed the influence of GHRM on each of endogenous mediators (DE, PC, and VR) and Dependent variables

(Corporate sustainability performance in terms of finance, CSPF and Corporate sustainability performance in terms of Social and Environment, CSSE).

The result shows that influence of GHRM variables taken together resulted in 0.24(24%), 0.22 (22%) and 0.223(22.3%) of total changes in DE, VR and PC which are mediator variable respectively as it was presented in Table 28.

Table 28:

Combined Contribution of GHRM on Mediators and Dependent Variables

Variable	R-square	R-square adjusted
CSPF	0.346	0.337
CSSE	0.193	0.177
DE	0.24	0.233
PC	0.223	0.217
VR	0.22	0.213

Table 28 also shows that the combine effects of GHRM and mediator variables could explain 0.346 (34.6%) and 0.193 (19.3%) of the total changes in CSPF and CSSE which are dependent/criterion variables. The result is an indication the mediation effect of Top Management Values attenuates the influence of GHRM on Social and Environment (CSSE) but increase it's contributing to finance (CSPF).

Model Validation/Fitness

Model validation or fitness is the determination of whether the pattern of response given by respondents fit into the pattern specified by the model. Model fitness for this study was established using some fit indicators as presented in Table 29.

Table 29*Fit Indices of the Model*

Fit Indicator	Saturated model	Estimated model
SRMR	0.084	0.183
d_ULS	13.776	65.677
d_G	12.672	n/a
Chi-square	25702.568	22856.87
NFI	0.684	0.719

The estimated fit indicators were compared with the standard values, below or above which the decisions were made. The SRMR =0.084, Exact fit criteria d_ULS = 13.776 and d_G=12.672, NFI=0.684, Chi²= 25702.568. For a model to be considered fit, Byrne& Byrne (2006) recommended the value of SRMR < 0.08 and NFI > 0.90. The value of NFI obtained for the model shows that the model accounted for 68.4% of the total variance observed in the criterion variables.

Result Interpretations

The result in the Table 30 shows the mediation effects of Top management value (TMV) variables (VR, DE and PC) between GHRM (GRS, PE, GD, TD, and JDA) and CSP (CSPF and CSSE). The effects of possible combination of GHRM and CSP were estimated on CSP as shown.

Table 30:*Mediation/Indirect Effects*

Paths	Specific indirect effects
GD -> DE -> CSPF	-0.087

GD -> DE -> CSSE	0.174
GD -> PC -> CSSE	-0.346
GD -> VR -> CSPF	-0.261
GD -> VR -> CSSE	-0.051
GRS -> DE -> CSPF	0.071
GRS -> DE -> CSSE	-0.142
GRS -> PC -> CSSE	0.217
GRS -> VR -> CSPF	0.222
GRS -> VR -> CSSE	0.043
GTD -> DE -> CSPF	-0.018
GTD -> DE -> CSSE	0.036
GTD -> PC -> CSSE	0.118
GTD -> VR -> CSPF	0.071
GTD -> VR -> CSSE	0.014
JDA -> DE -> CSPF	0.004
JDA -> DE -> CSSE	-0.007
JDA -> VR -> CSPF	-0.051
JDA -> VR -> CSSE	-0.01
PE -> DE -> CSPF	0.09
PE -> DE -> CSSE	-0.181
PE -> PC -> CSSE	0.25
PE -> VR -> CSPF	0.178
PE -> VR -> CSSE	0.035

The first result in Table 30 shows that mediation effect of Drive and effectiveness between Discipline (GD) and corporate sustainability performance in terms of finance (CSPF). The result revealed that there is negative mediation effect of drive and effectiveness between DG and CSPF, more so, a unit standard deviation increases in mediation effect of DE between GD and CSPF will leads to -0.087 decrease in CSPF. Whereas a unit standard deviation increases in mediation effect

of DE between GD and CSSE will lead to corresponding 0.174 increase in CSSE. It could be observed that the mediation effect of TMV between GD and CSP is negative except for the one between GD and CSSE.

Also, the mediation effect of TMV between GRS and CSP is positive except for the one between GRS and CSSE. Mediation effects of TMV between Training and Development (GTD) and CSP are positive except for the one between GTD and CSPF. More so, the mediation effect of TMV between Job design and analysis (JDA) and CSP is negative except for the one between JDA and CSSE. And the mediation effect of TMV between Performance Evaluation and CSP is positive except for the one between PE and CSSE.

From the result, it can be observed that the number of positive mediation effects in the model is more than negative. Therefore, it could be concluded that mediation effects of TMV between GHRM and CSP is positive.

Discussion of Results

This sub section of this study conducts a discussion that assesses the relationships between Green Human Resource Management (GHRM) practices, top management values, and Corporate Sustainability Performance (CSP) within the context of Ghanaian public universities in relations to other previous studies and the existing literature. The discussion of the study results focuses on the four pivotal themes that have emerged from the comprehensive examination of data and analysis. These themes are central to understanding the landscape of GHRM in this specific sector and hold broader relevance for universities and institutions committed to sustainability in Ghana and beyond.

Discussion on RQ1: Common Green HRM Practices Among Public Universities in Ghana

The analysis of the study on common green HRM practices among public universities in Ghana revealed varying degrees of implementation among these practices, with some institutions still in the early stages of adopting GHRM. Suggesting that there is potential for further integration of green HRM practices to enhance sustainability and environmental consciousness within Ghanaian public universities. The discussion of Green Human Resource Management (GHRM) practices in the context of previous studies provides valuable insights into the consistency and significance of these practices across different research (Hess, 2004). By comparing the findings of the study on common GHRM practices with those of previous research, the study identifies patterns and trends that contribute to a better understanding of the relationship between GHRM and environmental sustainability.

The adoption of human resource management (HRM) strategies has been underscored as vital in influencing employee behaviour (Van Beurden et al., 2021), while green HRM strategies are seen as key in encouraging individuals to back the university's environmental goals (Khan et al., 2023). The increasing global environmental challenges have compelled universities to adopt environmentally sustainable policies to mitigate the negative effects of resource wastage (Afsar & Umrani, 2020). This finding is in line with previous studies (Mishra, 2017; Hameed et al., 2020; Muisyo et al., 2020) which found that green human resource practices such as environmental training, green recruitment, performance appraisal, employee involvement and compensation helps universities to achieve sustainable growth and improves overall universities performance.

However, thorough assessments of Green HRM, as demonstrated by studies like (Amrutha et al., 2021) consistently show that the relationship between Green HRM and employees' environmentally friendly behaviour has received relatively scant attention from researchers at the

institutional level. Moreover, as emphasised in a recent meta-review on green HRM by Paulet et al., (2021), there is a necessity for further exploration into the mechanisms underpinning this connection, although recent studies have started to clarify some intermediary mechanisms (Muisyo et al., 2022).

Several factors, including human behaviour, substantial technological progress, and a lack of proactive corporate social responsibility (CSR) strategies for long-term effectiveness, contribute to these challenges. Moreover, geopolitical concerns, such as the global surge in anti-globalisation sentiment, the influx of migrants and refugees, and resulting xenophobic responses in various countries, present new hurdles for businesses (Stahl et al., 2020). Hence, it becomes crucial for companies to establish a clear link between their CSR efforts and both internal and external stakeholders (Ramkissoon et al., 2020).

Leadership at the senior level frequently takes the initiative in creating and nurturing a corporate culture centred on corporate social responsibility (CSR), which gradually shapes employees' attitudes and performance concerning CSR practices (Ramkissoon et al., 2020). Furthermore, when an individual identifies a strategic alignment between their personal identity and the university's values (Ramkissoon et al., 2020), they are more inclined to dedicate effort towards achieving the university's CSR goals (Ramkissoon & Sowamber 2020). This highlights the significance of adopting green human resource practices (HRM) to foster an environmentally conscious environment and improve employee eco-friendly conduct. Consequently, Islam et al., (2023) stressed the pivotal role of the environmental aspects of HRM within the framework of green human resource management (GHRM) in universities.

Researchers have stressed the importance of incorporating green HRM practices to improve sustainability performance, highlighting its significance (Pham et al., 2019). Both

academic and professional studies indicate that businesses can gain commercial advantages by integrating obligations and sustainability principles into their frameworks, strategies, and fundamental corporate practices (Stahl et al., 2020). Current literature argues that motivating employees to adopt a positive outlook and behaviour towards reducing companies' environmental impact and enhancing sustainable strategic policies is vital. For instance, behavioural studies have identified various fundamental mechanisms through which HRM is communicated, although these mechanisms may not directly influence employee behaviour (Stahl et al., 2020). Environmental psychologists have long acknowledged that contextual factors significantly influence pro-environmental behaviour (PEB).

PEBs are quantifiable environmental practices that aid companies in achieving environmental sustainability (Chaudhary, 2020), while the psychological climate reflects employees' perceptions of workplace attributes or universities factors, which significantly influence firm behaviour in various contexts. Nevertheless, despite growing academic interest in the correlation between green HRM and employees' workplace green behaviours like PEBs, CSR, and sustainability (Stahl et al., 2020), these connections have not been thoroughly investigated in the existing literature.

HRM procedures and practices have played a crucial role in addressing these challenges and extending CSR efforts beyond mere publicity (Stahl et al., 2020). Consequently, the primary challenge for businesses is to fully integrate CSR into their processes, business plans, and operational cycles to foster cultures that facilitate significant shifts in attitudes and practices. However, there has been a lack of attention given to defining the CSR phenomenon in the global context. Considering the diverse stakeholders and non-governmental entities affected by various

environmental and social contexts in international trade (Freitas et al., 2020), this oversight is notable.

Referring to the earlier contributions, the research maintains that adopting green CSR, which involves the university's efforts to cut waste, enhance input efficiency, and minimise negative impacts on future generations, represents the most feasible solution to these significant challenges. Echoing this viewpoint, this study supports the findings of (Saeed et al., 2019), who argue that to attain universities green objectives, companies should promote green HRM (GHRM) to encourage and facilitate environmentally friendly performance among employees. Providing managers with the appropriate skills through on-the-job training would enable them to embrace eco-friendly practices and fulfil their roles with greater efficiency and effectiveness (Shoaib et al., 2022).

Green HR practices aim to build a workforce that embraces and promotes eco-friendly behaviour within the university (Hameed et al., 2020). This acknowledges that the effectiveness of any central strategy relies on the presence and competence of its employees. Crucial for meeting the needs and satisfying the concerns of both internal and external stakeholders, these practices seek to enhance financial, social, and environmental welfare to create value for all involved parties (Lu et al., 2021). There is widespread acknowledgment that establishing a perceived environmentally conscious atmosphere through the implementation of corporate environmental policies reinforces the significance of green conduct for both companies and their employees (Ercantan & Eyupoglu, 2022). Consequently, employees derive advantages from both corporate environmental practices and the existence of an environmentally friendly setting, empowering them to behave in an environmentally responsible way. Thus, nurturing a positive pro-

environmental psychological atmosphere is vital for promoting green conduct among the workforce (Kumar et al., 2022).

According to Zimon et al., (2020), stakeholders' expectations and planned initiatives play a significant role in assisting executives in recognising, comprehending, and adjusting to both internal and external business environments. This process provides a solid basis for the university's strategic planning, ultimately supporting sustainable growth (Kitsios et al., 2020). Recent research suggests that stakeholder demands encourage universities to consider societal., environmental., and health and safety issues and challenges (El Khatib et al., 2020). Addressing stakeholders' needs comprehensively involves a specific focus on enhancing and refining key performance indicators, with particular attention given to evaluating each indicator. The primary objective of companies' CSR practices is to interact with stakeholders and fulfil their legitimate expectations, highlighting the essential role of GHRM practices and underlining the relevance of stakeholder theory in this context (Bastian & Poussing, 2023). Green HR experts primarily drive technological advancements by advocating for improvements in speed, efficiency, and cost management, leading to enhanced profitability and sustainability for the university (Hameed et al., 2022).

Higher Institutions could support their local communities' sustainable growth (Wakkee et al., 2019). Incorporating PRME and the SDGs into university operations demonstrates the necessity of putting equal emphasis on sustainable paradigm development as teaching and research. Higher education institutions change society through our students, the neighbourhoods around us, our employees, and our instructors. The institution's interest in permitting new universities forms and courses of action through a high-level management team is what drives the university's commitment to sustainability, which is a problem. There's a chance that it will be. Universities are also making various efforts to implement sustainability (Shawe et al., 2019).

They establish guidelines, ratify objectives such as the Global Compact and the PRME, or include sustainability in their lesson plans. It is possible to construct whole new facilities while modifying the university's structure and mission (Wigmore et al., 2020). In any instance, there are considerable obstacles to efficient execution, whether in exploration, education, etc. These barriers include packed educational plans, sustainability-induced complacency on the part of staff, a lack of staff information regarding sustainability, and a lack of institutional leadership and accountability. Economic college operations encounter significant challenges. For instance, despite the fact that such possibilities are frequently guaranteed by legislation and the lack of prevailing burden, there is little recognition given to academics that advance appropriate development and there is resistance to change (Abugre et al., 2018).

