GREEN HUMAN RESOURCE MANAGEMENT PRACTICES AND EMPLOYEE PRO-ENVIRONMENTAL BEHAVIOUR IN PUBLIC UNIVERSITIES IN KENYA

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Green Human Resource Management Practices and Employee Pro-Environmental Behaviour in Public Universities in Kenya

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

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DEDICATION

To Patrick, my husband; Achile, Okemba and Mich, my children; Mercy Mwamburi, Agnes and Okemba Lore, my parents.

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ABBREVIATIONS AND ACRONYMS

AMO	Ability, Motivation and Opportunity
CUE	Commission for University Education
EGB	Employee Green Behaviours
EI	Employee Involvement
EM	Environmental Management
ES	Environmental Sustainability
GEI	Green Employee Involvement
GER	Green Employee Resourcing
GET	Green Employee Training
GHG	Greenhouse Gas
GHRM	Green Human Resource Management
GPM	Green Performance Management
GRE	Green Rewards
GRS	Green Recruitment and Selection
GUPES	Global Universities Partnership on Environment and Sustainability
HR	Human Resource
HRM	Human Resource Management
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
JKUAT	Jomo Kenyatta University of Agriculture & Technology
KarU	Karatina University
KGUN	Kenya Green University Network
KU	Kenyatta University
KUSU	Kenya Universities Staff Union
NCCAP	National Climate Change Action Plan
NDC	Nationally Determined Contributions
PEB	Pro-environmental Behaviour
PMT	Protection Motivation Theory
PRP	Performance-Related-Pay
SPSS	Statistical Package for Social Sciences
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

DEFINITION OF OPERATIONAL TERMS

Avoiding Harm	behaviours geared towards inhibiting negative environmental actions, reducing impact and mitigating environmental damage (Wells, Gregory-Smith, et al., 2018).
Climate Change	any variation in climate over time due to natural variability or human actions (IPCC, 2007).
Competence-Based Rewards	rewards designed to align with organizational goals and encourage employees to develop and utilize competencies that contribute directly to the organization's success (Paauwe & Boon, 2018).
Conserving	behaviours that promote resource preservation by avoiding wastefulness by encouraging reducing, reusing and recycling – the '3Rs' (Wells, Gregory-smith, et al., 2018).
Employee Green Behaviours	scalable actions and behaviours that employees engage in that are linked with and contribute to or detract from environmental sustainability (Ones et al., 2018; Weerarathna, Jayarathna, & Pintoe, 2018; Dilchert & Ones, 2012).
Employee Pro-Environmental Behaviour	all types of voluntary or prescribed activities undertaken by individuals at work in order to protect the natural environment or improve organizational practices in this area (Robertson & Barling, 2015).
Extra-Role Green Workplace Behaviours	discretionary acts by employees within the organization not rewarded or required, yet are directed towards environmental improvement (Dumont, 2015).

Green Employee Induction	familiarizing new employees with an organization's greening efforts and encouraging them to behave pro-environmentally (Aykan, 2017).
Green Employee Involvement	engaging employees in environmental management practices through various channels such as newsletters, suggestion schemes, problem solving groups and green action teams and also encouraging them to participate in workplace cleaning and corporate social responsibility activities (Chan et al., 2017).
Green Employee Resourcing	the process of attracting and hiring candidates with knowledge, skills, attitudes and behaviours that identify with environmental management initiatives of an organization (Aranganathan, 2018).
Green Employee Rewards	a variety of incentives offered by organizations to nurture employee engagement in environmental initiatives and motivate changes in working practices (Robertson & Barling, 2015).
Green Employee Selection	considering candidates' environmental concern and interest as a selection criterion (Aykan, 2017).
Green Employee Training	imparting the right knowledge, skills and attitudes to employees for good environmental management (Aykan, 2017).
Green Employer Branding	a series of organizational activities designed to build an external image portraying the organization as one conducting its operations sustainably; the main aim being to attract 'green candidates' who share the same values with the organization (Macalik & Sulich, 2019).

Green Evaluation Methods	assessing and managing employee performance and organizational practices in a way that promotes environmental sustainability. These methods include integrating environmental criteria into performance appraisals, evaluating employees on their contribution to sustainability initiatives, and using metrics such as energy efficiency, waste reduction, and resource conservation (Renwick, Redman, & Maguire, 2013).
Green Five Taxonomy	a comprehensive description of the diversity of environmentally relevant behaviours an employee performs at work (Ones et al.,2018).
Green Human Resource Management	the integration of HRM with environmental management to realize corporate green strategies by providing opportunities and motivating employee involvement in environmental activities (Shen et al., 2019).
Green Innovation	new or modified processes, practices, systems and products which benefit the environment and enhance environmental sustainability (Calza et al., 2017).
Green Job Descriptions	incorporating an environmental dimension as a duty in an employee's job description to promote environmental sustainability (Aykan, 2017).
Green Performance Indicators	metrics used to assess and measure the environmental impact and sustainability efforts of organizations. These indicators provide quantifiable data on various aspects of environmental performance, such as energy consumption, greenhouse gas emissions, waste generation and recycling rates, water usage, and adherence to environmental regulations and standards (Renwick, Redman, and Maguire, 2013).

Green Performance Management	planned programs aimed at improving the effectiveness of environmental management over time by guiding employees' actions towards the environmental performance outcomes desired by the organization (Robertson & Barling, 2015).
Green Performance Targets	specific goals set by organizations to achieve environmental sustainability objectives, focusing on reducing environmental impact, improving resource efficiency, increasing renewable energy usage, minimizing waste generation, and meeting regulatory compliance related to environmental standards (Renwick, Redman, and Maguire, 2013).
Green Recruitment Methods	strategies and practices designed to attract and select candidates who prioritize environmental sustainability (Bombiak & Marciniuk-Kluska, 2018).
Green Selection Methods	the process of choosing individuals committed and sensitive to environmental matters, capable of contributing to an organization's environmental management efforts (Adjei-Bamfo et al., 2019).
Green Skills	Knowledge, technical abilities, values and attitudes needed to develop or support environmental sustainability (Alwi et al., 2017).
Green Suggestion Schemes	structured programs within organizations that encourage employees to propose ideas and initiatives aimed at improving environmental sustainability and reducing ecological impact. These schemes provide a platform for employees to suggest innovative ways to conserve resources, minimize waste, promote recycling, and adopt sustainable practices in the workplace (Renwick et al., 2013).

Green Teams	a group of workers whose sole aim is to identify and implement specific improvements to boost an organization's environmental performance (Labella-Fernández and Martínez-del-Río, 2019).
Green Training Methods	strategies and initiatives designed to educate employees on environmental sustainability practices within organizations.
Green Training Needs Analysis	assessing the current environmental knowledge, skills, and competencies of employees within an organization to identify gaps that hinder effective implementation of sustainability practices (Aishwarya & Thahriani, 2020).
Green Training Programmes	structured initiatives and activities designed to educate employees about environmental sustainability practices, principles, and procedures within an organization in order to enhance employees' knowledge, skills, and awareness regarding eco-friendly behaviours and strategies that contribute to reducing environmental impact and promoting sustainable development (Renwick, Redman, & Maguire, 2013).
Influencing Others	spreading sustainability behaviours from one individual to the other through leading, encouraging and supporting (Wells, Gregory-smith, et al., 2018).
Negative Reinforcement	process where a behaviour is strengthened by the removal or avoidance of an aversive stimulus. It occurs when a certain response leads to the cessation or avoidance of an unpleasant consequence (Asadullah et al., 2019).

Pro-Environmental Behaviour	individual behaviours contributing to environmental sustainability such as limiting energy and water consumption, avoiding/ minimising waste, recycling waste paper, double-sided printing, saving packaging materials, separating biodegradable trash and using more ecological modes of transport (Mesmer-Magnus et al., 2012; Warrick, 2016).
Recognition/Praise Rewards	non-monetary forms of acknowledgment given to employees to reinforce positive behaviours, achievements, or contributions to the organization. These rewards focus on providing verbal or written praise, public recognition, or symbolic gestures to acknowledge and appreciate employees' efforts and accomplishments (Paauwe & Boon, 2018).
Self-Concordance	What an individual considers his/her own important goals, ensuring employees' personal environmental values align with the organization's sustainability objectives, enhancing motivation and engagement in pro-environmental behaviours.(Unsworth & McNeill, 2017).
Taking Initiative	behaviours that are proactive, entrepreneurial and bearing a certain level of personal risk or sacrifice that may involve financial loss, discomfort or social costs (Wells, Gregory-smith, et al., 2018).
Transforming	behaviours geared towards creating sustainable products and processes (eco-innovation), generation of unique ideas and innovating sustainable solutions (Wells, Gregory-smith, et al., 2018).

ABSTRACT

The global ecosystem is fast deteriorating due to devastating effects of climate change resulting from humanity's behaviour towards the environment. Increasing resource scarcity, loss of biodiversity and global warming with disastrous effects have become prevalent. Scientists unanimously blame anthropogenic (human) actions for the crisis and claim that the power to mitigate and preserve the environment lies within human behaviour change. While research on pro-environmental behaviour (PEB) – individual behaviours contributing to environmental sustainability – has grown steadily within households, it remains underrepresented in the workplace. Existing studies in workplaces are primarily rooted in environmental management or industrial and organizational psychology. The interface between HRM and pro-environmental initiatives however remains theoretically and practically scarce, especially in Africa. This study aimed to fill this gap and provide valuable insights for researchers, organizational leaders, and practitioners. The overall objective of the study was to investigate the influence of Green HRM practices on employee PEB in Public Universities in Kenya. It specifically examined the influence of green employee resourcing, green employee training, green performance management, green employee rewards, and green employee involvement on employee PEB in these institutions. It also assessed the moderating effect of socio-demographic factors (gender, age and education) on the relationship between GHRM practices and EPEB. Borrowing from the Green Five Taxonomy, the study developed a measurement model to assess an array of employee green behaviours: transforming, conserving, avoiding harm, influencing others, and taking initiative. It targeted 30,758 employees and used both probabilistic and non-probabilistic sampling techniques to determine and select the sample size. Multi-stage sampling was adopted to select respondents, where a sample size of 123 respondents was drawn using Yamane's formula. It adopted the correlational research design and employed mixed research techniques combining both quantitative and qualitative approaches to obtain data. An online questionnaire and document analysis guide were used to collect primary and secondary data, respectively. For descriptive analysis, frequency distributions and graphical techniques were used. Central tendency and dispersion were assessed for interval variables using the arithmetic mean and standard deviation, respectively, while content analysis was used for qualitative data. The study utilized inferential statistics, employing Pearson's Correlation Coefficient and Analysis of Variance (ANOVA), to scrutinize the relationship between Green GHRM and EPEB. Pearson coefficients revealed significant positive correlations, while ANOVA tested hypotheses, confirming the statistical significance of the association between GHRM practices and EPEB. Findings revealed a statistically significant influence of Green HRM practices on EPEB. Additionally, the moderating influence of socio-demographic factors on the relationship between predictor and outcome variables was confirmed. The study concluded that GHRM practices do influence EPEB, with socio-demographic factors playing a moderating role. The study recommended adoption of a holistic approach to green recruitment, green training, green performance management, green rewards and green involvement to inculcate an environmental sustainability culture in public university employees. Managerial and policy recommendations were also made.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Over the course of history, human civilization has witnessed the outbreak of devastating infectious diseases such as tuberculosis, smallpox, cholera and HIV/AIDS. Mankind has been infected by, suffered from and developed treatments for these numerous ailments. However, the turn of the 21st century introduced a new disease, a larger patient and a new infectious agent: climate change, planet earth and humankind respectively (Robertson & Barling, 2015). The need to address this state of affairs is critical since the natural environment is significant to the sustenance of economies and organizations alike (Zoogah, 2011). A comprehensive review of scientific research literature, which analysed 11,944 abstracts published between 1991 and 2011, revealed a 97.1% scientific consensus that climate change is anthropogenic - caused by humans (Cook et al., 2014). In this regard, the key to environmental solutions, climate change mitigation and adaptation, squarely lies in human behaviour change (Beckage et al., 2018; Walton, 2016; Heberlein, 2012; FAO, 2008).