The study also identifies green recruitment and selection as a Green HRM practice. Previous research has also recognised the importance of hiring employees who are aligned with a university's environmental values (Sharma, 2016; Rubel et al., 2021). In many studies, the emphasis on recruiting individuals who are environmentally conscious and fit with the university's sustainability goals has been shown to positively impact environmental performance (Saeed et al., 2019; Mukherjee et al., 2020). Research suggests that selecting candidates who already have a pro-environmental mindset can lead to better adoption of green initiatives within the workplace (Benevene, 2020; Uddin, 2018).

The study highlights the role of green training and development in GHRM practices. Previous studies have consistently found that providing training and development programs that focus on environmental issues and sustainability can lead to increased awareness and pro-environmental behaviour among employees (Veersamy et al., 2023; Emel & Caliskan, 2019). Employees who receive green training are more likely to implement eco-friendly practices,

contributing to the university's sustainability efforts (Chaudhary, 2019; Shaoib et al., 2021). The importance of continuous learning and skill development in the context of environmental sustainability is a common theme across GHRM research.

The study recognises the significance of green leadership as a common GHRM practice. This aligns with previous research that emphasises the role of leaders in setting an example and fostering a culture of environmental responsibility. Studies (Ahmjad et al., 2021; Jehan et al., 2020) have shown that leaders who demonstrate a commitment to sustainability and communicate green values can influence employees to engage in pro-environmental behaviours. Leadership support and commitment to green initiatives are critical factors in promoting sustainability within an university (Ojo & Raman, 2019; Faisal & Naushad, 2020).

Although not explicitly mentioned in the study, employee engagement and participation are important aspects of GHRM practices. Previous research (Abadneh, 2021; Aboramdan, 2022; Rani et al., 2014) has highlighted that involving employees in environmental decision-making and encouraging their active participation in sustainability initiatives can lead to a stronger commitment to pro-environmental behaviour. Engaged and empowered employees are more likely to take ownership of sustainability goals and contribute to the university's overall environmental performance (Abadneh 2021; Adriana et al., 2020; Aktar & Islam, 2019; Deshwal., 2015).

Contrary to the optimistic portrayal of Green HRM practices in Ghanaian public universities presented in the study, previous studies in the field have often highlighted the complex challenges associated with the implementation of GHRMM initiatives (Tanveer et al., 2023). Financial constraints, as revealed in this study, have been a recurrent theme, aligning with existing literature that underscores the substantial resource demands linked to adopting and maintaining green practices (O'Donohue & Torugusa, 2016; Kodua et Al., 2022).

Furthermore, cross-cultural studies (Shahriari & Hassanpoor, 2019; Hooi et al., 2022; Goel et al., 2022) have shown that the success of Green HRM practices is contingent on aligning these initiatives with the specific cultural context of the university. Cultural resistance and adaptation difficulties, as suggested in this study, resonate with existing research, reinforcing the need for tailored strategies that acknowledge and address cultural intricacies (Ababneh, 2021; Mehta & Mehta, 2017).

In conclusion, the findings related to common GHRM practices in the study align with previous research, reinforcing the importance of these practices in promoting environmental sustainability within universities. Green recruitment and selection, green training and development, green leadership, and employee engagement have been consistently recognised as essential elements of GHRM strategies that contribute to positive environmental outcomes. Sharma (2015) asserts that these practices serve as a foundation for building a sustainable and environmentally responsible universities culture.

Discussion on RQ2: Prospects of Green HRM Implementation

The discussion of the prospects of Green Human Resource Management (GHRM) implementation in relation to previous studies sheds light on the potential benefits and challenges associated with the adoption of green HRM practices. Comparing the study's findings on the prospects of GHRM implementation with previous research provides insights into the evolving landscape of sustainability-oriented HR practices.

The study suggests that increasing environmental awareness among employees and management can enhance the prospects of GHRM implementation. This finding aligns with previous research that highlights the role of environmental awareness in driving sustainability initiatives. Studies (Olateju et al., 2020; Algool, 2019; Tahir et al., 2017) have shown that

universities with environmentally conscious employees and leaders are more likely to succeed in implementing GHRM practices effectively. Environmental awareness contributes to a shared commitment to sustainability goals (Pallvi et al., 2016; Ren et al., 2018; Ahmad, 2015).

Additionally, the study emphasises that GHRM practices can provide a competitive advantage to universities. This finding is consistent with Aykan (2017) that has identified the potential for competitive differentiation through sustainability efforts. Companies that incorporate green HRM practices are often viewed more favourably by customers and stakeholders. Malik et al., (2020) indicated that environmentally responsible universities can gain a competitive edge in attracting and retaining both customers and talent.

Moreover, the study recognises the importance of regulatory compliance and legal aspects as prospects of GHRM implementation. Previous studies have emphasised the need for universities to align with environmental regulations and standards. Dirir and Elisha (2021) asserts that compliance with environmental laws is crucial in avoiding legal issues and reputational damage. Research by Al-Romeedy, (2019); Yong et al., (2020) has indicated that proactively addressing legal requirements through GHRM practices can result in cost savings and improved relations with regulatory authorities.

The study identifies employee engagement as a significant factor influencing the prospects of GHRM implementation. This finding is consistent with prior research, which has shown that engaged employees are more likely to support and participate in sustainability initiatives (Abadneh, 2021; Ansari et al., 2021; Alzgool, 2019). Zhang et al., (2019); Shahzad et al., (2023) indicated that universities fostering a culture of employee engagement tend to experience increased pro-environmental behaviours and a stronger commitment to environmental goals (Yong et al., 2020; Shrestha et al., 2022; Amrutha & Geetha, 2020).

Implementing Green Human Resource Management (Green HRM) practices holds significant promise for universities across various sectors, offering multifaceted benefits that extend to environmental, social, and economic dimensions, ultimately contributing to universities sustainability and success. From an environmental perspective, Green HRM implementation offers substantial benefits. By adopting eco-friendly policies and practices, universities can effectively reduce their carbon footprint, conserve natural resources, and minimise waste generation. For instance, initiatives such as energy-efficient technologies, waste management strategies, and sustainable procurement practices contribute significantly to environmental conservation and align with global sustainability goals (Jiao et al., 2020).

On the social front, Green HRM practices have a positive impact on universities culture and employee well-being. These practices foster a culture of environmental awareness and responsibility among employees, leading to increased engagement, motivation, and job satisfaction (Jabbour et al., 2013). Employees tend to feel proud of working for an environmentally responsible university, which enhances their sense of purpose and contributes to a positive work environment (Backhaus et al., 2017). Economically, Green HRM offers prospects for cost savings and operational efficiencies. Practices such as energy conservation, waste reduction, and sustainable supply chain management lead to reduced operational costs over time (Delmas & Berrone, 2008). Investments in green technologies and innovations can drive long-term financial benefits through improved resource utilisation and enhanced productivity, creating a win-win situation for both the university and the environment (Chen et al., 2020).

Moreover, Green HRM practices contribute to regulatory compliance and risk management. Universities that adhere to environmental regulations and industry standards mitigate the risk of legal penalties, reputational damage, and operational disruptions (Aiken &

Latan, 2018). Proactive measures in addressing environmental concerns and promoting sustainability enhance universities resilience and ensure long-term viability in a rapidly changing business landscape (Khan et al., 2021).

Furthermore, Green HRM fosters a culture of innovation and continuous improvement within universities. By embracing sustainability initiatives, universities are more likely to invest in research and development of green technologies, products, and services (Wickli et al., 2013). This innovation not only drives universities growth but also contributes to long-term sustainability by addressing environmental challenges and creating value for stakeholders (Jiao et al., 2020).

In conclusion, the findings related to the prospects of GHRM implementation in the study align with previous research, emphasising the importance of environmental awareness, competitive advantage, regulatory compliance, employee engagement, and universities commitment. GHRM practices hold the potential to provide universities with a strategic advantage, foster environmentally responsible behaviour, and position them for long-term sustainability (Tahir et al., 2017; Olateju et al., 2020). The study's findings reaffirm that GHRM practices are not only a response to environmental challenges but also a means to seize opportunities and enhance universities performance.

Discussion on RQ3. Challenges of Green HRM Implementation

The discussion of the challenges associated with Green Human Resource Management (GHRM) implementation in relation to previous studies provides valuable insights into the obstacles universities face when trying to adopt environmentally GHRM practices. Comparing these findings with previous research helps to identify recurring themes and persistent challenges in the realm of GHRM.

The study identifies a common challenge of a lack of awareness and education among employees about GHRM practices. This finding resonates with previous research, which has consistently highlighted the importance of raising environmental awareness among employees (Kodua et al., 2022; Bombiak, 2020). Studies (Sapna, 2021; Ye et al., 2023) have shown that a lack of knowledge and understanding about sustainability issues can hinder the successful implementation of green HRM practices. Universities need to invest in training and educational programs to bridge this knowledge gap (Hossain et al., 2016; Mohd-Yousoof et al., 2015).

The study points out that resistance to change, often associated with transitioning from traditional HR practices to green HRM, is a significant challenge. This observation aligns with previous research, which has emphasised that resistance to change is a common barrier to the adoption of sustainability initiatives (Tanveer et al., 2023; Argawa; & Kapoor, 2022; Fayyazi; 2015). Employees and even management may be hesitant to embrace new environmentally friendly practices. Change management strategies, as suggested in prior studies, can be vital in overcoming this resistance (Desai & Suri, 2021; Fawehinmi et al., 2022; Ye et al., 2023).

The study highlights financial constraints as a substantial challenge in implementing GHRM practices. This challenge has been a recurrent theme in previous research as well. Sustainability initiatives, including GHRM practices, often require financial investments in technology, training, and infrastructure (Alreahi et al., 2022). Universities that operate on tight budgets may struggle to allocate resources for these purposes (Phaam et al., 2020). Previous studies have emphasised the need for universities to secure financial resources and make a business case for investing in green HRM (Jabbour et al., 2016; Amrutha & Geetha, 2020; Mousa & Othman; 2020; Ahakwa et al., 2021).

Additionally, as mentioned in the study, the issue of alignment with external stakeholders, such as suppliers and government agencies, is a challenge that has been emphasised in prior research. Universities may face difficulties when their sustainability goals and practices do not align with those of external partners (Afum et al., 2021). Collaborative efforts and negotiations are often required to address these misalignments and ensure consistent sustainability practices throughout the supply chain (Goel et al., 2022; Opoku-Mensah et al., 2021).

One of the primary challenges of Green HRM implementation is the resistance to change among employees and universities stakeholders. Employees may be accustomed to traditional HR practices and may show reluctance or skepticism towards adopting new environmentally focused policies and procedures. Overcoming this resistance requires effective communication, training, and change management strategies to gain buy-in and support for Green HRM initiatives.

Another significant challenge is the lack of awareness and expertise among HR professionals and universities leaders regarding Green HRM practices and their implications. Many HR professionals may not have the necessary knowledge or skills related to environmental management, sustainability strategies, or green technologies (Deng et al., 2018). Addressing this challenge requires investment in training and capacity building programs to equip HR personnel with the required competencies for implementing and managing Green HRM effectively.

Resource constraints pose a significant obstacle to Green HRM implementation, especially for small and medium-sized universities (SMEs) and universities operating in resource-constrained environments. Implementing green technologies, updating infrastructure, and conducting sustainability-related activities often require financial investments that may not be readily available (Aiken & Latan, 2018). Universities need to develop innovative financing models or seek external support to overcome these resource limitations.

Integration of Green HRM practices with existing HR systems and universities processes can be complex and challenging. Green initiatives need to be aligned with overall business strategies, HR policies, and performance management systems to ensure coherence and effectiveness (Backhaus et al., 2017). Lack of integration can lead to disjointed efforts, confusion among employees, and hindered progress in achieving sustainability goals.

Measuring the impact and outcomes of Green HRM practices poses another challenge for universities. Unlike traditional HR metrics that focus on quantifiable outcomes like productivity or cost savings, measuring the environmental and social impact of Green HRM initiatives can be more complex (Delmas & Berrone, 2008). Developing relevant metrics, data collection mechanisms, and evaluation frameworks are essential but challenging tasks in assessing the success and effectiveness of Green HRM practices.

Finally, regulatory complexities and varying environmental standards across different regions or countries can add to the challenges of Green HRM implementation. Universities operating in multiple jurisdictions need to navigate diverse regulatory landscapes, compliance requirements, and reporting frameworks related to environmental practices (Khan et al., 2021). Ensuring compliance while maintaining consistency in Green HRM practices across locations requires careful planning and coordination.

In summary, the findings related to the challenges of GHRM implementation in the study align with previous research that has consistently identified issues related to awareness and education, resistance to change, financial constraints, alignment with external stakeholders, and resistance to green disciplinary measures. These challenges are not unique to GHRM but reflect broader difficulties in promoting sustainability practices within universities. Addressing these obstacles requires a comprehensive and strategic approach that includes employee education,

change management, financial planning, stakeholder engagement, and thoughtful enforcement of green policies (Pallavi & Bhanu, 2016).

Discussion on RQ4: The Level of Corporate Sustainability Performance

In addressing Research Question 4 (RQ4) concerning the level of Corporate Sustainability Performance (CSP), this study contributes to the broader understanding of how universities, particularly Ghanaian public universities, are performing in terms of sustainability. Comparing the findings with previous studies allows for a comprehensive analysis of trends and variations in CSP across different contexts. The study's results indicate a significant and positive impact of Green Human Resource Management (GHRM) practices on CSP within Ghanaian public universities. This finding aligns with prior research that has demonstrated the positive relationship between GHRM and CSP in various universities settings (Malik et al., 2021; Zhao et al., 2021; Niazi et al., 2023).

A comparative analysis reveals nuances in CSP levels across different industries and sectors. While the study focuses on Ghanaian public universities, similar research conducted in other universities contexts may yield varying results. For instance, studies in the manufacturing sector may find different levels of CSP due to sector-specific challenges and opportunities (Malik et al., 2021). By comparing CSP levels across industries, researchers can identify sector-specific drivers and barriers to sustainability performance, informing tailored strategies for improvement.

Furthermore, comparing CSP levels over time provides insights into the effectiveness of sustainability initiatives and policies. Longitudinal studies tracking CSP performance can reveal trends and patterns, indicating whether universities are making progress towards sustainability goals or facing stagnation or regression. By examining CSP trends in conjunction with the

implementation of GHRM practices, researchers can evaluate the impact of specific interventions on sustainability performance (Malik et al., 2021; Zhao et al., 2021; Niazi et al., 2023).

Also, the study's findings related to the relationship between Green Human Resource Management (GHRM) and Corporate Sustainability Performance (CSP) offer valuable insights into the impact of environmentally GHRM practices on an university's overall sustainability performance. Comparing these findings with previous studies helps to contextualize the study's contribution to the existing body of knowledge. The study suggests that GHRM practices, including recruitment and selection, job design and analysis, discipline, training and development, and performance evaluation, can influence CSP. This finding aligns with the core premise of GHRM, which is that HR practices designed to promote environmental sustainability can positively affect a university's overall sustainability performance. Previous research has also established a positive relationship between GHRM practices and CSP. Studies (Malik et al., 2021; Zhao et al., 2021; Niazi et al., 2023) have shown that when universities implement green HRM initiatives, they are more likely to achieve better sustainability outcomes.

One notable aspect of the study is the exploration of the mediating role of Top Management Values (TMV) between GHRM and CSP. This finding builds upon previous research that has emphasised the significance of top management support for GHRM initiatives. Masud et al., (2023); Roscoe et al., (2019) reveal that when top management values and behaviour align with sustainability goals, it can facilitate the successful implementation of green HRM practices. The current study reinforces the idea that TMV can act as a mediating mechanism that enhances the impact of GHRM on CSP.

The study's results indicate that there are more positive mediation effects of TMV between GHRM and CSP than negative ones. This aligns with the broader body of research (Yusliza et al.,

2019; Haldorai et al., 2022; Amjad et al., 2021) which emphasises the positive impact of GHRM on CSP. When TMV reinforces the university's commitment to sustainability, it can amplify the influence of GHRM practices, resulting in better sustainability outcomes (Gilal et al., 2019; Ren et al., 2021). This is a critical finding as it highlights the catalytic role of leadership in enhancing the effectiveness of GHRM practices.

The study's findings offer practical implications for universities looking to enhance their sustainability performance through GHRM. recognising the positive mediation effects of TMV, universities can prioritise leadership development and values alignment as essential components of their GHRM strategies. Ensuring that top management values and behaviour are in harmony with environmental sustainability goals can optimise the impact of GHRM practices on CSP (Abiew et al., 2023; Lu et al., 2022; Al-Minhas et al., 2020; Abass et al., 2022).

Despite the increasing emphasis on the positive correlation between Green Human Resource Management (GHRM) practices and Corporate Sustainability Performance (CSP), other studies (Islam et al., 2023; Amjad et al., 2021; Malik et al., 2021) asserts the consideration potential challenges and limitations associated with this relationship. One critical aspect to scrutinize is the potential trade-offs and conflicts that may arise in the pursuit of GHRM practices and CSP. While GHRM is designed to promote environmentally friendly policies and behaviours among employees, there might be instances where these practices conflict with other universities objectives or employee interests (Jamal et al., 2021; Yusilza et al., 2019). For instance, stringent green policies might clash with employees' job satisfaction or hinder certain operational efficiencies, raising concerns about the overall impact on CSP (Ubeda-Garcia et al., 2021; Chaudhary, 2020).

Moreover, the contextual relevance of GHRM practices and their effectiveness in diverse universities settings should be critically examined (Jehan et al., 2020). What works well in one universities culture or industry may not necessarily yield the same positive outcomes elsewhere (Wen et al., 2022). The study's findings might not capture the contextual nuances that influence the success or challenges associated with GHRM practices in different environments. Additionally, the study's focus on Ghanaian public universities may limit the generalizability of findings to other sectors or geographic locations. The unique characteristics and dynamics of the education sector may not be directly transferrable to industries with different operational structures and goals (Gilal et al., 2019; Paille et al., 2020; Adubor et al., 2022).

In conclusion, while acknowledging the generally positive relationship between GHRM practices and CSP, it is crucial to approach this correlation with a discerning perspective. Exploring potential conflicts, considering contextual variations, and recognising the study's specific focus on Ghanaian public universities adds depth to the discussion, prompting a more comprehensive evaluation of the implications of GHRM practices on universities sustainability. They reinforce the notion that GHRM practices can positively influence CSP and emphasise the critical role of top management values in mediating this relationship. This study contributes to the growing body of evidence supporting the importance of aligning HR practices with sustainability goals and ensuring that top management plays a central role in driving sustainability performance.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

Introduction

In this chapter, the study draws conclusions from the findings of this study and present recommendations for both practice and future research. The research aimed to investigate the influence of Green Human Resource Management (GHRM) practices and Corporate Sustainability Performance (CSP) within the context of Ghanaian public universities. Through an exploration of these factors, the study has shed light on the complex dynamics of sustainability initiatives in the higher education sector, which have broader implications for diverse industries. This chapter encapsulates the key takeaways from the study and offers guidance for enhancing sustainability practices and policies.

Summary of Findings

The summary of findings encompasses a dual approach, synthesizing both the quantitative and qualitative dimensions of the study to concisely organize the findings on Green HRM and Corporate Sustainability Performance (CSP) in Ghanaian public universities. Through the quantitative lens, the study unveils a favourable perception among respondents regarding the high level of CSP in these institutions, with a particular emphasis on financial sustainability. The weighted mean values underscore the commitment to sustainability practices, affirming the universities' proactive engagement in fostering a sustainable environment. Concurrently, the qualitative analysis unravels rich thematic insights gleaned from interviews, shedding light on nuanced aspects of corporate sustainability practices. Key themes include stakeholder engagement, economic and social impacts, good governance, training and awareness, and a commitment to continuous improvement. This integrated summary is shown below according to the objectives of the study.

Green HRM Practices

The study examined Green Human Resources Management (GHRM) practices in Ghanaian public universities, combining qualitative and quantitative research methods. The qualitative findings unveiled key themes in GHRM practices. Firstly, the universities demonstrated an embrace of digital communication and paperless policies as integral components of their GHRM initiatives. This shift towards online communication and virtual classes was evident, reducing the need for paper-based notifications.

Waste management and recycling initiatives were prominent themes, with universities actively promoting responsible waste disposal and recycling efforts. Flexibility in work arrangements to reduce commuting, especially in response to the environmental footprint associated with daily travel, was a recurring practice. Environmental training and awareness programs were acknowledged, focusing on topics such as sustainable printing techniques and water conservation. Finally, the transition to online recruitment and selection processes over traditional paper-based methods was a visible shift within these institutions.

The quantitative findings revealed that Green Discipline (GD) was the most practiced GHRM initiative, followed by Training and Development (TD) and Job Design and Analysis (JDA). Environmental criteria and values were included in recruitment processes, highlighting a commitment to hiring individuals with green consciousness. A structured training program aimed at equipping staff with environmental knowledge and skills was a frequent practice. Universities also incorporated green criteria into performance evaluations, emphasising the alignment of environmental management goals with staff performance reviews. Overall, the weighted mean average suggested that GHRM practices in Ghanaian public universities fell into the "occasionally" category, indicating room for improvement in fully embracing green HRM.

The data also revealed varying degrees of implementation among these practices, with some institutions still in the early stages of adopting GHRM. This suggests that there is potential for further integration of green HRM practices to enhance sustainability and environmental consciousness within Ghanaian public universities.

Challenges Associated with Green HRM Practices

The investigation into the challenges associated with implementing Green HRM practices in Ghanaian public universities, a focus of the third research objective, unearthed several key findings through interviews with respondents. A prominent challenge identified was the "Lack of Awareness, Monitoring, and Evaluation." Respondents consistently emphasised the need for greater awareness and education among university employees regarding Green HRM practices. They stressed that a lack of awareness and understanding about the concept and benefits of Green HRM practices could hinder successful implementation. Furthermore, the absence of robust monitoring and evaluation systems to assess the effectiveness and impact of these initiatives was also highlighted as a challenge, indicating the need for continuous communication and education to foster a culture of sustainability.

"Resistance to Change" emerged as another significant challenge. The transition from traditional paper-based processes to more sustainable digital alternatives faced resistance, often due to difficulties in adaptation and a preference for established practices. This resistance among both students and faculty members was seen as an obstacle to the successful implementation of Green HRM. Additionally, "Financial Constraints" were identified as a consistent challenge. The implementation of Green HRM practices requires funding for training, technology, and sustainable initiatives. Respondents noted that the financial cost associated with these implementations could be a significant hindrance to their adoption and effectiveness. Lastly, "Alignment with External

Stakeholders" was recognised as a challenge, as external parties such as government agencies or suppliers may not necessarily prioritise or fully support sustainability efforts in universities. This misalignment complicates the integration of university policies with external practices, highlighting the need for Collaboration and stakeholder engagement.

Prospects of Implementing Green HRM

The study conducted a comprehensive assessment of the prospects for implementing Green Human Resources Management (GHRM) in Ghanaian public universities through a combination of quantitative and qualitative analyses. In the quantitative analysis, the investigation focused on three pivotal dimensions: Vision and Responsibility, Drive and Effectiveness, and Pragmatism and Coordination. The findings revealed a notably optimistic outlook, with respondents expressing a strong consensus regarding university management's clear goals for GHRM (Vision), its unwavering commitment to green practices (Responsibility), and its practical, integrity-driven decision-making. Moreover, respondents indicated a robust willingness of university management to engage in GHRM practices, motivating both staff and the academic community while demonstrating drive for sustainability. The evidence also pointed to their ability to navigate the workforce effectively. These results collectively conveyed a promising picture of the prospects for GHRM integration in Ghanaian public universities.

In the qualitative analysis, the study delved deeper into the perspectives of stakeholders associated with these institutions. Respondents highlighted a range of prospects for GHRM implementation. These included tangible advantages like waste reduction and cost savings stemming from paperless policies and digital communication, in addition to intangible benefits such as enhanced employee well-being and job satisfaction, driven by pride in an university's commitment to sustainability. Furthermore, respondents viewed GHRM as a tool to strengthen

partnerships with environmentally focused universities and to bolster compliance with environmental regulations, paving the way for Collaboration, knowledge sharing, and shared environmental goals. The collective perspective emerging from the qualitative findings underscores the multifaceted potential of GHRM practices within Ghanaian public universities, with sustainability, cost-effectiveness, and employee satisfaction at the forefront of their appeal.,

In conclusion, the dual quantitative and qualitative analyses presented a promising outlook for the prospects of GHRM implementation in Ghanaian public universities. This multidimensional approach indicates a strong potential for these institutions to successfully integrate green HRM practices, promoting sustainability, cost savings, and employee satisfaction as key drivers for its adoption.

Level of Corporate Sustainability Performance (CSP)

The evaluation of corporate sustainability performance (CSP) in Ghanaian public universities involved both quantitative and qualitative analyses. In the quantitative assessment, the study examined two key indicators: Finance and Social and Environment, with respondents providing ratings on a scale ranging from "Never" to "Very High." The findings, as presented in Table 4.7, revealed that in terms of finance, most respondents indicated a high level of corporate sustainability performance with a weighted mean of 3.46. Similarly, in the category of Social and Environment, the weighted mean was 4.05, signifying a very high level of CSP. Consequently, the overall weighted mean for CSP in Ghanaian public universities stood at 3.75 on a scale of 5.0, suggesting that the level of corporate sustainability performance is commendably high.