Climate change, defined as any variation in climate over time due to natural variability or human actions (IPCC, 2007), is a serious global issue threatening the planet's life support, environmental and human systems (Robertson & Barling, 2015). It bears potentially devastating risks to the earth and her population directly through storms, heat stress and floods; and indirectly through changes in pollution, food insecurity, under-nutrition and mental health (Watts et al., 2015; Zibarras, 2017). It continues to progress rapidly, for instance, from 2006 to 2015, the observed global mean surface temperature was higher by 0.87°C, compared to the average over the pre-industrial period between 1850-1900, and continues to rise by 0.2°C per decade due to past and ongoing emissions. If this trend persists, it is likely to rise to 1.5°C between 2030 and 2052 with catastrophic consequences (Masson-Delmotte et al., 2018).

Ecological economists identify four critical "capitals" necessary for supporting a genuine, human welfare-driven economy: Natural, Built, Human, and Social. These encompass environmental resources, physical infrastructure, human skills and values, and interpersonal connections. In alignment with the business concept of the triple bottom line, this framework emphasizes the simultaneous satisfaction of economic, environmental, and social goals in business practices (Malay et al., 2013). As such, organizations are increasingly experiencing pressure from regulatory, normative, and social sources to enhance their environmental sustainability efforts (Norton, 2016). This is primarily due to their substantial impact on climate, stemming from their operations, goods or services, as well as their engagement with a diverse range of stakeholders (Ashraf & Singh, 2013). They are thus responding through structural and operational changes such as removing or changing inefficient equipment or business processes, to mitigate climate change (Dumitru, 2015). However, the role of organizations must be enacted through the people working within them (Bartlett, 2011; Dumitru, 2015), as such, the power to mitigate climate change lies within human behaviour change (Robertson & Barling, 2015a; Swim et al., 2011). Organizations and their workforce therefore have a fundamental role in either safeguarding or harming the environment within their operational spheres. To effectively mitigate adverse environmental consequences and advance sustainability, promotion of pro-environmental behaviour among employees becomes necessary (Vinojini & Arulrajah, 2017).

Pro-environmental behaviours (PEB) encompass individual actions that contribute to environmental sustainability, such as energy conservation, waste reduction, recycling, double-sided printing, among other environmentally conscious practices at work (Mesmer-Magnus, Viswesvaran, & Wiernik, 2012; Robertson & Barling, 2015; Steg & Vlek, 2009). Also termed employee green behaviours (EGB), these actions are defined as scalable behaviours linked with and impacting environmental sustainability (Ones et al., 2018; Weerarathna, Jayarathna, & Pintoe, 2018; Dilchert & Ones, 2012). Scholars emphasize the importance of employee PEB for successful environmental initiatives within organizations, as employees play a critical role in corporate greening. These behaviours significantly influence organizational performance financially, environmentally, and socially (Blok, Wesselink, Studynka, & Kemp, 2015). While

organizations implement infrastructural changes to address environmental impacts, scholars argue that these measures may only marginally reduce overall environmental footprints (Hertin et al., 2008; King et al., 2005; Ucci, 2010; Young et al., 2015). Engaging employees in PEB is considered essential to avoid reducing environmental efforts to symbolic or ceremonial activities (Robertson & Barling, 2015; Boiral, 2007). Within organizations, the imperative to drive behaviour change is a preserve of the Human Resource Management (HRM) function (Liebowitz, 2010).

The Human Resource (HR) function plays a pivotal role in fostering sustainability and environmental stewardship within organizations (Liebowitz, 2010). Aligning HR practices with environmental objectives enhances the likelihood of achieving environmental sustainability (Robertson & Barling, 2015). Integrating formal or informal environmental management systems with HR functions, particularly in recruitment, training, and performance management, contributes to the success of sustainability initiatives (Renwick et al., 2013; Zibarras & Coan, 2015). Core components of the HRM aspects likely to complement technical aspects of environmental management include developing green abilities, motivating green employees, and providing green opportunities (Renwick et al., 2013).

Employee involvement, including participation in green initiatives and decision-making processes, is crucial for building a green workplace culture. The integration of environmental criteria throughout HR practices, from resourcing to training and rewards, is emphasized as a best practice (Renwick et al., 2012). Despite its significance, the interface between HRM and environmental management seems to be theoretically and practically scarce within the workplace (Brio, Fernandez, & Junquera, 2007; Jabbour, Santos, & Nagano, 2010). A survey conducted by Society for Human Resource Management (Xu et al., 2018) indicates limited HRM involvement in the strategic planning and implementation of sustainability programs. The survey results revealed that, out of the 250,000 association members spread in 140 countries, HRM's participation in the strategic planning of sustainability programs stood at a mere 6%, whereas its involvement in the implementation strategy was only 25%.

Green Human Resource Management (Green HRM) endeavours to integrate environmentally responsible principles into HR processes, employing strategies such as recruiting individuals with eco-conscious values, providing green training, and motivating employees through environmentally aligned performance management and reward systems. Renwick et al.'s (2012) definition, based on Appelbaum's (2000) Ability–Motivation–Opportunity theory, emphasizes developing of green abilities, motivating green employees, and providing green opportunities. In contemporary recruitment, organizations leverage web-based methods to communicate their environmental initiatives, recognizing the increasing importance of environmental reputation. Training plays a pivotal role in raising awareness and skills among employees, especially in waste reduction (Mwita, 2019; Pande, 2016). Performance management involves setting environmental standards, conducting green audits, and implementing performance appraisal systems with green indicators.

In line with strategic reward management, organizations are designing incentives to promote environmental stewardship, particularly targeting senior managers. Facilitating opportunities for employee participation in environmental initiatives, for instance, through the establishment of green teams or sustainability committees, cultivates a sense of ownership and engagement (Van Buskirk, 2019; Sanyal & Haddock-Millar, 2018; Jabbour et al., 2013; Jabbour, 2011). Green HRM therefore not only reduces environmental impact but also fosters a culture of sustainability. The approach proves instrumental in attracting and retaining talent dedicated to environmental responsibility, thereby establishing itself as an indispensable component of contemporary HR strategies (Russell & Hill, 2018).

Socio-demographic factors, including age, gender, education, income, locale, ethnicity, occupation, and social identity, play a significant role in influencing individuals' engagement in pro-environmental actions (Milfont & Sibley, 2016; Patel et al., 2017; Rampedi & Ifegbesan, 2022; Ifegbesan et al., 2022). Recent studies consistently highlight education as a crucial factor, indicating that individuals with higher levels of education are more inclined to exhibit pro-environmental behaviour. This is due to its ability to equip individuals with knowledge and awareness of environmental issues, fostering a stronger sense of responsibility and motivation for

eco-friendly actions (Estrada-Araoz et al., 2023). Age is another critical socio-demographic factor influencing pro-environmental behaviour (Amoah & Addoah, 2021), with research suggesting that younger employees, particularly millennials and Generation Z members, prioritize environmental sustainability and actively seek workplaces with eco-friendly practices (Yamane & Kaneko, 2021). This inclination may stem from increased exposure to environmental education and awareness campaigns, aligning with values related to social and environmental responsibility (WOO, 2021). Gender, while influencing pro-environmental behaviour, yields inconsistent findings. Some studies suggest that women tend to exhibit higher levels of pro-environmental behaviour compared to men (Li et al., 2022). This difference may be attributed to socialization processes, cultural norms, or variations in perceived efficacy in addressing environmental challenges (Milfont & Sibley, 2016; Vicente-Molina et al., 2018).

Notably, research on pro-environmental behaviour has predominantly focused on developed countries, with a significant gap in workplace investigations, especially in developing countries like those in Africa, where environmental challenges are pronounced (Cordano et al., 2011; Amoah & Addoah, 2021). Similarly, climate change mitigation has been widely researched within the field of natural sciences but still remains elusive within the social sciences sphere. Considering that global warming is seen to be largely anthropogenic, social scientific research becomes necessary as it will enhance comprehension of the significant role that alterations in individual behaviour towards the environment can have in mitigating effects of this crisis (Robertson & Barling, 2015). Zibarras (2017) concurs that there is need to change people's behaviour in order to tackle climate change and its resultant devastation to the environment. This highlights the need for more research on pro-environmental behaviour at the workplace, particularly in the local context, to address the scarcity of literature in this area.

1.1.1 Global Perspective of Green Human Resource Management Practices and Employee Pro-Environmental Behaviour

Globally, climate change is rapidly affecting the business environment and the human resource management function is being challenged to respond, not only to the needs of multiple stakeholders but also to environmental pressures (Renwick, 2018), hence the need for Green HRM. Consensus to reduce greenhouse gas emissions to mitigate climate change occasioned by concentrations of nitrous oxide, methane and carbon dioxide believed to be the basis of planetary warming is not in doubt (Cudmore, 2015; IPCC, 2015; Matthews, 2018). Realizing the growing threat of climate change, various countries, being parties to the United Nations Framework Convention on Climate Change (UNFCCC), entered into an agreement on 12th December 2015. Referred to as the "Paris Agreement", it aims to strengthen the global response to the threat of climate change (UN, 2015).