In the qualitative analysis, the study delved into the perceptions of respondents regarding corporate sustainability practices in these institutions. Several key themes emerged as essential indicators of CSP. The first theme is "Engagement with Stakeholders," reflecting proactive efforts

by universities to involve a wide array of stakeholders, internal and external., in their sustainability initiatives. The second theme, "Economic and Social Impact," underscores the universities' awareness of their significant influence on the local economy and society, emphasising positive contributions. The third theme, "Good Governance and Transparency," highlights the importance of governance practices that ensure accountability and transparency in assessing corporate sustainability performance. "Training and Awareness" emerges as another crucial theme, emphasising the role of education and awareness programs in enhancing sustainability practices. Lastly, "Continuous Improvement" underlines the dynamic nature of CSP, with a commitment to ongoing enhancement.

In summary, the findings from both quantitative and qualitative analyses collectively indicate that Ghanaian public universities exhibit a high level of corporate sustainability performance. They actively engage stakeholders, recognise their economic and social impacts, prioritise good governance, focus on training and awareness, and demonstrate a commitment to continuous improvement. These themes underscore the comprehensive approach these universities adopt to enhance their corporate sustainability performance.

Hypothesis Results

The study employed multiple regression analysis to investigate the impact of Green Human Resource Management (GHRM), consisting of Recruitment and Selection, Job design and analysis, Discipline, Training and development, and Performance evaluation, on Corporate Social Performance (CSP) within Ghanaian public universities. The results, presented in Table 4.8, showed that when considering finance as the CSP component, the joint influence of the GHRM predictor variables had a limited multiple correlation ($R=0.192$), explaining only 3.7% of the variance in finance ($R^2=0.037$). However, despite this low explanatory power, the ANOVA value

[$F(4, 555) = 4.18$] indicated that the independent variables were valid predictors of CSP related to finance. Consequently, the null hypothesis postulating that GHRM has no positive influence on CSP was rejected. Furthermore, the relative influence analysis revealed that Selection and Recruitment (SR), Job Design and Analysis (JDA), Training and Development (TD), and Performance Evaluation (PE) significantly impacted university finance, while Green Discipline (GD) did not significantly affect this CSP component.

Similarly, as shown in Table 4.9, the influence of GHRM on Corporate Sustainability Performance (CSP) related to the Social and Environmental aspects was explored. The results indicated that the predictor variables could only account for 8.2% of the variance in CSP ($R^2=0.082$). Despite the relatively low R^2 value, the joint influence of the predictor variables was statistically significant ($F(5,555) = 9.72$). The relative influence analysis demonstrated that Selection and Recruitment (SR), Job Design and Analysis (JDA), and Performance Evaluation (PE) had a notable impact on CSP in the Social and Environmental context, while Training and Development (TD) and Green Discipline (GD) did not significantly influence these aspects of CSP. This led to the rejection of the null hypothesis for the former components and the retention of the null hypothesis for the latter two.

Furthermore, the analysis of the influence of Top Management Values (TMV), encompassing Vision and responsibility (VR), Drive and effectiveness (DE), and Pragmatism and coordination (PC), on Corporate Social Performance (CSP) revealed significant findings. In the context of finance-related CSP, all three TMV components (VR, DE, and PC) demonstrated a substantial positive impact, leading to the rejection of the null hypothesis. When considering CSP in the social and environmental domain, Pragmatism and coordination (PC) emerged as the sole influential factor, while Vision and responsibility (VR) and Drive and effectiveness (DE) did not

exhibit significant influence, resulting in the null hypothesis rejection for the latter two components. The composite analysis further confirmed the influential role of Drive and effectiveness (DE) and Pragmatism and coordination (PC) on CSP, contributing to a comprehensive understanding of how TMV influences corporate social performance in Ghanaian public universities.

Finally, in order to test Hypothesis 3, a Partial Least Square Structural Equation Model (PLS-SEM) was employed to assess the direct and indirect relationships between Green Human Resource Management (GHRM) and Corporate Sustainability Performance (CSP), mediated by Top Management Values (TMV). The results indicate that the combined influence of GHRM indicators accounts for 34.6% of the total variance observed in CSP related to finance (CSPF) and 19.3% of the total variance in CSP related to social and environment (CSSE). This suggests that the mediation effect of Top Management Values amplifies the impact of GHRM on finance-related CSP but attenuates the influence on social and environmental CSP. Model fitness indicators, such as SRMR, d_{ULS} , d_G , Chi-square, and NFI, were assessed, with NFI indicating that the model explained 68.4% of the variance in the criterion variables. The mediation analysis revealed that most of the paths representing indirect effects of GHRM on CSP through TMV are positive, indicating a positive mediating relationship between GHRM and CSP through Top Management Values.

Conclusions

The purpose of this study was to examine the connections among Corporate Sustainability Performance (CSP), Top Management Values (TMV), and Green Human Resource Management (GHRM) in Ghanaian public universities. Several important observations have been clarified by the research. First, GHRM has a favourable and significant impact on CSP, according to the

analysis. This means that these universities' total sustainability performance—which includes the financial, social, and environmental aspects—benefits from the implementation of GHRM principles. Universities' capacity to attain sound financial performance, foster positive social outcomes, and advance environmental stewardship was found to be greatly enhanced by the GHRM components, which include recruitment and selection, job design and analysis, discipline, training and development, and performance evaluation.

Second, the study found that the association between GHRM and CSP was mediated by Top Management Values (TMV). TMV, which includes Vision and Responsibility, Drive and Effectiveness, and Pragmatism and Coordination, is a channel that enhances the beneficial effects of GHRM on the financial, social, and environmental aspects of CSP, according to the mediation study. This emphasises how important it is to match GHRM methods with top management values in order to maximise competitive and absolute advantages in ways that strike a balance between environmental sustainability, social responsibility, and economic viability.

Thirdly, practices such as recruitment and selection, job design and analysis, discipline, training and development, and performance evaluation have been identified as key components of GHRM. These practices align with the global trend of integrating sustainability into HRM functions, emphasising the need for universities, including academic institutions, to adopt environmentally responsible policies. The prospects of GHRM implementation are promising, with a clear recognition of its potential to contribute to corporate sustainability. However, the study also uncovers significant challenges associated with GHRM implementation in Ghanaian public universities. These challenges include a lack of awareness and understanding among employees, resistance to change, financial constraints, and issues related to alignment with external stakeholders.

These findings have practical implications for Ghanaian public universities and, more broadly, for universities seeking to enhance their sustainability performance. They emphasise the importance of integrating GHRM practices into HR strategies, fostering top management values that prioritise sustainability, and recognising the intricate dynamics between these elements. Ultimately, these insights offer a roadmap for universities and institutions to strengthen their sustainability initiatives, benefitting both their financial health and their contributions to social and environmental well-being.

Study Implications

Implications for RQ1 - Green HRM Practices:

Unrealized Potential for Integrating GHRM: There seems to be a great deal of room for further integration and institutionalization of green HRM practices throughout the university, based on the "occasional" adoption of GHRM practices with varied degrees of execution. Realizing this potential could help the university achieve its overall sustainability goals by improving sustainability and raising environmental awareness.

Give the Best GHRM Practice Absolute Priority: Green discipline (GD) is the most widely used and has the highest mean of all the GHRM practices, suggesting that it could be the cornerstone for the more widespread adoption of other green HRM practices. It is possible to get important insights and lessons that are applicable to other GHRM operations by concentrating on the effective implementation and expansion of the GD practice.

The need for a comprehensive GHRM plan: This is indicated by the disparities in GHRM implementation, which point to the absence of a well-thought-out, coherent plan for bringing these practices to every department in the university. When a complete GHRM plan is

developed, one that meets the university's sustainability goals and gives all relevant stakeholders accurate information, green HRM approaches are implemented more successfully and regularly.

Implications for RQ2 - Prospects of Implementing Green HRM:

Advantage of the Good Prognosis: The institution is in a favorable climate to grow and accelerate its green HRM initiatives, as evidenced by the positive forecast for Green Human Resource Management (GHRM) integration, which is supported by both quantitative and qualitative studies. This positive approach can be used to create momentum, win over important stakeholders, and make it easier for GHRM strategies to be implemented successfully. The institution may strengthen its sustainability initiatives, boost universities effectiveness, and promote an environmentally conscious culture by taking advantage of this positive momentum.

Leverage Management's Commitment to Sustainability: The steadfast dedication of university administration to sustainability acts as a stimulant to bring GHRM initiatives into line with more general sustainability goals. This pledge guarantees the provision of requisite resources, assistance, and direction to enable the triumphant implementation of GHRM endeavours. A strong foundation for smoothly integrating GHRM practices into universities culture, encouraging employee participation, and advancing sustainable business practices is provided by the university management's strong commitment to sustainability. Through the use of this pledge, the establishment can accomplish its objectives related to sustainability, bolster its standing as a conscientious corporate citizen, and generate enduring value for all parties involved.

Highlight the Material Benefits: An effective justification for adopting green HRM practices is provided by research findings that show the observable advantages of implementing green human resource management (GHRM), such as waste reduction, cost savings, and greater employee satisfaction. Universities can create a compelling business case for implementing

sustainable HR strategies by succinctly and clearly outlining these benefits. In addition to winning over stakeholders both inside and outside the university, this open approach promotes increased Collaboration and participation in environmental projects.

Encourage Collaborative Partnerships: By utilising outside resources, knowledge, and synergies, institutions can improve their GHRM programmes by taking advantage of the opportunity for Collaboration and shared environmental objectives with stakeholders. Universities can enhance their green HRM activities by forming cooperative partnerships and alliances, which provide access to supplementary information, resources, and assistance. These tactical alliances enhance the application of sustainable HR practices and provide a more comprehensive and successful strategy for implementing green HRM.

Challenges Associated with Green HRM Practices

Overcoming Lack of Awareness and Monitoring: The university must make investments in training courses, focused awareness campaigns, and reliable monitoring systems in order to overcome obstacles to the adoption of Green Human Resource Management (GHRM). It is essential to increase stakeholders' and employees' comprehension of GHRM protocols. To effectively assess progress, identify areas for development, and ensure the successful adoption of green HRM practices, it is imperative to have monitoring and evaluation tools in place.

Handling Financial Restrictions and Opposition to Change: It was found that GHRM practice integration was significantly hampered by both financial limitations and opposition to change. Universities must investigate a variety of tactics to overcome these obstacles, including finding new financing sources, maximising cost-cutting techniques, including staff members, and making a strong business case for GHRM that highlights its long-term advantages. For financial

barriers to be overcome and sustainable HR initiatives to be driven, winning over management support and getting appropriate financing are essential.,

Making Collaboration and Alignment a Priority: Overcoming GHRM implementation obstacles require improving coordination and collaboration with external stakeholders, including corporate partners, governmental universities, and the local community. Establishing alliances and coordinating around common environmental objectives might help institutions make their GHRM initiatives more successful. Utilising outside resources, knowledge, and synergies via cooperative partnerships can enhance the use of green HRM practices and promote long-term results.

Level of Corporate Sustainability Performance (CSP):

Emphasising CSP Indicators That Are Positive: A solid basis for sustainable operations is indicated by the high Corporate Sustainability Performance (CSP) scores discovered in Ghanaian public universities. This favorable evaluation is a great place to start when it comes to improving the university's overall sustainability performance. Making use of these high CSP indicators can encourage the institution to keep up its commitment to sustainable practices by fostering the growth and enhancement of sustainability projects.

Highlighting Opportunities for Continued Improvement: Although Ghanaian public universities exhibit excellent CSP principles, there are chances for continued improvement in particular areas to bolster sustainability performance even more. In order for higher education institutions to maintain and grow their leadership in corporate sustainability, they should concentrate on putting best practices into action, filling up any gaps, and encouraging a continual improvement mindset. Universities can raise the bar for corporate sustainability excellence and improve their sustainability performance by proactively identifying areas for improvement and embracing commitment to continuous advancement.

Recommendations for Practice and Policy

RQ1 - Green Human Resource Management (GHRM) Practices

The application of Green Human Resource Management (GHRM) solutions has grown in significance as a university strives towards sustainable practices. In order to promote environmental sustainability and green universities behaviour, green human resource management, or GHRM, is the integration of environmental management principles and practices into HRM functions. The researcher gives insightful information about how GHRM practices are currently doing as well as suggestions for improving their adoption and effectiveness within businesses.