The state of carbon emissions in Europe has continued to decrease over the years. In UK for instance, industrial emissions have decreased significantly in the past 40 years owing to the demise in manufacturing and industrial output. Nevertheless, business and public sectors still remain responsible for more than a third of UK's carbon dioxide emissions (Cudmore, 2015). However, a survey of 214 UK organizations by Zibarras and Coan (2015) revealed that HRM practices are seldomly used to promote employee pro-environmental behaviour, despite their potential to encourage eco-friendly conduct. In the United States on the other hand, it is reported that the combined commercial and industry sectors produce three times more emissions than the domestic sector (Lülfs & Hahn, 2013). A study conducted by Markle (2019) revealed that although environmentalism is widely supported, corresponding individual or collective behaviour remains deficient.

In Asia, resource constraints and environmental challenges led to crafting of ambitious environmental targets that culminated in the 21-member nations of the Asia-Pacific Economic Cooperation in 2016 (Jacob & Møller, 2017). This resulted in a multi-lateral tariff-cutting arrangement on 54 eco-friendly goods aimed at supporting access to clean technologies and doubling up use of renewable energy in the region by 2030.

Ultimately, a 45% reduction in energy intensity by 2035 was projected (APEC, 2023). This development encouraged participation of various stakeholders, including HRM, with organizations isolating the core role of Green HRM in facilitating implementation of green strategies and environmental management practices (Ren et al., 2018). In Australia, O'Donohue and Torugsa (2016) report a positive association between proactive environmental management, Green HRM and financial performance in 1,278 small firms within the machinery and equipment manufacturing sector. Similarly, other Australian organizations are utilizing employee participation - a Green HRM practice – to induce carbon emission reduction behaviour in employees, as revealed by a survey of 682 firms. However, other HRM perspectives are yet to be explored (Markey et al., 2019).

1.1.2 Regional Perspective of Green HRM and Pro-Environmental Behaviour

Africa seems to be the greatest casualty of global warming and has been classified as the world's most vulnerable region to impacts of climate change due to the continent's poor adaptive capacity (Awojobi, 2017). The devastating impacts of this crisis to the continent have significantly affected economic sectors, natural resources, ecosystems, livelihoods, and human health, majorly due to human maladaptive behaviour (Ifegbesan et al., 2022). In 2008 for instance, Zambezi River in Mozambique flooded displacing 90,000 with a million others living in flood-affected areas (IPCC, 2014). Similarly, the worst drought in 60 years was experienced between 2008-2011 within the East African region (Kioko, 2013). Human health has not been spared either as climate change trends also contribute to dust emission which impacts on health through transport accidents and respiratory illnesses. Vector-borne diseases such as malaria and their water-borne counterparts such as cholera also continue to place a heavy health burden on Africa (Zaitchik, 2017). Acknowledging this threat, almost all African nations, with the exception of Angola, Eritrea, and South Sudan, became parties to the Paris Agreement, which came into force in November 2016 (www.un.org/africarenewal/magazine/december-2018-march-2019/global-warming-severe-consequences-africa). The Agreement is an international treaty adopted in 2015 to combat climate change.

In South Africa, adoption of Green HRM faces opposition from a faction of HR practitioners who are hesitant to fully assume the responsibilities linked to promoting environmental sustainability. Their argument revolves around the belief that tasks related to 'greening and environmental efficiency' lie beyond the conventional scope of HR functions. This resistance presents challenges, including the absence of dedicated green HR policies, inadequate financial support for eco-friendly initiatives, a shortage of HR skills for environmental roles, and a lack of commitment from management (Mtembu, 2018). Similarly, in Ghana, organizations face substantial challenges in embracing Green HRM and are grappling with issues of limited financial resources, political and regulatory constraints, and cultural and educational barriers (Kodua et al., 2022). Nevertheless, some manufacturing firms, recognizing the significance of sustainability, are actively addressing these hurdles by implementing mandatory green training programs to equip their employees with essential environmental competencies (Suleman et al., 2022).

In Nigeria, acknowledging the efficacy, efficiency, and cost-effectiveness of preventing oil pollution over managing its consequences, oil and gas companies in Rivers State are progressively embracing sustainable measures. Particularly noteworthy is the growing commitment to fostering eco-responsible employee behaviour through Green HRM, as part of comprehensive efforts to tackle environmental issues stemming from petroleum exploration and production activities (Diri et al., 2021). Likewise, the situation in Tanzania indicates a notable consideration for Green HRM as exhibited by some manufacturing enterprises, indicating a transition from considering green initiatives as a niche to recognizing them as integral aspects of HR education to promote pro-environmental behaviour. Despite this positive trend, organizations are yet to fully formalize their commitment by establishing specific policies, integrating green principles, and implementing specialized workforce curricula. This indicates a potential for growth and refinement in the implementation of Green HRM (Mwita & Mwakasangula, 2020). In summary, the broader context in Africa suggests a maturing awareness and adoption of Green HRM as crucial for sustainable employee behaviour. Although progress has been made, there is a recognition that more systematic and strategic efforts are needed to fully embed these principles into organizational culture and practices.

1.1.3 Local Perspective of Green HRM and Pro-Environmental Behaviour

The adoption of GHRM practices is still relatively novel in Kenya, as the majority of organizations are yet to implement it. Although there are ongoing efforts to integrate Green HRM into both public and private institutions, the intended outcomes have not yet been fully realized (Chemjor, 2020). Kenya however recognizes the serious threats posed by climate change owing to her high dependence on climate-sensitive natural resources for her people's livelihoods and economic sustenance.

The country's long-term development blueprint - Vision 2030 - aims to transform Kenya into an industrializing middle-income country by 2030. However, global warming seems to be a potential threat to the attainment of this Vision's objectives, making the country highly susceptible to climate-related effects which pose serious threats to her socio-economic development. The overall impact of the 2008-2011 drought for instance, cost Kenya an estimated USD12.1 billion and slowed economic growth by 2.8% during that period. Consequently, following consultations with various stakeholders, the government formulated the National Climate Change Action Plan (NCCAP) in 2012 to mitigate the country's vulnerability to climate change (GoK, 2013). On 28th December 2016, Kenya also became a signatory to the Paris Agreement, which requires each member country to communicate its nationally defined contributions (NDC) geared towards reduction of the greenhouse gas emissions (Government of Kenya, 2018). The NDCs aim to achieve a 30% reduction in greenhouse gas emissions by 2030 compared to a projected baseline of 143 million tonnes of carbon dioxide equivalent (MtCO2e).

Through a multi-sectoral approach, the Kenya Government developed a Green Economy Strategy designed to drive higher economic growth in line with Vision 2030, incorporating sustainable development principles into the national growth strategy. Building on the successes of previous Medium-Term Plans (MTP I and MTP II), the Ministry of Environment and Natural Resources led a collaborative formulation of the Green Economy Strategy and Implementation Plan (GESIP). This policy framework aims to position Kenya on a globally competitive, low-carbon development path, emphasizing economic resilience, resource efficiency, sustainable natural resource

management, infrastructure development, and social inclusion as key focal points. It also advocates for green technologies as well as investing in research and innovation (Government of Kenya, 2016). The overarching goal is to deliver more economic value with fewer resources, aligning with the principles of the Paris Agreement and Sustainable Development Goals.

While assuming a facilitative role in creating an enabling environment for green economy initiatives through institutional and legal frameworks, the government recognizes the need for a collaborative effort among various stakeholders, each playing a unique role towards transitioning to a green economy. Specifically, Higher Education Institutions (HEIs) are obligated to seamlessly integrate green economy principles throughout all educational and training programs (Government of Kenya, 2016). This encompasses infusing sustainable practices, environmental management, and green skills development across a spectrum of academic disciplines. Moreover, these institutions are required to instigate behavioural change through provision of skill-oriented training necessary for a green economy. The training should not only target students, but the employees within these institutions as well. This dual role emphasizes the fundamental obligation of HEIs in harmonizing education and training with sustainability principles, which will equip employees and also churn out graduates capable of actively engaging in and contributing to a green economy.

To further showcase her commitment to combat climate change, the Kenyan Government, in liaison with UNEP, challenged universities to join forces with the explicit goal of transforming their campuses into global leaders in matters environmental sustainability (UNEP, 2019). This birthed the Kenya Green University Network (KGUN) in 2016, emphasizing the critical role of universities in driving the green agenda. Meanwhile, the behavioural impact of the Environmental Sustainability Performance Contract targets, introduced by the Kenyan Government in 2012/2013 as part of the public sector reforms and a strategy for performance improvement, is yet to be established (Mungai, 2017).

1.1.4 Public Universities in Kenya

Higher education continues to grow steadily, and more so in Kenya, which is considered to have the largest university education system in East Africa (Langat & Kwasira, 2016). According to CUE (2014), Kenya had 22 public chartered universities, nine (9) public university constituent colleges, 17 private chartered universities and five (5) private university constituent colleges, not to mention a number of others operating under Letter of Interim Authority. The number of public universities increased from 6 in 2003 to 22 in 2013. According to CUE (2017), the number stood at 31. By nature, universities bear the responsibility of leadership and a commitment to implementing best practices in knowledge generation and dissemination. Given their strategic position socially, politically and economically, no institution in modern society is more obligated to facilitate transition to a sustainable future than universities (Osmond et al., 2013). The shift towards sustainability therefore opens up a new frontier, bringing forth fresh challenges for these institutions (Malay et al., 2013).

Public universities have been described as microcosms of the environmental problems facing society today, being chief consumers of paper, water and energy (Thondhlana and Hlatshwayo, 2018). They are vast entities thus require these resources for their administrative, teaching, research, and community-related activities (Findler et al., 2019). Consequently, they produce substantial carbon emissions, waste and pollution, all of which significantly impact the environment (McCowan, 2020). In Kenya for instance, the institutions are struggling with the problem of waste management, energy use and resource conservation, as well as water use and management. Toxic, biomedical and radioactive waste management, as well as air and noise pollution, further compound environmental challenges plaguing these institutions (Langat & Kwasira, 2016; Mungai, 2017). Being the majority in Kenya, they have a wider reach and consequently greater impact on the environment through their operations. M'Gonigle and Starke (2006) aptly note that "there can be no sustainable world where universities promote unsustainability." Recognizing this, the Kenya Government, in conjunction with the United Nations Environment Programme, called upon

universities to team up with the aim of transforming their campuses to be the greenest in the world (UNEP, 2019).