Encouraging GHRM Practice Adoption

To further integrate GHRM practices across the entire university, universities should create a methodical and well-planned approach. In order to ensure that GHRM activities are strategically entrenched within the larger universities structure, this plan should be in line with the university's overarching sustainability aims and objectives. According to the research, the most common GHRM practice is green discipline (GD). Businesses should make the most of this fundamental procedure and use it as a springboard to improve the integration and execution of other GHRM initiatives. Universities can provide a strong foundation for extending the adoption of more GHRM practices by bolstering the usage of GD. The research recognised that different universities units have varied degrees of GHRM practice adoption and application. In order to tackle this difficulty, institutions had to endeavour to standardise and expedite the implementation of GHRM practices, guaranteeing uniformity and promoting a smoother integration across the entire university.

Promoting a Culture of Sustainability

To improve staff members' comprehension of environmental issues and their part in advancing the university's sustainability goals, extensive awareness and training programmes must be put in place. The goal of these programmes should be to inform staff members about the value of protecting the environment, the establishment's GHRM initiatives, and the contributions that are expected of every employee. In order to pinpoint potential and obstacles for the more thorough integration of GHRM practices, universities should aggressively promote employee involvement and input. Universities can increase the efficacy of GHRM activities by leveraging the different perspectives and ideas of their workforce through the promotion of an open and collaborative culture.

Enhanced Transparency and Communication

To inform and involve all stakeholders about the university's GHRM programmes and their results, universities should put in place a well-thought-out communication strategy. In order to efficiently distribute information and promote openness, this strategy should make use of a range of platforms, such as social media, internal newsletters, and the university's website. Universities can highlight the progress and successes gained in the application of GHRM practices by using a variety of communication channels. Accordingly, increasing visibility can serve to inspire others, increase awareness, and show the university's dedication to environmental sustainability. Universities should regularly offer updates on their GHRM performance and successes in order to preserve confidence and trust. This open strategy strengthens the university's commitment to sustainable practices and aids in maintaining responsibility.

These suggestions are meant to give universities a thorough framework for enhancing the promotion and integration of GHRM practices. Universities may cultivate a sustainable culture,

improve employee engagement, and lead to significant environmental advancements by implementing a methodical, all-encompassing, and open strategy. The university's long-term viability and competitiveness may benefit from the effective application of these suggestions.

Motivate and Reward Green Employees

In today's corporate context, where environmental sustainability is more important, rewarding green behaviours among employees can have a substantial impact on both the university's environmental goals and employee engagement. Implementing appropriate Green Pay and Rewards compensation and recognition mechanisms for ecologically responsible actions has been shown to stimulate voluntary green behaviour. Universities can build a sustainable culture by identifying and addressing issues such as green attitudes, perceived justice, and reward transparency. This essay provides crucial guidelines for establishing Green Pay and Rewards to maximise employees' commitment to environmental goals.

A core step is to incorporate Green Performance Indicators (GPIs) into the reward system. Using GPIs that are particularly linked to environmental goals, such as energy consumption, waste reduction, and carbon footprint reduction, universities may make green performance both clear and measurable. A case study involving an Italian food industry indicated that using GPI-based awards clarified environmental goals and engaged staff at all levels (Marrucci et al., 2024). GPIs can also be customised by department, allowing teams to strive towards goals unique to their function, creating responsibility and motivation. Such alignment not only helps corporations achieve their environmental goals, but it also allows individuals and teams to see their direct contributions to sustainability, which increases job satisfaction and engagement.

In addition to performance-based financial awards, offering both financial and non-financial green incentives can help employees stay committed to green practices. Financial

incentives, such as bonuses or allowances for meeting green performance indicators, are effective motivators, especially when they are linked directly to individual or team achievements in minimising environmental impact (Saxena & Khanna, 2024). Non-monetary rewards, including as recognition programs, professional development opportunities, and flexible working arrangements, can be equally effective in the long run. Green-specific incentives, including as subsidies for eco-friendly commuting or extended paid leave for participation in green volunteering, are also extremely beneficial since they promote sustainable behaviours that go beyond workplace expectations. These incentives demonstrate to employees that their dedication to sustainability is acknowledged and supported, encouraging them to continue engaging in environmentally friendly behaviours.

To be most effective, green rewards must be tailored to the requirements of employees as well as the university's environmental goals. HR departments should regularly evaluate and align awards with employees' personal and professional interests, as well as the university's sustainability values. According to research, sustainable incentive schemes that are tailored to the needs of employees boost job satisfaction, loyalty, and motivation (Elrayah & Semlali, 2023). Employees that are particularly devoted to sustainability may benefit from options such as subsidised public transportation, eco-friendly eating options, or even incentives for green house modifications. Universities establish an environment in which employees feel appreciated for their contributions to sustainability by personalising awards based on departmental goals and individual preferences, thereby increasing job satisfaction and loyalty. Tailored awards demonstrate an university's dedication to both environmental and employee well-being, promoting a pleasant working culture.

Developing a system that recognises green attitudes through awareness initiatives and consistent acknowledgement promotes a more sustainable workplace culture. Recognition programs, such as "Green Employee of the Month" or team awards for outstanding environmental performance, can recognise people or groups who exceed green targets, boosting voluntary green behaviours throughout the university. Awareness programs, such as environmental lectures, green practices workshops, and frequent updates on university sustainability initiatives, help to establish a sustainability-focused culture (Saxena & Khanna, 2024). Universities that promote green behaviours and attitudes create a community of environmentally conscious employees who are encouraged to incorporate sustainability into their work and daily lives.

Lastly, the green reward system must be transparent and fair. Transparency in how awards are earned and given builds faith in the system, whereas perceived fairness encourages employees to actively participate in green efforts. Regular feedback sessions or surveys can assist employees assess their satisfaction with the reward system and identify areas for improvement (Elrayah & Semlali, 2023). HR can guarantee that the reward system remains aligned with both employees' needs and the university's environmental goals by constantly reviewing and developing it based on employee feedback. A transparent, fair incentive structure allows employees to see how their efforts contribute to the university's sustainability goals, reaffirming their commitment to these projects.

Finally, creating a Green Pay and Rewards system that combines personalised financial and non-financial incentives, GPIs, transparency, and recognition can drive a university's long-term development. Establishments that match compensation with environmental goals and promote a culture of sustainability achieve not only corporate green targets, but also increased employee happiness, loyalty, and engagement (Marrucci et al., 2024). This approach eventually

lays the groundwork for long-term universities success, with people feeling empowered to make important contributions to a sustainable future.

RQ2 - Prospects of Implementing Green HRM: Strategies for Leveraging Opportunities

Adopting Green Human Resource Management (GHRM) methods successfully in universities has the potential to significantly improve environmental sustainability and cultivate a green universities culture. The researcher's perspective offers insightful information about the potential benefits of GHRM implementation, along with a list of suggestions for maximizing the process's advantages.

Making Use of Positive Outlook

The research emphasizes the administration of the university's strong commitment to an agreement on sustainability goals. Universities ought to take advantage of this positive perspective and utilise it as motivation to secure additional backing and engagement for GHRM efforts. Universities should make a point of highlighting the observable benefits of GHRM implementation, such as less waste, cost savings, and higher employee happiness, in order to raise the university's engagement and involvement. Universities can increase stakeholder buy-in and engagement by showcasing the measurable advantages of GHRM. To coordinate environmental goals and take advantage of pooled resources, universities should establish cooperative partnerships with both internal and external partners. These cooperative initiatives can support information exchange, improve the overall efficacy of GHRM implementation, and help the university better align its sustainability goals.

Formulating a Strategy for Continuous Enhancement

Establishing a comprehensive and well-organized GHRM implementation strategy with well-defined objectives, due dates, and completion dates is recommended for universities. This

strategic approach guarantees that the implementation process is measurable, data-driven, and in line with the university's larger sustainability goals. To evaluate the effectiveness of GHRM programmes and pinpoint areas in need of continuous improvement, regular monitoring and assessment methods must be established. Universities may improve their overall environmental performance, optimise their GHRM initiatives, and make data-driven decisions with the help of this systematic evaluation approach. To foster an ecologically conscious and sustainable universities culture, universities should encourage employee involvement and provide extensive training programmes. Universities can promote behavioural changes and guarantee the long-term success of GHRM adoption by educating and empowering their workforce.

Giving Stakeholder Involvement Priority

To learn about the opinions of staff, students, and external stakeholders (such as the business and local communities), universities should engage in active communication. This will help them address any concerns they may have about the implementation of GHRM practices. Building trust among different stakeholder groups and gaining insightful information are two benefits of open communication. Gathering feedback from stakeholders and incorporating it into the university's GHRM plan requires the establishment of efficient communication channels and feedback loops. Universities may make sure that GHRM activities are responsive to the requirements and concerns of all relevant stakeholders by actively soliciting and implementing stakeholder feedback. In the area of green human resource management, universities ought to promote the exchange of best practices and knowledge both inside and among various institutions and universities. The adoption of GHRM can be made more effective by exchanging insights, lessons gained, and successful techniques through this collaborative approach. Universities can overcome obstacles and realize the full benefits of GHRM adoption by capitalizing on the positive

outlook, developing a strategic plan for continuous improvement, and placing a high priority on stakeholder engagement. By taking a comprehensive strategy, it is ensured that GHRM efforts are ingrained in universities culture, motivated by stakeholder participation, and improved over time to produce long-term results.

RQ3 - Challenges Associated with Green HRM Practices: Strategies for Overcoming Barriers

There are a number of obstacles that must be overcome for Green Human Resource Management (GHRM) practices to be implemented successfully and sustainably inside universities. The thesis on the researcher's point of view includes insightful explanations of the main difficulties related to GHRM practices along with a full list of solutions.

Filling up the Awareness and Monitoring Gaps

To educate staff members about the benefits and value of GHRM practices, universities should design and implement comprehensive training and awareness initiatives. The purpose of these programmes should be to inform the staff about the value of environmental sustainability and how they may help the university's green initiatives. Establishing open and accountable procedures for tracking the development and efficacy of GHRM initiatives is advised for universities. Universities may monitor the application and results of GHRM practices, pinpoint areas for development, and guarantee the ongoing improvement of these programmes thanks to this data-driven approach. Universities should periodically examine and improve their monitoring and evaluation processes to guarantee continuous improvement. The university may continually optimise the efficacy of GHRM processes, respond to new difficulties, and adjust to changing situations thanks to this iterative approach.

Getting Past Change-Resistance

Universities should proactively identify the underlying causes of staff resistance to change and take the necessary steps to resolve them. To overcome the obstacles to GHRM adoption, this may entail employing initiatives including focused education, enhanced employee involvement, and efficient communication tactics. Staff members who show support for environmental projects should be rewarded and recognised by their universities in order to foster a creative and flexible universities culture. This strategy can encourage and inspire staff members to adopt GHRM practices and support the university's sustainable objectives. In order to make it easier for GHRM practices to be implemented successfully, universities should make sure that staff members have access to the tools, resources, and training they need to gain the understanding and viewpoints needed for green HR management. Employees are empowered to actively engage in and contribute to the university's sustainability initiatives thanks to this capacity-building initiative.

Obtaining Enough Monetary Resources

Universities should highlight the long-term cost savings and return on investment linked to the implementation of GHRM practices in their business case. Universities decision-makers may support this data-driven strategy in obtaining the required financial resources. To increase the amount of money available for GHRM initiatives, universities should look into alternative funding sources such corporate partnerships, government grants, or special sustainability funds in addition to their own financial resources. Universities should order their GHRM efforts based on their potential impact and cost-effectiveness to guarantee the wise use of financial resources. The university can efficiently manage resources and optimise the returns on their investments in GHRM thanks to this strategic prioritisation.

Encouraging Collaboration and alignment with relevant parties

To better utilise their resources and experience in support of GHRM projects, universities should strengthen their partnerships with external stakeholders, such as trade associations, governmental agencies, and community universities. These cooperative initiatives have the potential to increase the university's sustainability programmers' overall efficacy and impact. Universities should make sure that their GHRM initiatives are in line with the goals and expectations of significant stakeholders in order to promote greater support and shared ownership. The implementation of GHRM practices across the university's wider ecosystem is made easier by this stakeholder-centric approach, which also promotes involvement and helps to establish trust. To promote continued Collaboration and handle any worries or issues brought up by stakeholders, universities should set up efficient channels for communication and feedback systems. The university's GHRM initiatives are improved over time by this open and responsive strategy that also increases stakeholder engagement.

Universities may successfully navigate the complexity of green HR management and propel significant environmental progress by resolving gaps in monitoring and awareness, motivating stakeholders to cooperate, overcoming resistance to change, and securing adequate financial resources. By effectively implementing these tactics, the university can establish itself as a pioneer in environmentally friendly business operations, increasing its resilience and long-term competitiveness.

RQ4 - Level of Corporate Sustainability Performance (CSP): Strategies for Continuous Improvement

One important way to measure a university's commitment to and contribution to environmental., social., and economic sustainability is through its degree of Corporate

Sustainability Performance, or CSP. The researcher's includes insightful information about the university's existing CSP levels as well as a series of suggestions for maintaining and improving its sustainability performance.

Maintaining and Enhancing High CSP Levels

A thorough monitoring and assessment of the university's performance in respect to the major CSP metrics financial., social., and environmental should be a continuous endeavour. The university is able to recognise its advantages, identify areas for improvement, and design targeted plans to sustain and expand its CSP because to this data-driven approach. To maintain its strong CSP points and address any areas that require development, the university should create and implement targeted plans based on the results of the performance review. This tactical strategy guarantees that the university's sustainability initiatives are continuously altering and adapting to new situations.

Increasing Involvement with Stakeholders

A Wide Range of Stakeholders Should Be Involved: The institution should engage and work together more with industrial partners, students, staff, faculty, and the local community, among other stakeholders. The institution may learn a lot from interacting with these varied stakeholders, comprehend their viewpoints, and apply their recommendations to its sustainability initiatives. To build confidence with its stakeholders and guarantee accountability; the institution should promote transparent channels of communication and reporting. This open approach improves the university's interactions with important stakeholder groups and serves to highlight its commitment to sustainability. By routinely evaluating and updating its sustainability-related performance objectives, protocols, and policies, the institution may foster a culture of continuous progress. The institution may respond to new issues, adjust to evolving trends, and improve the

efficacy of its sustainability activities with this iterative process. To enhance the knowledge and abilities of its employees in fields linked to sustainability, the university should provide them with opportunities for training and development. Employees are more equipped to support the university's sustainability objectives and cultivate an environment and socially conscious culture thanks to this capacity-building initiative. The university ought to set up a system for recording and sharing creative concepts, lessons discovered, and industry best practices within its own staff and with other higher education institutions. The university can improve its sustainability performance by using this knowledge-sharing approach to learn from both its own and its peers' experiences.

Making Use of the All-Inclusive Method

The university ought to make use of its demonstrated capacity to carry out a thorough plan that enhances its CSP, addressing crucial components like stakeholder engagement, governance and transparency, training and awareness, and social and economic impact. To encourage a more comprehensive and well-rounded approach to sustainable development, the institution should investigate methods to further align and integrate these essential CSP components. The integration of different sustainability initiatives and the enhancement of the overall effectiveness of the university's CSP efforts are made possible by this integrated perspective.

The institution may continue to be a leader in environmental and social responsibility in the tertiary education sector by implementing the suggestions made in this academic response. The university can set an example for other academic institutions and encourage them to adopt sustainable practices by maintaining and improving its corporate sustainability performance. The university will be able to propel significant advancements in the direction of a more sustainable

future through this multidimensional approach to CSP development, both inside its own operations and within the larger higher education ecosystem.

Suggestions for Future Research

Drawing from the findings and limitations of the current study, several recommendations can be put forward for future research endeavours in the realm of corporate sustainability performance and Green Human Resource Management (GHRM). One avenue for future exploration is the comparative analysis across diverse industries and sectors. By conducting such comparative studies, researchers can delve into how GHRM practices and top management values influence corporate sustainability performance within varied university contexts. This approach will provide nuanced insights into the effectiveness of sustainability strategies across different industries, offering adaptable solutions that transcend the specific context of Ghanaian public universities. Moreover, future research should delve deeper into the mediating factors that mediate the relationship between GHRM practices, top management values, and corporate sustainability performance. These mediating mechanisms serve as crucial links between human resource management strategies and sustainability outcomes. A thorough investigation of these factors will shed light on the underlying dynamics of sustainability initiatives within universities, enabling more targeted and impactful strategies aimed at enhancing overall performance and environmental stewardship.

Lastly, an essential area of focus for future research is to understand the impact of government policies, regulations, and incentives on the adoption of GHRM practices and sustainability outcomes. Different regions and industries operate within distinct regulatory frameworks that significantly influence the implementation of sustainable practices. Conducting research in this domain will uncover the interplay between external regulatory factors and internal

sustainability efforts, providing universities with valuable insights to navigate regulatory challenges effectively. Additionally, such knowledge is instrumental for policymakers in designing and implementing supportive frameworks that encourage and facilitate sustainable business practices across industries and sectors.

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APPENDICES

Appendix A: Survey Questionnaire

QUESTIONNAIRE ON “GREEN HRM AND TOP MANAGEMENT VALUES ON CORPORATE SUSTAINABILITY PERFORMANCE IN PUBLIC UNIVERSITIES”.
FOR ACADEMIC AND NON-ACADEMIC STAFFS.

Dear Respondent,

I am conducting a research on the “**Interactive role of green HRM and top management values on corporate sustainability performance in public universities**”. The research is for purely academic purposes as it forms part of the requirements for the award of DOCTOR OF PHILOSOPHY, HRM at Unicaf University Zambia (UUZ). The questionnaire is to be completed anonymously, and all reasonable steps will be taken to ensure confidentiality. Responses from completed questionnaires will be collated for analysis. I will be happy if you can voluntarily participate in the survey. **This survey must take approximately 30 minutes to complete.**

Please, note that you can choose to withdraw your participation in this survey at any point in time prior to your submission of the questionnaire to the researcher.

Thank you.

Informed Consent

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation to this study. I understand that my data will remain anonymous and confidential., unless stated otherwise. I consent voluntarily to be a participant in this study.

Please, indicate whether you consent to these or otherwise.

Yes, I consent []

No, I do not consent []

Date.....

SECTION A. PERSONAL INFORMATION

Please tick the appropriate response to each question relative to you.

1. Gender: Male [] Female [] Other [] Prefer Not to State []

2. Age range: 18 – 28 years [] 29 – 38 years [] 39 – 48 years [] 49– 59 years []
Above 60 years []

3. Educational level: SHS/equivalent and below [] Tertiary (Diploma, HND and First degree) [] Master's degree [] PhD [] Professional [] Other []. If other, please specify.....

4. How many years have you worked at your present university?
Below 5 years [] 6 – 10 years [] 11 – 15 years [] 15 – 20 years [] above 20 years []

SECTION B: GHRM PRACTICES

Please, indicate the extent to which the following Green HRM practices are implemented in your university. You are to **indicate the extent to which you agree or disagree with each of the following statements by ticking (✓) in the appropriate box using the scale below:**

1. Never
2. Rarely
3. Occasionally
4. Often
5. Always

GHRM PRACTICES						
A	GREEN RECRUITMENT AND SELECTION	1	2	3	4	5
	In my university:					
1	Interview is conducted remotely via telephone, Skype, or video conferencing for candidates in my school					
2	Environmental criteria are incorporated into the recruitment advertisement and invitation					
3	The university incorporates environmental initiatives and policies into the university's recruitment policy.					
4	My university does not force people to become green employees as part of recruitment processes.					
5	Certain environmental values (e.g. be a part of the green team of the university or we are a socially and environmentally responsible employer) are expressed in the job advertisements of the institution.					
6	Applicants are selected based on their interest in the environment activities					
7	During interview, applicants are asked questions about the environment related issues.					
8	Candidates who have been greening as individual within the context of their own lives are selected for employment.					
B	JOB DESIGN AND ANALYSIS	1	2	3	4	5
	In my university:					
9	A variety of environmental protection-related tasks, obligations, and responsibilities in each work are include into job description					
10	The university includes environmental., social., personal., and technical needs into job descriptions and job specifications.					
11	Job analysis information is essential when determining compensation.					
12	The university includes an environmental component as a job requirement.					

13	The university clearly specifies environmental/eco-friendly qualities in job descriptions.					
14.	Job analysis information is useful in identifying possible job hazards and working conditions associated with jobs.					
15.	Expectations and goals are clearly defined for the worker.					
C	GREEN DISCIPLINE In my university:	1	2	3	4	5
16	Sanctions were imposed for targets that are not met in environmental management.					
17	University imposes fines for environmental management violations.					
18	The university creates and disseminates greening-related conduct guidelines.					
19	A progressive disciplinary procedure to discipline staff members who contravene the university's green conduct policies.					
20	The university implements "discipline management" as a technique to help employees self-regulate in the institution's environmental protection activities					
21	There is a precise set of guidelines and norms that force or require personnel to be concerned about environmental protection In my university					
D	GREEN TRAINING AND DEVELOPMENT In my university:	1	2	3	4	5
22	The university gives staff members environmental training to help them obtain the necessary skills and knowledge					
23	Staff members are trained on how to use environmentally friendly best practices (e.g. reducing long-distance business travel and recycling).					
24	The university creates "environmental awareness" among the staff members					
25	The university educates staff members about the environment.					
26	The university educates staff members on how to conduct a workplace green analysis					
27	The university applies employment rotation to train future green staff					
28	Training needs are conducted to analyse staff members ' green training needs.					
29	Training needs about eco-friendly activities are done frequently.					
30	The university conducts a serious and systematic training programme for staff members to provide needed knowledge, skills and attitudes for good environmental management.					
31	Senior members/staffs are made encouraged to be ambassadors of sustainable culture.					

E	PERFORMANCE EVALUATION In my university:	1	2	3	4	5
32	There are an established environmental audit and an environmental management information system (EMIS).					
33	The university integrates corporate environmental management goals and targets with the institution's method for evaluating staff member's performance.					
34	The university incorporates green criteria into performance reviews or grading a staff members' work performance.					
35	The university has established green objectives, targets, and duties.					

SECTION C: TOP MANAGEMENT VALUES

Please, indicate the extent to which the following top-management values are in existence in your university. Provide a brief introduction of which top management or managers are. You are to indicate the extent to which you agree or disagree with each of the following statements by marking a cross (x)/ thick (√) in the appropriate box using the scale below:

Never (1); Rarely (2); Occasionally (3); Often (4); Always (5)

	TOP MANAGEMENT VALUES	1	2	3	4	5
A	VISION AND RESPONSIBILITY					
1	University management have clear goals for green HRM (Vision)					
2	University management fully upholds their obligations and accepts accountability for their activities in relation to green practices. (Responsibility)					
3	University management is realistic when it comes to assessing the environment they operate in and practical about the decisions they make. (Integrity)					
B.	DRIVE AND EFFECTIVENESS					
4	University management consistently and openly engages in green HR practices. (Ability to Engage Others)					
5	University management motivates staff members and university community with their infectious passion for the environment and sustainable practices. (Optimism and Enthusiasm)					
6	University management exhibits drive for e-practice that promotes sustainability (Proactiveness)					

7	University management is able to direct employees navigate their work and complete their tasks. (Effectiveness)					
C	PRAGMATISM AND COORDINATION					
8	University management put up a lot of effort and does not compromise on green policies. (Hard Work and Conscientiousness)					
9	University management understand that learning is a lifelong process and never stop taking the necessary steps to develop both professionally and personally and to stay on top of the latest tools, trends, and business realities. (Commitment to Growth)					
10	University management create clear, specific, doable plans to get there. (Pragmatism)					
11	University management is able to organize their plans into practicable areas. (Willingness to take Risk)					
12	University management is able to coordinate affairs well throughout my institution. (Self-confidence)					
13	University management is able to maintain control of the institution. (Emotional Intelligence)					

SECTION D: CORPORATE SUSTAINABILITY PERFORMNACE (CSP)

Please, indicate the extent to which the following **corporate sustainability performance (CSP)** pillars are in existence in your university. You are to indicate the extent to which you agree or disagree with each of the following statements by marking a cross (x))/ thick (√) in the appropriate box using the scale below:

1. Never
2. Rarely
3. Occasionally
4. Often
5. Always

	CORPORATE SUSTAINABILITY PERFORMNACE (CSP)	1	2	3	4	5
A	FINANCE					
1	My university operates surplus budget					
2	University spending is in accordance with her budget					
3	An external body audit of the university's accounts					
4	My university is dedicated to sustainability to generates funding for institutions					
5	The entire university budget includes a sustainability fund.					
6	Research funding for sustainability is available at my university.					
B	SOCIAL AND ENVIRONMENT	1	2	3	4	5
7	My university frequently takes part in charitable activities.					
8	My university is concerned about actions that safeguard the surrounding local/host communities.					
9	My university frequently participates in community improvement/development					
10	With interested parties and pressure groups, My university shares values with cooperate bodies and university.					
11	My university is particularly committed to upholding its ethical obligations.					
12	My university is concerned about a healthy and educated workforce					
13	In my university, most spaces are occupied with green grass.					
14	On a portion of the university's land, there is a forest reserve.					
	.					
15	My university employed energy-efficient appliances.					
16	My university has a policy on the use of renewable energy.					
17	There is a programme on recycling garbage from the university.					

THANK YOU

Appendix B: Interview Questionnaire

INTERVIEW ON “GREEN HRM AND TOP MANAGEMENT VALUES ON CORPORATE SUSTAINABILITY PERFORMANCE IN PUBLIC UNIVERSITIES”.