The launch of the KGUN (UNEP, 2016) is a further emphasis of the country's recognition of the universities' critical role in driving the sustainability agenda. Little was realized by 2019 however, leading to a renewal of the commitment by representatives of 18 universities who met in June 2019 at the UN headquarters in Nairobi. The re-commitment cited behaviour change, greening campuses, greening curricula and community engagement as areas of focus. An implementation plan for the KGUN activities was drawn covering the period July 2019 to December 2020 (UNEP, 2019). However, since the role of these institutions must be enacted through the people working within them, employee behaviour change becomes critical.

1.2 Statement of the Problem

"There can be no sustainable world where universities promote unsustainability" (M'Gonigle & Starke, 2006). Kenya's public universities are struggling with "university greening" as they grapple with challenges relating to energy usage, resource conservation, pollution, as well as managing toxic, biomedical, and radioactive waste (Langat & Kwasira, 2016). Due to their size, they consume considerable resources in administration, teaching, research and community-related activities (Findler et al., 2019), leading to substantial carbon emissions, waste and pollution, which significantly impact climate (McCowan, 2020). Being microcosms of the environmental problems confronting society today (Mtembu, 2017), they face intense pressure to adopt eco-friendly practices (Norton, 2016). As knowledge dissemination institutions and shapers of the future workforce (Suleman et al., 2022), they bear a special responsibility in tackling environmental challenges, particularly in climate-vulnerable Africa (Amoah & Addoah, 2021; Adelekan, 2016; IPCC, 2018). Moreover, the Kenya government requires these institutions to integrate green economy principles into all educational and training programs, catalyse behavioural change and promote skill-oriented training necessary for a green economy (GESIP, 2016).

A 97.1% consensus amongst climate change scientists confirms that human actions are responsible for the crisis (Cook et al., 2014), necessitating a human-driven solution (Beckage et al., 2018; McCowan, 2020). Research also affirms that organizational roles are enacted by the people working therein (Bartlett, 2011; Dumitru, 2015). As such, the success of sustainable practices will largely depend on employee behaviour. In this context, active HRM involvement - the gatekeeper managing employees - is critical. The integration of HRM practices with environmental concerns is therefore vital for effectively implementing environmental management initiatives (Renwick et al., 2013; Zibarras & Coan, 2015). Mtembu's (2017) study revealed that 63% of respondents from three South African universities believed that HRM practices could promote environmental sustainability in higher education. However, a survey by the Society for Human Resource Management (Xu et al., 2018) exposed a notable gap in HR contribution in the creation and execution of sustainability strategies. Of the 250,000 association members surveyed, only 6% affirmed HR's role in strategic sustainability planning with 25% being engaged in the implementation, highlighting a gap in the interface between HRM and environmental management (Brio, Fernandez, & Junquera, 2007; Jabbour, Santos, & Nagano, 2010).

The existing body of literature also acknowledges socio-demographic characteristics as potential factors influencing the nexus between HRM and environmentally friendly behaviours. Various scholars (Milfont & Sibley, 2016; Patel et al., 2017; Rampedi & Ifegbesan, 2022; Ifegbesan et al., 2022) have extensively delved into the examination of how variables such as gender, age, and education levels shape the eco-conscious actions of employees in the workplace. Recognizing the inherent diversity within the university workforce across these factors, this study set out to investigate how these socio-demographic elements moderate the relationship between Green Human Resource Management Practices and Employee Pro-environmental Behaviour in Kenya's public universities.

1.3 Research Objectives

1.3.1 General Objective

The general objective of the study was to examine the influence of green human resource management practices on employee pro-environmental behaviour in public universities in Kenya.

1.3.2 Specific Objectives

i) To evaluate the influence of green employee resourcing on employee pro-environmental behaviour in public universities in Kenya.

ii) To examine the influence of green employee training on employee pro-environmental behaviour in public universities in Kenya.

iii) To assess the influence of green performance management on employee pro-environmental behaviour in public universities in Kenya.

iv) To analyse the influence of green employee rewards on employee pro-environmental behaviour in public universities in Kenya.

v) To evaluate the influence of green employee involvement on employee pro-environmental behaviour in public universities in Kenya.

vi) To analyse the moderating effect of socio-demographic factors (gender, age and education) on the relationship between green human resource management practices and employee pro-environmental behaviour in public universities in Kenya.

1.4 Research Hypotheses

The study sought to test the following null hypotheses:

Ho_1: Green employee resourcing has no significant influence on employee pro-environmental behaviour in public universities in Kenya.

Ho_2: Green employee training has no significant influence on employee pro-environmental behaviour in public universities in Kenya.

Ho_3: Green performance management has no significant influence on employee pro-environmental behaviour in public universities in Kenya.

Ho_4: Green employee rewards have no significant influence on employee pro-environmental behaviour in public universities in Kenya.

Ho_5: Green employee involvement has no significant influence on employee pro-environmental behaviour in public universities in Kenya.

Ho_6: Socio-demographic factors (gender, age and education) have no significant moderating effect on the relationship between green human resource management practices and employee pro-environmental behaviour in public universities in Kenya.

1.5 Significance of the Study

This study provides valuable insights and empirical evidence on how Human Resource Management practices can be integrated with pro-environmental initiatives. It serves as a comprehensive guide for various stakeholders, including:

1.5.1 Scholars

The study aimed to make several contributions to the existing body of knowledge and for practical applications. Although a number of studies linking human resource management with pro-environmental initiatives have been conducted globally, most have been carried out in the developed nations. This study therefore shed light on the state of pro-environmental behaviour in Kenya and the region, and contributes to existing global literature. Similarly, of the studies conducted locally (Mandago, 2019; Mungai, 2017; Langat & Kwasira, 2016; Owino & Kwasira, 2016), none empirically explored the effect of HRM practices on employee green behaviours. Likewise, on a broader regional scale, the research conducted by Mtembu (2017) in South Africa and Oyedokun (2019) in Nigeria focused on environmental sustainability in a general context, rather than specifically addressing employee behaviour as a primary factor. There is therefore scanty empirical research on these concepts, a gap this study endeavoured to fill, providing a foundation for further research in this area. Researchers and students could build on the study's findings to explore new dimensions of HRM and environmental sustainability, contributing to the growing body of knowledge and advancing academic discourse on the subject. This study also serves as a valuable resource for academic inquiry, offering insights and data that can inspire and inform future research projects and academic endeavours in the field of sustainability and human resource management.

1.5.2 Human Resource Managers and Practitioners

The study identified significant determinants of workplace pro-environmental behaviour from the measured variables. It therefore provides empirical evidence on the integration of HRM practices with pro-environmental initiatives, guiding HR managers in designing interventions that promote environmental sustainability within

organizations. HR managers can utilize the findings to develop and implement policies related to employee resourcing, training, performance management, rewards, and involvement that align with environmental objectives, thus enhancing their organizations' overall sustainability efforts. By adopting these evidence-based practices, HR practitioners can create a more sustainable and responsible organizational culture, driving long-term environmental and business success.

1.5.3 Higher Education Institutions

Universities could use the findings to refine their environmental policies and initiatives, ensuring that they are achieving their sustainability objectives and setting an example for other institutions in the region. This feedback is crucial for continuous improvement and strategic planning, enabling higher education institutions to lead by example in the pursuit of environmental sustainability and to foster a culture of sustainability among staff and students.

1.5.4 Kenya Green University Network (KGUN)

The launch of KGUN in February 2016 marked the beginning of a long-term cooperation among 70 Kenyan universities with the aim of addressing environmental sustainability issues. The study's findings provide feedback on the extent to which the objectives of KGUN have been achieved, helping to evaluate the network's impact and areas for improvement. KGUN could use the insights from the study to strengthen collaboration among member universities and develop more effective strategies to promote environmental sustainability in higher education. By addressing the identified gaps and leveraging the study's findings, KGUN can enhance its efforts to foster a culture of sustainability across Kenyan universities, driving significant progress towards long-term environmental goals.

1.5.5 Policy Makers and Government Agencies

The findings highlight the importance of integrating HRM practices with environmental goals, offering a framework for creating policies that support sustainable business practices. Policymakers can develop regulations and incentives

that encourage organizations to adopt green HRM practices, fostering a culture of sustainability across various sectors. By leveraging the study's findings, government agencies can implement more effective and targeted environmental policies that drive compliance and innovation in sustainability, ensuring that institutions contribute positively to national and global environmental goals.

1.5.6 Employees and the General Workforce

The study raises awareness about the role of employees in achieving organizational environmental objectives and the benefits of aligning personal practices with these goals. Employees can be more informed and motivated to engage in pro-environmental behaviours, contributing to the overall sustainability efforts of their organizations and fostering a healthier work environment. By understanding the impact of their actions, employees can take proactive steps to support environmental initiatives, creating a positive and lasting impact on both the organization and the broader community.

1.5.7 The Researcher

Finally, besides its contribution to the general body of knowledge and acting as a useful guide to various stakeholders, conducting this study as part of the researcher's PhD program is crucial as it fulfils a core requirement for the degree, showcasing the researcher's capacity to conduct independent research at a rigorous academic standard. This endeavour not only contributes new empirical insights to the integration of HRM practices with pro-environmental initiatives but also underscores the researcher's ability to execute comprehensive research that meets the demanding criteria of doctoral-level study. Achieving this milestone not only advances her academic journey but also prepares her for future roles where research proficiency and scholarly rigor are paramount.

1.6 Scope of the Study

The study was limited to three thematic issues: Green HRM practices, socio-demographic factors and employee pro-environmental behaviour. Borrowing from Renwick et al.'s (2013) model conceptualized from the Ability, Motivation and Opportunity (AMO) theory, the study focused on five independent variables (green employee resourcing, green employee training, green performance management, green employee rewards and green employee involvement practices), a moderating variable (socio-demographic factors) and one dependent variable (employee pro-environmental behaviour).