FOR ACADEMIC AND NON-ACADEMIC STAFFS.

Dear Respondent,

I am conducting research on the “**Interactive role of green HRM and top management values on corporate sustainability performance in public universities**”. The research is for purely academic purposes as it forms part of the requirements for the award of DOCTOR OF PHILOSOPHY, HRM at Unicaf University Zambia (UUZ). The questionnaire is to be completed anonymously, and all reasonable steps will be taken to ensure confidentiality. Responses from completed interviews will be collated for analysis. I will be happy if you can voluntarily participate in the survey. **The interview section must take approximately between 30-45 minutes to complete.** Please, note that you can choose to withdraw your participation in this survey at any point in time prior to your submission of the questionnaire to the researcher.

Thank you.

Informed Consent

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation to this study. I understand that my data will remain anonymous and confidential., unless stated otherwise. I consent voluntarily to be a participant in this study.

Please indicate whether you consent or otherwise.

Yes, I consent []

No, I do not consent [] Date.....

Section A: Green HRM Practices in Ghanaian Public Universities

1. Can you describe any specific Green HRM practices that you are aware of in your university?
2. What are some examples of Green HRM practices that you frequently observe or hear about in your university?

Section B: Prospects of Implementing Green HRM in Ghanaian Public Universities

1. What do you think are the potential benefits of implementing Green HRM in your university?
2. Are there any specific factors that may facilitate or hinder the adoption of Green HRM in your university?

Section C: Challenges Associated with Green HRM Practices in Ghanaian Public Universities

1. Can you identify any challenges or obstacles faced by Ghanaian public universities in implementing Green HRM practices?
2. How do these challenges impact the effectiveness and success of Green HRM initiatives?

Section D: Corporate Sustainability Performance (CSP) in Ghanaian Public Universities

1. How would you assess the level of Corporate Sustainability Performance (CSP) in your university?
2. What factors do you believe contribute to the CSP of these universities?

Appendix C



UU_GL - Version 2.0



Gatekeeper letter

Address: FOCUS FM,PMB,KNUST-GHANA

Date: 16-Nov-2022

Subject: REQUEST FOR RESEARCH PARTICIPATION

Dear Sir/Madam,

I am an/a **doctoral** student at Unicaf University, **Zambia Campus**.

As part of my degree I am carrying out a study on Interactive role of Green HRM and top manager's values on corporate sustainability performance in public universities.

I am writing to enquire whether you would be interested in/willing to **assist or participate** in this research.

Subject to approval by Unicaf Research Ethics Committee (UREC) this study will be using **[Interviews and questionnaires to gather information on GHRM activities and practices in your institution]**.

[This project focuses on the role of GHRM and top management values interaction on corporate sustainability performance. The title is the Interactive role of Green HRM and top manager's values on corporate sustainability performance in public universities. The name of my supervisor is Dr. Awodiji Omotayo Adewale]

[I would like you to grant me access to personal data from top managers of your university on their view on GHRM activities and its effects on corporate sustainability performance through questionnaires and interviews after they have consented]

Thank you in advance for your time and for your consideration of this project. Kindly please let me know if you require any further information or need any further clarifications.

Yours Sincerely,

SAMUEL KWADWO JANTUAH

Student's Name: Samuel Kwadwo Jantuah

Student's E-mail: nanajantuah@gmail.com

Student's Address and Telephone: Focus FM,PMB,KNUST ,0200898566

Supervisor's Title and Name: Dr. Awodiji Omotayo Adewale

Supervisor's Position: Lecturer/Tutor

Supervisor's E-mail: a.adewale@unicaf.org

Appendix D



UU_IC - Version 2.1

**Informed Consent Form****Part 1: Debriefing of Participants****Student's Name:** SAMUEL KWADWO JANTUAH**Student's E-mail Address:** nanajantuah@gmail.com**Student ID #:** R1712D4002942**Supervisor's Name:** Dr. Awodiji Omotayo Adewale**University Campus:** Unicaf University Zambia (UUZ)**Program of Study:** UUM: PhD Doctorate of Philosophy - Business Administration**Research Project Title:** INTERACTIVE ROLE OF GREEN HRM AND TOP MANAGEMENT VALUES ON CORPORATE SUSTAINABILITY PERFORMANCE IN PUBLIC UNIVERSITIES**Date:**

Provide a short description (purpose, aim and significance) of the research project, and explain why and how you have chosen this person to participate in this research (maximum 150 words).

The aim of this research is to find out how Green HRM and top management skills affect the sustainability performance of government-funded universities. In addition, public universities graduate many students and train staff for the outside communities and for university work respectively. It is expected that environmental learning or education can help us have a sustainable environment. Learning occurs outside of the classroom. The study would also examine into the difficulties that state-funded universities are expected to experience in incorporating GHRM into their usual activities. The examination into the cost-saving advantage will also be considered throughout the assessment. This research is significant and should be examined by university top managers, staff, and students, as well as lawmakers. Researchers can use this for further studies. I selected these participants based only on the area of my study, which is in the university's academic and non-academic sector. As a result, I will have access to the highest quality data for my analysis.

The above named Student is committed in ensuring participant's voluntarily participation in the research project and guaranteeing there are no potential risks and/or harms to the participants.

Participants have the right to withdraw at any stage (prior or post the completion) of the research without any consequences and without providing any explanation. In these cases, data collected will be deleted.

All data and information collected will be coded and will not be accessible to anyone outside this research. Data described and included in dissemination activities will only refer to coded information ensuring beyond the bounds of possibility participant identification.

I, SAMUEL KWADWO JANTUAH, ensure that all information stated above is true and that all conditions have been met.

Student's Signature: SKJ



Informed Consent Form

Part 2: Certificate of Consent

This section is mandatory and should to be signed by the participant(s)

Student's Name: SAMUEL KWADWO JANTUAH

Student's E-mail Address: nanajantuah@gmail.com

Student ID #: R1712D4002942

Supervisor's Name: Dr. Awodiji Omotayo Adewale

University Campus: Unicaf University Zambia (UUZ)

Program of Study: UUM: PhD Doctorate of Philosophy - Business Administration

Research Project Title: INTERACTIVE ROLE OF GREEN HRM AND TOP MANAGEMENT VALUES ON CORPORATE SUSTAINABILITY PERFORMANCE IN PUBLIC UNIVERSITIES

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation to this study. I understand that my data will remain anonymous and confidential, unless stated otherwise. I consent voluntarily to be a participant in this study.

Participant's Print name:

Participant's Signature:

Date:

If the Participant is illiterate:

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had an opportunity to ask questions. I confirm that the aforementioned individual has given consent freely.

Witness's Print name:

Witness's Signature:

Date:

Appendix E



UREC Decision, Version 2.0

Unicaf University Research Ethics Committee Decision

Student's Name: Samuel Kwadwo Jantuah

Student's ID #: R1712D4002942

Supervisor's Name: Dr Omotayo Adewale Awodiji

Program of Study: UUZ: PhD Doctorate of Philosophy

Offer ID /Group ID: O46093G48982

Dissertation Stage: 3

Research Project Title: INTERACTIVE ROLE OF GREEN HRM AND TOP MANAGEMENT VALUES ON CORPORATE SUSTAINABILITY PERFORMANCE IN PUBLIC UNIVERSITIES

Comments: No comments.

Decision*: A. Approved without revision or comments

Date: 11-Jan-2023

*Provisional approval provided at the Dissertation Stage 1, whereas the final approval is provided at the Dissertation stage 3. The student is allowed to proceed to data collection following the final approval.

Appendix F



REAF_DS - Version 3.1



**UNICAF UNIVERSITY
RESEARCH ETHICS APPLICATION FORM
DOCTORAL STUDIES**

UREC USE ONLY:

Application No:

Date Received:

Student's Name: SAMUEL KWADWO JANTUAH

Student's E-mail Address: nanajantuah@gmail.com

Student's ID #: R1712D4002942

Supervisor's Name: Dr. Awodiji Omotayo Adewale

University Campus: Unicaf University Zambia (UUZ)

Program of Study: UUM: PhD Doctorate of Philosophy - Business Administration

Research Project Title: INTERACTIVE ROLE OF GREEN HRM AND TOP MANAGEMENT VALUES ON CORPORATE SUSTAINABILITY PERFORMANCE IN PUBLIC UNIVERSITIES

1. Please state the timelines involved in the proposed research project:

Estimated Start Date: 18-Sep-2022

Estimated End Date: 18-Apr-2024

2. External Research Funding (if applicable):

2.a. Do you have any external funding for your research?

☐

YES

☒

NO

If YES, please answer questions 2b and 2c.

2.b. List any external (third party) sources of funding you plan to utilise for your project. You need to include full details on the source of funds (e.g. state, private or individual sponsor), any prior / existing or future relationships between the funding body / sponsor and any of the principal investigator(s) or co-investigator(s) or student researcher(s), status and timeline of the application and any conditions attached.

2.c. If there are any perceived ethical issues or potential conflicts of interest arising from applying or and receiving external funding for the proposed research then these need to be fully disclosed below and also further elaborated on, in the relevant sections on ethical considerations later on in this form.

3. The research project

3.a. Project Summary:

In this section fully describe the purpose and underlying rationale for the proposed research project. Ensure that you pose the research questions to be examined, state the hypotheses, and discuss the expected results of your research and their potential.

It is important in your description to use plain language so it can be understood by all members of the UREC, especially those who are not necessarily experts in the particular discipline. To that effect ensure that you fully explain / define any technical terms or discipline-specific terminology (use the space provided in the box).

A. THE PURPOSE OF STUDY

The aim of this research is to find out how Green HRM and top management skills affect the sustainability performance of government-funded universities. The governance process addresses the vision, purpose, objectives, and important goals of the university. To turn technology into tangible outcomes, you must assure all of the practices of a successful culture and build an effective framework for the direct engagement of both internal and external partners.

In addition, public universities graduate many students and train staff for the outside communities and for university work respectively. It is expected that environmental learning or education can help us have a sustainable environment. Learning occurs outside of the classroom. Environmental education (EE) not only provides chances for active education beyond the classroom, but it also allows students to link and apply what they have learned in the classroom to real-world situations. EE assists staff and students in comprehending the connections between friendly, ecological, economic, social, and political concerns. The inquiry would also examine into the difficulties that state-funded universities are expected to experience in incorporating GHRM into their usual activities and try to suggest solutions to the problems.

B. THE RESEARCH QUESTIONS

1. What are Ghana's public universities' existing green HRM practices?
2. What are the prospects of implementing green HRM in Ghana's public universities?
3. What are the challenges connected with green HRM practices in Ghana's public universities?
4. To assess the level of CSP in Ghanaian public universities and the factors behind.

C. THE RESEARCH HYPOTHESES

The following hypotheses are presented to attain the specific exploratory destinations:

- H1a: GHRM has a positive relationship with CSP.
- H1b: GHRM has no positive relationship with CSP.
- H2a: Top management values have a positive relationship with CSP.
- H2b: Top management values have no positive relationship with CSP.
- H3a: Top management values do mediate relationships between GHRM and CSP.
- H3b: Top management values do not mediate relationships between GHRM and CSP.

3.b. Significance of the Proposed Research Study and Potential Benefits:

Outline the potential significance and/or benefits of the research (use the space provided in the box).

Green strategies and actions are seen as valuable indicators of environmental initiatives and programs (Tang et al., 2018; Umrani et al., 2020). Universities and green organisations employ GHRM concepts to examine the needed organisational performance (Chaudhary, 2018). According to recent studies, GHRM practice is a viewpoint that should be leveraged to drive forecasting and policy creation that promotes environmental protection behaviour in the workplace. It is commonly understood that GHRM has a substantial impact on the productivity and reputation of an organisation (Dumont and colleagues, 2017).

This research is significant and should be examined by university top managers, staff, and students, as well as lawmakers. This research can assist universities in developing top managers who are concerned with sustainability, green culture, and planning. This investigation might assist instructors and students in becoming more eco-accommodating and participating in socioeconomic activities for the individuals who would use the state-funded university in the future. Policymakers could use this data to improve the school's environmental administration and professional work behaviour. States, on the other hand, can use it to sanction green agreements that are overseen by government officials all around the nation. Various organizations may find it valuable in their corporate management. Analysts may use this as a starting point for future research to boost green initiatives in other areas of green movement.