A measurement model based on the Green Five taxonomy of employee green behaviours was tailored to suit the study context as suggested by Ones et al. (2018). The model measured an array of employee green behaviours: transforming, conserving, avoiding harm, influencing others and taking initiative. The study focused on three (3) purposively selected public universities in Kenya. The three universities were selected purposively on the premise that they fulfilled at least one criterion highlighted by UNEP as being key in combating climate change by institutions of higher learning that ascribe to the Kenya Green University Network (KGUN) membership. These criteria fall within four work streams: Behaviour Change, Greening Campuses, Greening Curricula and Community Engagement, introduced by UNEP during the re-launch of the KGUN initiative in 2019.

The identified universities were not only among the seven (7) public universities which attended the strategic re-launch meeting, but also the only ones that fulfilled at least one criterion highlighted in each of the mentioned work streams (UNEP, 2019). For instance, in Greening Campuses, JKUAT met the criteria for sustainable waste management by carrying out waste segregation; in Greening Curricula, Kenyatta University was already reviewing its programmes to incorporate sustainability; in Community Engagement, KU, JKUAT and KarU already had established directorates/centres that linked them directly to the community. Behaviour Change, which is the people element, was identified as a cross-cutting stream (UNEP, 2019).

1.7 Limitations of the Study

The study faced several limitations including:

Self-report Bias: the study's reliance on self-reported data collected through the questionnaire may have introduced response biases where participants may have provided socially desirable responses or inaccurately recalled their behaviours, leading to potential measurement errors. To minimize this, respondents were assured of anonymity and confidentiality. Multiple data collection methods were also employed (questionnaires and document analysis) to triangulate the findings and increase data accuracy.

Common Method Variance: the study relied on data from the self-report survey which could lead to limited understanding of the true relationships between variables. To mitigate this, the researcher ensured that responses were drawn from different cadres of staff: top management, middle management and others (teaching and non-teaching).

Limited measurement of variables: the study's focus on green HRM practices and socio-demographic factors may have overlooked other important variables that could influence employee pro-environmental behaviour. This may be mitigated by future studies that may explore other variables likely to influence employee pro-environmental behaviour.

Finally, the concept of pro-environmental behaviour has been widely researched. However, the context has been organizations or institutions in developed countries. As such, this study adopted measurement scales applied in studies in those countries. This limitation was however addressed by using the Green Five taxonomy as a guide to develop a scale tailored to suit the study context as suggested by Ones et al. (2018).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents an overview of literature relevant to the study, and involves a detailed discussion of constructs significant to the study forming the independent variables and the dependent variable. Selected relevant theories guided the formulation of the theoretical framework, which in turn provided a basis for building the conceptual model that depicted the relationship between the independent variables (Green HRM practices), the moderating variable (socio-demographic factors) and the dependent variable (employee pro-environmental behaviour). Empirical review of literature, critique and research gaps were also considered. The chapter concludes with a summary of the reviewed literature.

2.2 Theoretical Framework

A theoretical framework offers a conceptual foundation necessary for conducting research and also helps in identifying the network of relationships among the variables considered important to the study of any given problem situation (Sekaran & Bougie, 2016). The study was based on five theories namely: Ability, Motivation and Opportunity (AMO) Theory, Bundling Theory, Signalling Theory, Protection Motivation Theory (PMT) and ISO 14001 Environmental Management Model. These are discussed below.

2.2.1 Ability Motivation and Opportunity (AMO) Theory

Ability, Motivation and Opportunity (AMO) theory was proposed by Appelbaum (2000). The theory states that a firm's performance is a function of employees' ability, motivation and opportunity to participate. According to Unsworth and Tian (2018), the AMO framework sees HRM systems as comprising three sub-systems or bundles of HRM practices geared towards augmenting employees' ability, motivation and opportunity to perform. The "A" in AMO framework represents ability and proposes rigorous recruitment, selection and training as some of the HR practices likely to

enhance employee ability. Ability's main aim is to ensure that employees have appropriate skills and aptitudes to perform necessary functions.

Unsworth and colleague further highlight a bundle of HR practices responsible for motivating discretionary employee effort and behaviour, and these are represented by "M" in the AMO framework. Individual and group incentives, promotion opportunities and performance management are some examples making the motivational HR practices bundle. Finally, the duo pinpoint employee participation in decision-making, information-sharing, teamwork and flexible job design as some of the opportunity-enhancing HR practices represented by the "O" in the AMO framework. They are aimed at availing motivation-laden opportunities that ensure employee contribution towards achievement of organizational objectives.

The AMO theory can thus be said to facilitate HRM by increasing employees' Ability through attracting and developing high performing employees; enhancing employees' Motivation and commitment through practices such as contingent rewards and effective performance management; and providing employees the Opportunity to engage in knowledge sharing and problem-solving activities via employee involvement programmes. The theory suggests that employees will perform well when they are able, motivated and have the opportunity to do so. This means that they should possess the required skills and knowledge, be rewarded for their behaviour and be facilitated and supported accordingly (Rayner & Morgan, 2018). In deciding what people management concerns to include in enhancing environmental initiatives, AMO theory may be applied to identify the key HRM practices that will enhance the firm's human capital via increased human capabilities that will eventually translate into eco-friendly behaviour such as switching of lights, double-sided printing, reduced waste thus impacting environmental management outcomes.

The AMO theory recognizes that employees are central to organizational performance and emphasizes the importance of enhancing their skills, motivation, and opportunities. Its greatest strength lies in its holistic approach, which allows it to categorize HR practices into ability, motivation, and opportunity, ensuring that all critical aspects of employee performance are addressed, thus providing a comprehensive understanding of how various HR practices can work together to

enhance overall performance. Besides being employee-centric, it offers specific HR practices under each category, giving actionable insights for HR professionals. For instance, rigorous recruitment, selection, and training are emphasized under "Ability," while performance management and promotion opportunities fall under "Motivation.". By aligning HR practices with employee needs and organizational goals, the theory ensures that HR efforts contribute directly to overall firm performance.

The theory is however not without weaknesses, one being the oversimplification of the complex dynamics of human behaviour and organizational performance. Real-world contexts often involve a myriad of factors that are not fully captured by the three categories of ability, motivation, and opportunity. Moreover, the theory assumes a one-size-fits-all approach to HR practices, which may not be effective across different sectors, cultures, and organizational settings. The effectiveness of these practices is bound to vary significantly depending on various factors unique to each setting. The theory also assumes that employees will respond rationally to HR practices designed to enhance their ability, motivation, and opportunity, overlooking the influence of attitude, irrational factors, emotions, and biases on human behaviour. Furthermore, its heavy focus on HR practices may underplay the role of other critical factors such as corporate culture, leadership, external environment, and technological advancements which may significantly impact employee performance and organizational outcomes but are not fully addressed by the AMO framework. For environmental initiatives to succeed, they must align with the broader organizational culture and values. The AMO architecture does not explicitly address how to integrate such initiatives into the existing cultural fabric of an organization, which is paramount for long-term success. In light of these observations, applying the theory to environmental initiatives, though promising, requires careful consideration of the complexities involved in changing behaviour and ensuring long-term commitment.

2.2.2 Bundling Theory

A key theme that emerges in relation to best practice HRM is that individual practices cannot be implemented effectively in isolation (Storey, 2007). Instead, the integration of these practices into cohesive and complementary bundles is essential for their successful implementation. This theory refers to the development and implementation

of several HR practices together, so that they are interrelated and therefore complement and reinforce each other. In HRM, bundles refer to a group of HR practices, which are complementary and mutually supportive in contributing to increased employee commitment and performance.

With reference to AMO theory, the emphasis in bundling should underscore the significance of implementing integrated and mutually reinforcing HR practices able to enhance the three elements: ability, motivation and opportunity. In this regard, employee resourcing, training, performance management, rewards and employee involvement practices represent a key means by which workers can acquire required skills. Equally important are those activities that will ensure employees recruited into the organization are those capable of performing required tasks and responding to development opportunities provided. Motivation can be enhanced through multiple incentives such as financial and non-financial rewards (Luqmani, 2016; Blazejewski et al., 2018). Opportunity to perform on the other hand can be provided by a working environment that gives employees the necessary support to realize their potential such as empowering them to contribute to organizational decision-making.

Bundling theory emphasizes the synergy and complementarity of HR practices, suggesting that their integration into cohesive bundles leads to greater overall effectiveness. Combining training programs with performance management and reward systems for instance, can create a more supportive and motivating work environment, ultimately improving employee productivity. Like its AMO counterpart, the theory promotes a holistic approach to HRM by addressing ability, motivation, and opportunity through interconnected practices. This ensures that all critical aspects of employee performance are considered, leading to more comprehensive and effective HR strategies. The theory is particularly valuable in promoting employee pro-environmental behaviour, where integrating environmental training, eco-friendly performance incentives, and opportunities for employees to engage in sustainability initiatives can foster a culture of environmental responsibility. This cohesive approach ensures that pro-environmental behaviours are supported through comprehensive HR strategies, making it easier for employees to adopt and maintain these behaviours.

One of the theory's challenges however, is the complexity of implementation. Designing and executing integrated bundles of HR practices requires significant synchronization across different HR functions. This complexity can be resource-intensive and may require substantial organizational change. Moreover, the effectiveness of HR bundles can vary significantly depending on the organizational context, where factors such as firm culture and workforce attributes can influence the success of bundled HR practices. A universal approach may therefore not be suitable, and organizations must tailor their HR bundles to fit their distinct contexts. Similarly, measuring the impact of bundled HR practices can be challenging since isolating the effects of individual practices within a bundle may prove difficult. This makes it hard to assess the contribution of each practice to the overall performance outcomes, which can hinder the effective evaluation and refinement of HR strategies.

2.2.3 Signalling Theory

Signalling theory, when applied to Green HRM practices, explores how organizations use specific HRM practices to send signals to internal and external stakeholders about their commitment to environmental sustainability. In this context, the theory suggests that adopting environmentally friendly HR practices can serve as a visible signal of the organization's dedication to ecological responsibility. Proposed by Spence in 1973, signalling theory's aim is to reduce information asymmetry between two parties. It is commonly used to explain how applicant attraction to a recruiting organization may, in part, be influenced by information or signals about an organization's characteristics revealed during recruitment activities. It is recognized that applicants construe many recruitment-related activities and information as signals of unknown organizational characteristics (Connelly, Certo, Ireland, & Reutzel, 2011; Spence, 1973).

Indeed, research indicates that individuals are often drawn to organizations with favourable reputations. Signalling theory provides a useful lens through which to understand this phenomenon, proposing that candidates form impressions of an organization during the recruitment process based on signals or cues the company sends (Tsai & Yang, 2010). Tsai and Yang's study involving 538 participants revealed that environmental sensitivity moderated the relationship between citizenship image and attractiveness. The values associated with caring for and acting to help preserve

the physical environment can be an important factor for individuals considering which organizations to apply for jobs, hence this theory's relevance to the study.

Signalling theory effectively addresses the issue of information asymmetry between organizations and potential employees. It emphasizes the importance of aligning recruitment signals with organizational values. When applied to Green HRM practices, it highlights how organizations can use these practices to signal their dedication to environmental sustainability. By sending clear signals about their environmental commitment, organizations can attract candidates who prioritize sustainability. This alignment between recruitment outcomes and organizational values is likely to enhance the organization's reputation among both internal and external stakeholders. Additionally, it ensures that the employees attracted to the organization share its commitment to sustainability, leading to a more cohesive and value-driven workforce.

The theory's downside, however, is the risk that signals sent by organizations may be misinterpreted by potential employees. If the signals are not clear or consistent, applicants might not accurately perceive the organization's true commitment to environmental sustainability. Furthermore, organizations might adopt GHRM practices superficially, primarily to send positive signals rather than genuinely committing to sustainability. This superficial signalling can lead to a lack of genuine environmental impact and may be perceived as greenwashing by discerning stakeholders. The effectiveness of signalling theory consequently relies heavily on external perceptions. If stakeholders do not perceive the signals as credible or significant, the intended impact on reputation and attraction may not materialize. While the theory provides a valuable framework for understanding how organizations can use GHRM practices to signal their commitment to sustainability, potential misinterpretations, superficial signalling, and dependence on external perceptions are challenges that organizations must address to effectively leverage this theory.

2.2.4 Protection Motivation Theory (PMT)

Protection Motivation Theory (PMT) is a general theory of persuasive communication originally developed to gain insight into how fear appeals affect attitudes and behaviour (Maddux & Rogers, 1983; Rainear & Christensen, 2017; Sommestad et al.,

2015). Initially proposed by Rogers (1975), PMT posits that individuals form their behaviour from a cost-benefit analysis where risks associated with the behaviour are compared to the costs of trying to reduce or eliminate the risks. The theory states that individuals protect themselves based on four factors: the perceived severity of a threatening event, the perceived probability of the occurrence or vulnerability if no protective behaviour is performed, the efficacy of the recommended preventive behaviour, and the perceived self-efficacy (Homburg & Stolberg, 2006; McDonald, 2015).

Given its utility to explain risk-reduction behaviours or intentions to perform protective behaviours, Rainear and Christensen (2017) argue that PMT forms a useful framework for explaining the adoption of pro-environmental behaviours. Kim et al., (2013) concur as they observe that one's attitudes toward the prevention of climate change, perceived severity of climate change, response efficacy, and self-efficacy regarding climate change prevention are predictors of one's intentions to engage in a series of pro-environmental behaviours. The two critical processes an individual considers in deciding to engage in a risk-reducing behaviour are threat appraisal and coping appraisal. Severity and vulnerability form the two primary constructs of the threat appraisal. In the case of pro-environmental behaviour, severity will conceptualize the degree to which an individual perceives climate change as having serious negative consequences. Vulnerability on the other hand would theorize the degree to which individuals perceive themselves as being at risk of personally experiencing the negative effects of climate change. In Rainear and Christensen's (2017) view, heightened perceptions of severity and vulnerability are bound to trigger the fear arousal process which will in turn enhance protection motivation. In this regard, severity and vulnerability should be positively related to protection motivation.

Coping appraisal whose primary constructs include response efficacy and self-efficacy evaluates an action's effectiveness. Response efficacy measures the perceived effectiveness of the recommended behaviour whereas self-efficacy is the perceived ability of the individual to successfully perform recommended behaviours. Sommestad et al. (2015) posit that the coping appraisal will result in higher protection motivation if the individual perceives that the suggested coping method is meaningful

and simple to employ. PMT thus postulates that response efficacy and self-efficacy should be positively associated with protection motivation. A third component of coping appraisal considered by some studies, according to Rainear and Christensen (2017), is the response costs. In the duo's opinion, the costs are not necessarily financial but may conceptualize difficulties or barriers associated with enacting the recommended behaviour. PMT suggests that minimizing response costs, factors hindering recommended actions, is crucial for increasing protection motivation and, consequently, the likelihood of implementing recommended behaviours.

In line with the Protection Motivation Theory (PMT), green training can be strategically designed to enhance individuals' belief in the effectiveness of eco-friendly practices (response efficacy) and their confidence in implementing these practices (self-efficacy). Achieving this may involve clear communication of environmental impacts and prioritizing skill-building to further boost participants' self-efficacy. By adopting an integrated approach that addresses both response efficacy and self-efficacy, green training may be used to inform and empower the workforce, fostering the adoption and sustainability of environmentally friendly behaviours.

PMT is based on persuasive communication, which plays a critical role in shaping how individuals perceive threats and their ability to cope, thus impacting their motivation to adopt protective behaviours. This dual focus ensures that both the perceived threat and the perceived ability to cope with it are considered. It therefore provides a comprehensive framework for understanding how individuals assess and respond to threats, incorporating both emotional and cognitive processes Given its utility in explaining risk-reduction behaviours or intentions to perform protective behaviours, it forms a useful framework for explaining the adoption of pro-environmental behaviours. Green training programs can enhance response efficacy by demonstrating practical measures for sustainability, while boosting self-efficacy by equipping employees with requisite skills needed to engage in eco-friendly practices. Green targeted messaging can help employees understand the necessity for sustainable practices and enhance their confidence in implementing them effectively. Enhancing self-efficacy through training and support can lead to greater confidence and higher engagement in pro-environmental behaviours.

Implementing PMT-based strategies can however be complex, as it requires addressing multiple psychological factors simultaneously. Designing training programs and initiatives that effectively enhance both threat appraisal and coping appraisal can be resource-intensive. Additionally, individuals' perceptions of severity, vulnerability, response efficacy, and self-efficacy can vary widely. This variability makes it challenging to create uniform strategies that effectively address the needs and perceptions of a diverse workforce. While fear can be a motivator, excessive fear arousal might lead to avoidance rather than engagement. Finding the right balance in fear appeals is crucial to avoid overwhelming individuals and diminishing their motivation to act.

2.2.5 ISO 14001 Environmental Management Model

ISO 14001 is a globally recognized standard that outlines the criteria for establishing an environmental management system. This standard assists organizations in comprehensively addressing environmental concerns by identifying, managing, monitoring, and controlling them. The aim is to enhance environmental performance through the efficient utilization of resources and waste reduction, ultimately gaining a competitive edge and building trust among stakeholders (ISO, 2015). An organization can gain numerous benefits from using the Standard without having to go through the accredited certification process. According to ISO (2015) however, an accredited certification signals interested parties that an organization has properly implemented the Standard and can therefore be expected to comply with regulatory and contractual requirements. However Boiral et al. (2015) observe that ISO 14001 Standard can hardly be integrated into an organization’s activities without pro-environmental behaviours in the workplace. Support of HRM practices to shape people management therefore becomes fundamental if environmental sustainability initiatives are to bear fruit.

The model embodies various aspects that are critical in the management of an organization’s carbon footprint that can be applied in conjunction with HRM practices. For instance, clause 4.1 on understanding the organization and its context requires the organization to consider external (for example, climate change) and internal (such as employee behaviour) issues pertinent to an organization’s environmental performance.

Clause 4.2 requires an understanding of the needs and expectations of various interested parties (ISO, 2015) such as employees, the community, government and pressure groups among others. This basically calls for comprehension of the perspectives of those who affect or are affected by the organization's activities. This may, for instance, be applicable when environmental training is required, where the organization has to conduct a training needs analysis to understand the kind of knowledge the employees require to work sustainably in order to design a training program that would fulfil those requirements.

Clause 5.2 underscores the need for an environmental policy, seen as a guiding instrument for the organization (ISO, 2015). This policy not only sets direction but also establishes goals, reaffirming the organization's dedication to environmental sustainability. Clause 6 focuses on planning and encourages the adoption of risk-based thinking, prompting organizations to identify risks that could impact their environmental sustainability initiatives (ISO, 2015). Within this framework, the integration of Green HRM practices becomes relevant as a strategy to effectively manage environmental risks and improve overall sustainability. Sub-clause 6.2 requires the formulation of environmental objectives and the development of plans to attain them (ISO, 2015). It underscores the significance of ensuring that these plans are clear, measurable, subject to monitoring, communicated effectively, regularly updated, and adequately resourced. This closely resonates with the principles of green performance management within the realm of Green HRM. Similarly, Clause 7 of the Standard cites the need for adequate resources, competence, awareness and communication if environmental sustainability is to be realized (ISO, 2015). In this context, human resources become vital since an organization's performance is a function of its people who enact the organization's role on its behalf (Bartlett, 2011; Dumitru, 2015).

The model requires establishment of a criterion to assess existing competences and where gaps are identified, action taken to address them, thereby making green employee training necessary. The need to make personnel aware of the environmental policy, significant aspects and impacts of relevance to their activities has also been emphasized in the Standard. It has stressed the need to inform employees how they

contribute to environmental objectives and consequently environmental performance. Additionally, they ought to understand the compliance obligations required of the organization and implications of failure to comply. Effective two-way communication covering what is required and what is subsequently achieved, has been highlighted as being key in environmental management efforts (ISO, 2015). This requirement for a two-way communication implies the need for green employee involvement.

Finally, the need for performance evaluation is captured in Clause 9 of the model where the requirements prescribed in sub-clause 9.1 - monitoring, measurement, analysis and evaluation of environmental performance (ISO, 2015) - may feed into the green performance management and reward aspect of Green HRM. Additionally, the model requires determination of key performance indicators with accompanying evaluation metrics (ISO, 2015), further cementing the need for green performance management in an organization's efforts to entrench environmental sustainability. The discussion thus far confirms the relevance of ISO 14001 model to this study.

The ISO 14001 model offers a structured approach to environmental management, ensuring that all aspects of environmental performance are addressed systematically. The model's integration with HRM practices ensures that environmental objectives are supported by a well-trained and engaged workforce. The standard emphasizes continuous improvement, requiring organizations to regularly update their environmental management practices and objectives. By effectively integrating ISO 14001 with Green HRM practices, organizations can enhance their environmental sustainability initiatives, ultimately gaining a competitive edge and building trust among stakeholders. However, implementing ISO 14001 can be complex and resource-intensive, requiring significant investment in training, systems, and processes. Organizations might implement the standard superficially to achieve certification without genuinely committing to environmental sustainability. Moreover, the effectiveness of ISO 14001 depends heavily on the organizational culture and the commitment of leadership and employees to environmental sustainability. Therefore, for benefits to accrue, challenges related to implementation complexity, the potential for superficial compliance, and dependence on organizational culture must be addressed.