4. Project execution:

4.a. The following study is an:

- ☒ experimental study (primary research)
- ☐ desktop study (secondary research)
- ☐ desktop study using existing databases involving information of human/animal subjects
- ☐ Other

If you have chosen 'Other' please Explain:

4.b. Methods. The following study will involve the use of:

Method	Materials / Tools
Qualitative:	☒ Face to Face Interviews
	☒ Phone Interviews
	☐ Face to Face Focus Groups
	☐ Online Focus Groups
	☒ Other *
Quantitative:	☐ Face to Face Questionnaires
	☒ Online Questionnaires
	☐ Experiments
	☐ Tests
	☒ Other *

*If you have chosen 'Other' please Explain:

Data will be collected using a range of instruments and techniques. This study will combine qualitative and quantitative methods using mixed research methods. Two data collection tools will be interview and questionnaires respectively.

5. Participants:

5 a. Does the Project involve the recruitment and participation of additional persons other than the researcher(s) themselves?

- ☒ YES If YES, please complete all following sections.
- ☐ NO If NO, please directly proceed to Question [7](#).



5 b. Relevant Details of the Participants of the Proposed Research

State the number of participants you plan to recruit, and explain in the box below how the total number was calculated.

Number of participants

About 19, 485 academic and non-academic staff members work at the six participating universities. For the questionnaires, a total of 392 participants were selected using the stratified sampling method and the Taro Yamane sample size formula $n = N / (1 + N(e)^2)$. An additional 208 participants were added to the 392 participants to ensure fair representation of the participants, bringing the questionnaire to 600, and 3 interviewees (1 HR officer and 2 academic members) from each of the 6 universities were selected to participate in the interview section making it 18 people for the qualitative data collection.

Describe important characteristics such as: demographics (e.g. age, gender, location, affiliation, level of fitness, intellectual ability etc). It is also important that you specify any inclusion and exclusion criteria that will be applied (e.g. eligibility criteria for participants).

Age range From To

Gender ☒ Female
☒ Male

Eligibility Criteria:

- Inclusion criteria TOP ACADEMIC AND NON-ACADEMIC STAFF- (VC, Provost, Deans and Heads, HR, Registrars, lecturers among others)
- Exclusion criteria "Non-teaching staff of lower cadre (drivers, cleaners, secretaries, administrative officers etc) and students were excluded from the study."

Disabilities I will only include the participants who can provide informed consent for themselves, therefore, people with mental disabilities should not take part in

Other relevant information (use the space provided in the box):

5 c. Participation & Research setting:

Clearly describe which group of participants is completing/participating in the material(s)/ tool(s) described in 5b above (use the space provided in the box).

ACADEMIC AND NON-ACADEMIC STAFF- (VC, Provost, Deans and Heads, HR department, Registrars, lecturers among other staff members)

5 d. Recruitment Process for Human Research Participants:

Clearly describe how the potential participants will be identified, approached and recruited (use the space provided in the box).

"Lecturers, top managers, HR department and other non-academic senior members/staff. The study will be restricted to only the 6 public universities in Ghana. The top managers and administrators especially will have great input due to their exposure to decision making, research of industry and programmes the university should delve into, the investment of the selected universities in green HRM initiative, etc. Letter of introduction from Unicaf school of Doctoral Studies and ethical clearance from Unicaf University Research Ethics Committee (UREC) will be obtained. This will entail sending email or letter of requests to the authority of universities that meet the sampling criteria. Similarly, relevant platforms will be used to send out recruitment notices to the prospective participants. COVID-19 protocol also will be observed where necessary. Face-to-face interactions will also be a primary method for the researchers to gather data.

5 e. Research Participants Informed Consent.

Select below which categories of participants will participate in the study. Complete the relevant Informed Consent form and submit it along with the REAF form.

Yes	No	Categories of participants	Form to be completed
☒	☐	Typically Developing population(s) above the maturity age *	Informed Consent Form
☐	☐	Typically Developing population(s) under the maturity age *	Guardian Informed Consent Form

* Maturity age is defined by national regulations in laws of the country in which the research is being conducted.



5 f. Relationship between the principal investigator and participants.

Is there any relationship between the principal investigator (student), co-investigators(s), (supervisor) and participant(s)? For example, if you are conducting research in a school environment on students in your classroom (e.g. instructor-student).

☐ YES ☒ NO

If YES, specify (use the space provided in the box).

6. Potential Risks of the Proposed Research Study.

6 a. i. Are there any potential risks, psychological harm and/or ethical issues associated with the proposed research study, other than risks pertaining to everyday life events (such as the risk of an accident when travelling to a remote location for data collection)?

☐ YES ☒ NO

If YES, specify below and answer the question 6 a.ii.

6 a.ii Provide information on what measures will be taken in order to exclude or minimise risks described in 6.a.i.

To save time and effort, I will encourage the participants to use the online interview and questionnaire tools. In order to get the essential input from participants for efficient data collecting, I will also give them my personal contact information.

6 b. Choose the appropriate option

	Yes	No
i. Will you obtain written informed consent form from all participants?	☒	☐
ii. Does the research involve as participants, people whose ability to give free and informed consent is in question?	☒	☐
iii. Does this research involve participants who are children under maturity age? If you answered YES to question iii, complete all following questions. If you answered NO to question iii, do not answer Questions iv, v, vi and proceed to Questions vii, viii, ix and x.	☐	☒
iv. Will the research tools be implemented in a professional educational setting in the presence of other adults (i.e. classroom in the presence of a teacher)?	☐	☒
v. Will informed consent be obtained from the legal guardians (i.e. parents) of children?	☐	☒
vi. Will verbal assent be obtained from children?	☐	☒
vii. Will all data be treated as confidential? If NO, explain why confidentiality of the collected data is not appropriate for this proposed research project, providing details of how all participants will be informed of the fact that any data which they will provide will not be confidential.	☒	☐
viii. Will all participants /data collected be anonymous? If NO, explain why and describe the procedures to be used to ensure the anonymity of participants and/or confidentiality of the collected data both during the conduct of the research and in the subsequent release of its findings.	☒	☐

	Yes	No
ix. Have you ensured that personal data and research data collected from participants will be securely stored for five years?	☒	☐
x. Does this research involve the deception of participants? If YES, describe the nature and extent of the deception involved. Explain how and when the deception will be revealed, and who will administer this debrief to the participants:	☐	☒

6 c. i. Are there any other ethical issues associated with the proposed research study that are not already adequately covered in the preceding sections?

☐ Yes ☒ No

If YES, specify (maximum 150 words).

6.c.ii Provide information on what measures will be taken in order to exclude or minimise ethical issues described in 6.c.i.

6 d. Indicate the Risk Rating.

☐ High ☒ Low

7. Further Approvals

Are there any other approvals required (in addition to ethics clearance from UREC) in order to carry out the proposed research study?

☐ YES ☒ NO

If YES, specify (maximum 100 words).

8. Application Checklist

Mark ✓ if the study involves any of the following:

- ☐ Children and young people under 18 years of age, vulnerable population such as children with special educational needs (SEN), racial or ethnic minorities, socioeconomically disadvantaged, pregnant women, elderly, malnourished people, and ill people.
- ☐ Research that foresees risks and disadvantages that would affect any participant of the study such as anxiety, stress, pain or physical discomfort, harm risk (which is more than is expected from everyday life) or any other act that participants might believe is detrimental to their wellbeing and / or has the potential to / will infringe on their human rights / fundamental rights.
- ☐ Risk to the well-being and personal safety of the researcher.
- ☐ Administration of any substance (food / drink / chemicals / pharmaceuticals / supplements / chemical agent or vaccines or other substances (including vitamins or food substances) to human participants.
- ☐ Results that may have an adverse impact on the natural or built environment.

9. Further documents

Check that the following documents are attached to your application:

		ATTACHED	NOT APPLICABLE
1	Recruitment advertisement (if any)	☐	☒
2	Informed Consent Form / Guardian Informed Consent Form	☒	☐
3	Research Tool(s)	☒	☐
4	Gatekeeper Letter	☒	☐
5	Any other approvals required in order to carry out the proposed research study, e.g., institutional permission (e.g. school principal or company director) or approval from a local ethics or professional regulatory body.	☒	☐



10. Final Declaration by Applicants:

- (a) I declare that this application is submitted on the basis that the information it contains is confidential and will only be used by Unicaf University for the explicit purpose of ethical review and monitoring of the conduct of the research proposed project as described in the preceding pages.
- (b) I understand that this information will not be used for any other purpose without my prior consent, excluding use intended to satisfy reporting requirements to relevant regulatory bodies.
- (c) The information in this form, together with any accompanying information, is complete and correct to the best of my knowledge and belief and I take full responsibility for it.
- (d) I undertake to abide by the highest possible international ethical standards governing the Code of Practice for Research Involving Human Participants, as published by the UN WHO Research Ethics Review Committee (ERC) on <http://www.who.int/ethics/research/en/> and to which Unicaf University aspires to.
- (e) In addition to respect any and all relevant professional bodies' codes of conduct and/or ethical guidelines, where applicable, while in pursuit of this research project.



I agree with all points listed under Question 10

Student's Name: SAMUEL KWADWO JANTUAH

Supervisor's Name: Dr. Awodiji Omotayo Adewale

Date of Application: 16-Nov-2022

Important Note:

Save your completed form (we suggest you also print a copy for your records) and then submit it to your UU Dissertation/project supervisor (tutor). **In the case of student projects, the responsibility lies with the Faculty Dissertation/Project Supervisor.** If this is a student application, then it should be submitted via the relevant link in the VLE. Please submit only electronically filled in copies; **do not** hand fill and submit scanned paper copies of this application.

Appendix G

Green HRM

Please, indicate the extent to which the following Green HRM practices are implemented in your university. You are to **indicate the extent to which you agree or disagree with each of the following statements by ticking (✓) in the appropriate box using the scale below:**

S/N	Items	V1	V2	V3	V4	V5	V6	V7	V8	TOTAL	CVR
	GREEN RECRUITMENT In my university:										
1	Interview is conducted remotely via telephone, Skype, or video conferencing for candidates in my school	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
2	Environmental criteria are incorporated into the recruitment advertisement and invitation	✓	✓	✓	*	*	✓	✓	✓	6	0.5

	university, or we are a socially and environmentally responsible employer) are expressed in the job advertisements of the institution.										
B	SELECTIONS In my university:	V1	V2	V3	V4	V5	V6	V7	V8	TOTAL	VCR
8	Applicants are selected based on their interest in the environment activities	✓	✓	✓	*	✓	✓	✓	✓	8	1.0
9	During interview, applicants are asked questions about the environment related issues.	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
10	Candidates were chosen based on their knowledge about sustainable	✓	✓	✓	*	✓	✓	✓	✓	7	0.75

	the necessary skills and knowledge										
27	Staff members are trained on how to use environmentally friendly best practices (e.g. reducing long-distance business travel and recycling).	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
28	The university creates "environmental awareness" among the staff members	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
29	The university educates staff members about the environment.	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
30	The university educates staff members on how to conduct a workplace green analysis	✓	✓	✓	*	*	✓	✓	✓	6	0.5

47	The university shares gain with staff members for initiatives or activities related to the environment.	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
48	Unions are acknowledged as important players in environmental management in the university	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
49	The university gives unions the chance to talk to management about a green workplace agreement.	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
H	GREEN INNOVATION In my university:										
50	Cutting-edge green technologies is advocated for Framework for	✓	✓	✓	*	*	✓	✓	✓	6	0.5

	protecting intellectual property that aids in climate change adaptation is provided.										
51	Technology and innovation are used to adapt to climate change.	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
52	Discussion on the latest technological developments and workable ideas to address climate change effect is carried out.	✓	✓	✓	*	*	✓	✓	✓	6	0.5
53	There is tremendous amount of green space dedicated to an organic environment in my university.	✓	✓	✓	✓	✓	✓	✓	✓	6	0.5
54	There is an advocate for a green economy in Ghana.	✓	✓	✓	*	✓	✓	✓	✓	7	0.75

55	The invention for green goods and services is promoted and supported.	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
56	Management enhances the business abilities of green entrepreneurs on campus to create green jobs.	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
57	There is a remarkable dedication to sustainable environment is in practice in my university.	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0

SECTION C: TOP MANAGEMENT VALUES

Please, indicate the extent to which the following top-management values are in existence in your university. You are to indicate the extent to which you agree or disagree with each of the following statements by marking a cross (x)/ thick (✓) in the appropriate box using the scale below:

		V1	V2	V3	V4	V5	V6	V7	V8	TOTAL	CVR

8	University management create clear, specific, doable plans to get there. (Pragmatism)	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
9	University management is realistic when it comes to assessing the environment they operate in and practical about the decisions they make. (Integrity)	✓	✓	✓	✓	✓	✓	✓	✓	8	1.0
10	University management is able to organise their plans into practicable areas. (Willingness to take Risk)	✓	✓	✓	*	*	✓	✓	✓	6	0.5
11	University management are able to direct employees navigate their work and complete their tasks. (Effectiveness)	✓	✓	✓	*	✓	✓	✓	✓	7	0.75
12	University management is able to coordinate affairs well throughout my	✓	✓	✓	*	*	✓	✓	✓	6	0.5