2.3 Conceptual Framework

A conceptual framework is an abstract representation, connected to the research goal, that directs the collection and analysis of data. It provides for a graphical representation of the theorized relationships of the variables (Sekaran & Bougie, 2016). According to Sekaran and Bougie (2016), it helps a researcher to structure discussion of the literature and describes how the concepts in the model are related to each other. The independent variables were conceptualized into three core components: developing employee capabilities through employee resourcing and employee training; enhancing employee motivation through performance management and reward practices; providing opportunities through employee involvement practices. The dependent variable in this study was employee pro-environmental behaviour measured using a variety of green behaviours, including e-service delivery (transformation), conservation, harm avoidance, influencing others, and taking initiative. The relationship between the independent and dependent variables was moderated by socio-demographic factors namely; gender, age, and education. It is from this model that the study derived its conceptual framework as presented in Figure 2.1.

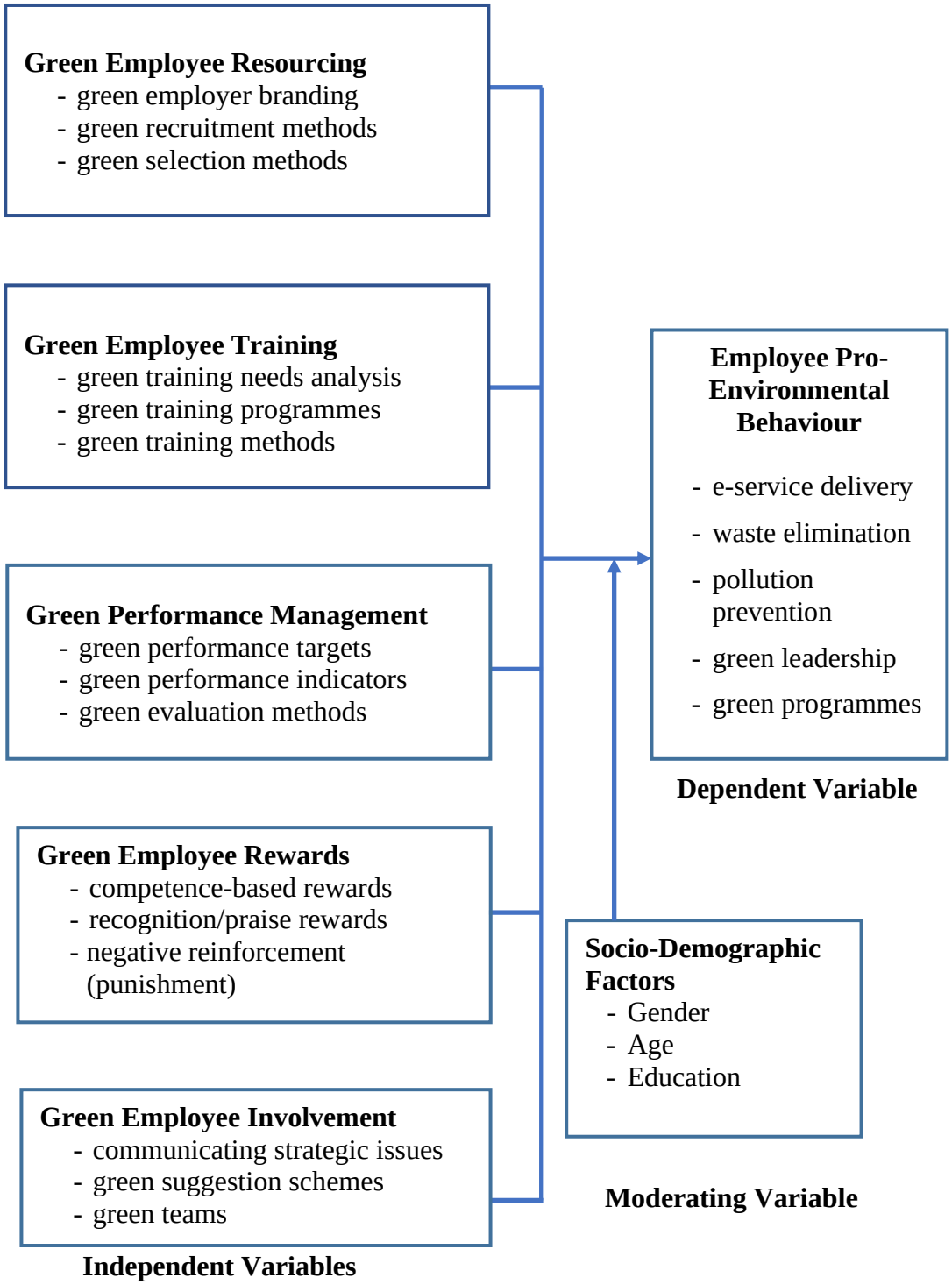

Figure 2.1: Conceptual Framework

[Adapted from Renwick *et al.* (2013) conceptualization of the AMO theory**]**

2.3.1 Green Employee Resourcing (GER)

Environmental sustainability is fast gaining prominence as a crucial factor in the recruitment and selection process (Robertson & Barling, 2015). While extensive research has historically focused on the economic sustainability of organizations in the context of recruitment and selection, there remains a noticeable lack of attention to the environmental aspects of these practices (Jepsen & Grob, 2015). This gap underscores the necessity for green employee resourcing, defined by Mwita (2019) as the adoption of eco-friendly methods, tools, and technologies to attract and select qualified candidates for available positions, while concurrently minimizing the environmental impact associated with the traditional hiring processes. This highlights the pressing need to integrate environmentally conscious practices into the recruitment and selection paradigm. An organization seeking to create and sustain a pro-environmental workforce, according to Renwick et al. (2013), has to therefore hire workers willing to engage in environmental management activities, hence the need for green employee resourcing. This would call for specificity in the job advertised in form of branding the organization as a green and socially responsible employer. It will also enable the organization to acquire pro-environmental employees through green recruitment methods, as well as using green selection approaches to evaluate job candidates (Dumont, 2015).

Green employee resourcing requires adoption of paperless recruitment strategies, employing digital platforms for job postings, applications, and communication. It also advocates for virtual interviews through video conferencing tools to reduce the need for travel, aligning with efforts to lower the carbon footprint associated with transportation (Gully et al., 2013). Furthermore, it may emphasize sourcing talent locally to diminish the environmental impact associated with long-distance travel for work. Sustainable job postings are promoted through the use of online platforms, reducing reliance on traditional printed materials. It may also involve use of eco-friendly technologies, such as energy-efficient solutions and green hosting options throughout the recruitment process (Deepika, 2016). Establishments embracing green employee resourcing may highlight their commitment to environmental sustainability

as part of their Corporate Social Responsibility (CSR) initiatives, aiming to attract candidates who prioritize eco-conscious values (Macalik & Sulich, 2019).

The environmental reputation and image of a recruiting organization is steadily becoming significant, hence the need for green employer branding in talent attraction (Bratton & Gold, 2012; Renwick et al., 2013; Yong et al., 2020). Grolleau et al. (2012) concur that attracting top candidates may be much easier for firms known for their environmental stewardship. Green employer branding involves a series of organizational activities designed to build an external image portraying the organization as one conducting its operations sustainably; the main aim being to attract 'green candidates' who share the same values with the organization (Macalik & Sulich, 2019). Signalling theory asserts that job seekers form perceptions of prospective employers based on incomplete information they encounter during the job search process. Branding thus serves a signalling function since it aids applicants' formation of a pre-hire impression of the concerned organization (Gully et al., 2013; Breaugh, 2008). Prospective applicants who personally value the environment will be particularly influenced by a pro-environmental message posted by a recruiting organization (Behrend et al., 2009). An organization's concern for the environment to a prospective employee may imply that the organization also cares for her employees. Jones et al. (2014) postulate that pro-environmental job candidates are easily drawn towards an organization which they perceive to be high on environmental sustainability, more so, where the sustainability is believed to be genuine, not just greenwashing.

Several strategies have been suggested for implementing green employer branding. These include utilizing current employees to share their experiences through employee or team spotlights on the company's website, essentially serving as green ambassadors. Other tactics involve maintaining an informative and user-friendly career page, displaying the environmental policy on the organization's website, and establishing a robust presence on social media platforms. The internet has now become prominent for millennials currently entering the job market thus making the online tools especially valuable when it comes to employer branding (Macalik & Sulich, 2019). Tang et al. (2018) concur that green employer branding proves to be an effective

method for attracting potential employees who prioritize environmental concerns. Renwick et al. (2013) conclude that Green HRM provides a platform for employer branding, contributing to the overall appeal of an organization, particularly among the burgeoning environmentally conscious younger generation.

Recruitment is the process of attracting the interest of a pool of capable people to apply for jobs an organization advertises. However, attracting high-quality employees continues to pose a key challenge for HR in the current "war for talent", especially amidst the growing awareness of the need to act pro-environmentally. A study by Jabbour et al. (2010) focusing on 94 Brazilian companies revealed that including environmental aspects in either internal or external recruitment with an effective and systematic interaction between the areas responsible for environmental management and HRM was becoming prevalent in a number of organizations. Recruitment messages thus offer one of the best mechanism for communicating social and environmental responsibility (Gully et al., 2013).

Green recruitment goes beyond showcasing environmental values to attract ecologically competent candidates; it also promotes a paperless approach in the recruitment process itself (Bombiak & Marciniuk-Kluska, 2018). This includes practices such as posting recruitment advertisements online on the organization's website and other job portals. Deepika and Karpagam (2016) concur that green employee resourcing is a paperless process with minimal environmental impact. Use of technology to minimize paperwork during recruitment has been proposed to boost pro-environmental stances of organizations. Electronic recruitment practices such as web advertising of vacancies and electronic receipt and distribution of applicant resumes have also been suggested in literature.

Selection refers to choosing the most suitable candidate(s) who fits the job description. Green selection, therefore, is the process of selecting individuals committed and sensitive to environmental matters, capable of contributing to an organization's environmental management efforts. Despite the importance of green selection, the rapidly increasing Green HRM literature has emphasized green recruitment (Guerci & Carollo, 2015; Ren et al., 2018), while giving little or no focus to green candidate selection (Adjei-Bamfo et al., 2019). However, there is need to evaluate prospective

employees and select them on the basis of a green criteria, hence the need to emphasize environmental aspects in job descriptions and employee specifications when advertising vacancies (Tang et al., 2018).

When publicising vacant positions, it is essential to include green job descriptions that clearly define pro-environmental job responsibilities. Additionally, providing a summary of the specific areas of job tasks that require environmental management knowledge and skills is also necessary. This ensures transparency and attracts candidates who align with the organization's environmental objectives. Pro-environmental HR managers are now entrenching green awareness criteria in job descriptions and interview procedures to ensure alignment of future employee's efforts with a firm's environmental objectives (Roscoe et al., 2019; Tung et al., 2014). Use of technology in e-reference checks and online issue of offer letters and employment contracts have been proposed. Moreover, technology has improved remote communication and can be used to minimize travel by eliminating in-person interviews.

Advancements in technology have enabled the adoption of techniques such as teleconferencing, video-conferencing, and Voice Over Internet Protocol (VOIP). These methods not only facilitate high-quality deliberations but also eliminate the environmental costs associated with air and motor vehicle travel. As a result, organizations can achieve significant savings on energy consumption while reducing carbon and greenhouse gas emissions. Moreover, adopting green interview environments such as direct keyboard entry as opposed to physical note-taking and usage of reusable cutlery by the recruitment team can demonstrate tangible sustainability practices to candidates during interviews. Jepsen and Grob (2015) view this as an excellent opportunity to showcase a firm's sustainability stance, a demonstration likely to reinforce commitment of new hires to environmental protection, while enhancing the firm's eco-reputation to both successful and unsuccessful candidates.

It is worth noting that pro-environmental behaviours are often considered peripheral to the conventional focal points of workplace objectives and performance. Despite their crucial role in promoting planetary health and addressing climate change, they

remain tangential to the core business of the firm and the needs of employees, hence assumed to be of secondary importance by employees. This implies that work goals receive priority over environmental sustainability, suggesting a misalignment between ecological sustainability and work objectives (Renwick, 2018; Unsworth & Tian, 2018). One strategy to rectify this anomaly is to introduce alignment at the individual employee level.

Jepsen and Grob (2015) propose incorporating sustainability practices into the organization's job descriptions. This would enable the assessment of each job for pertinent environmental sustainability elements, which could then be utilized as a green selection criterion during the HR acquisition process.

Integrating environmental sustainability practices into job descriptions such as specifying "not allowed to print emails" would communicate that the role supports evaluation of environmental sustainability in job performance. In Jepsen and Grob's view, paperless reference checks to counter-check candidates' claims of environmental proactivity may also be done via email or telephone and records of the same stored electronically. In summary, green employee resourcing aligns with the broader trend of incorporating environmentally friendly practices into business operations, not only contributing to a firm's environmental responsibility but also enhancing its reputation as a socially responsible and forward-thinking employer (Gully et al., 2013).

2.3.2 Green Employee Training (GET)

Research suggests that environmental training is positively related to the greening of organizations world-wide (Muduli, Govindan, Barve, Kannan, & Geng, 2013; Paillé et al., 2014; Daily & Huang, 2001). It is one of the most important elements for influencing people behaviour, albeit, one of the most overlooked in environmental initiatives (Shahid, 2015). Not only does it induce an employee's emotional involvement in green initiatives through increased awareness of the effects of their poor behaviour towards the environment, but also taps into an employee's implied environmental knowledge. Similarly, it enhances high level skills and attitudes for managers, supervisors and employees while eliminating process and material waste

(Roscoe et al., 2019; Dumont, 2015;Trade Union Congress, 2014; Renwick et al., 2013; Lee, 2009).

Green training involves a sequence of activities intended to impart environment-protection skills to employees in order to create pro-environmental awareness and knowledge (Tang et al., 2018). It serves three main purposes: first, to teach employees about the organization's environmental policies and procedures in order to enhance their understanding on the importance of environmental protection; secondly, equipping employees with knowledge and skills that will enable them carry out environmental activities; and thirdly, build a climate that encourages employee involvement in environmental initiatives (Yong et al., 2020; Tang et al., 2018). Advanced environmental sustainability initiatives are considered to be 'people intensive' and reliant on skill development through employee training (Brio et al., 2007). Green training thus teaches employees the worth of environmental management, trains them on work methods that conserve energy, reduce waste and provide opportunity for employee involvement in environmental problem-solving (Mwita, 2019; Pande, 2016).

PEB literature highlights a group of internal factors: social, cognitive and affective, which are believed to be responsible for pro-environmental behaviour. Within the cognitive category is environmental awareness and perceived behavioural control. Environmental awareness in this case refers to environmental knowledge and recognition of environmental problems which in turn, significantly enhance pro-environmental behaviour (Blok et al.,2015). Although organizations engage in corporate environmental management initiatives to improve their environmental performance, significant barriers bar these efforts, notably among them being absence of knowledge (Sarkis et al., 2010). Efforts to promote environmentally-relevant human behaviour therefore assume that awareness of climate change and an understanding of the magnitude of the problem would lead to significant take-up of pro-environmental behaviour (Dumitru, 2015).

Analysis and identification of environmental training needs of employees has been suggested as a mechanism for creating a more pro-environment workforce. Aishwarya and Thahriani (2020) allude that training needs analysis is critical in revealing what

skills and environmental knowledge employees require. It will also facilitate systematic education, training and development programs that provide relevant knowledge, skills and attitudes for good environmental management (Arulrajah et al., 2016). Hosain and Rahman (2015) concur that a green training needs analysis should be conducted to reveal environmental-based employee skill and knowledge gaps that will guide informed decisions on the environmental training program design.

Training needs analysis may for instance reveal the need to incorporate environment-related health, energy conservation, waste management and recycling aspects as foci for green training (Aishwarya & Thahriani, 2020). This way, the training will not only act as a critical intervention to inform staff on the environmental impact of their organization's activities, but also as a tool that will raise employees' eco-literacy and environmental expertise (Renwick et al., 2013; Roy & Thérin, 2008). In their study examining employee engagement in managing environmental performance of two McDonald's subsidiaries (UK and Sweden), Sanyal and Haddock-Millar (2018), highlight the global brand's "Planet Champions" initiative. In this programme, volunteers were trained on diverse environmental issues, the company's objectives and how they could contribute in terms of waste management, recycling and energy conservation.

According to Zhang (2019), the element of greening should not only be reflected in the training content but also in the way training is conducted. The process should utilize eco-friendly methods and technologies in training and development programmes. Consideration should be given to digital learning platforms rather than printed handouts, books and brochures in order to minimize paper consumption and waste generation, ultimately reducing the organization's carbon footprint (Mwita, 2019; Hosain, 2016). Aishwarya and Thahriani (2020) concur that online and web-based training programs and digital media are excellent teaching tools at the disposal of any organization set on propagating environmental sustainability. An example is Mater Misericordiae Limited, a large healthcare provider that has exemplified its commitment to sustainability by implementing comprehensive education and awareness programs. This includes monthly orientations for new employees,

departmental presentations, online education modules, and brief face-to-face seminars with feedback sessions for both clinical and non-clinical staff (Russell & Hill, 2018).

Similarly, various training methods have been proposed when imparting green knowledge, skills and attitudes. For instance, green employee induction or on-boarding is cited as being vital in inculcating a firm's environmental values in new employees (Mtembu, 2017). The program may be designed to emphasize green citizenship behaviour and pertinent environmental issues. It may also be used to create awareness on formal policies and practices towards greening, while encouraging employees to behave pro-environmentally (Saifulina, Carballo-penela & Ruzo-sanmartín; Hossain, 2016). A good example is Interface, a global carpet manufacturer that offers an employee education scheme for all employees to inculcate workplace pro-environmental behaviour. Referred to as 'Fast Forward 2020', it requires the entire workforce to take the first level of this program to learn about the basics of sustainability (Kennedy et al., 2015).

Mentoring, involving newcomers learning from experienced employees, has been suggested as an effective method for socializing new team members. This approach facilitates a swift connection with the organization, aids in internalizing a substance-oriented understanding, and encourages the embodiment of the employer brand (Mobarez, 2020). Various scholars (Labella-Fernández & Martínez-del-Río, 2019; Jackson & Seo, 2010) have also emphasized experiential practices which can be introduced for educational purposes to informally entrench environmental sustainability. They cite initiatives at Google and Intel as an example. These organizations have implemented on-site employee gardens where staff can cultivate organic vegetables. The harvested produce is then utilized in the organizations' cafeterias and restaurants, contributing to an increase in pro-environmental behaviour among employees.

A study by Phillips (2007) reports that 42% of UK organizations were educating and training employees in eco-friendly business practices. Similarly, according to Barton (2009), the US set aside £300million to be invested in training for green jobs under the Obama administration. Likewise, study results of 94 Brazilian companies conducted by Jabbour et al. (2010) revealed that establishment of eco-efficient improvement

activities was correlated to training as an investment. Jabbar and Abid (2014) emphasize the significance of environmental training. They assert that while employees may be inclined towards eco-initiatives, it is crucial for them to possess the necessary skills and competencies to engage in green activities. Without these abilities, employees may find it challenging to actively contribute to and support organizational environmental initiatives. The training should incorporate knowledge on aspects of energy conservation, waste reduction and should diffuse environmental awareness in the entire organization (Deepika & Karpagam, 2016). By comprehensively embracing green employee training, organizations will not only promote a culture of environmental awareness but also empower their workforce to actively support and contribute to green initiatives.

2.3.3 Green Performance Management (GPM)

Performance management is the process through which 'organizations set work goals, determine performance standards, assign and evaluate work, provide performance feedback, determine training and development needs and, distribute rewards' (Amstrong, 2020 citing Briscoe and Claus, 2008). Extending this to GHRM, it is a system of evaluating activities of employees' performance with regard to environmental sustainability. It is critical in analysing current employee efficiency, identifying gaps and consequent measures to address them, while setting stage for subsequent targets (Mishra, 2017; Tang et al., 2018). In their study to propose and validate an instrument to measure GHRM, Tang and colleagues summarized green performance management (GPM) activities into four aspects: setting green targets for all employees, generating green performance indicators, evaluating employees' green outcomes and using dis-benefits such as criticisms, warnings and suspensions to censure anti-environmental behaviour. These dis-benefits signal employees that there are consequences for actions that negatively impact the organization's environmental objectives.

Pro-environmental behaviours are paradoxically regarded as both critical and peripheral. While acknowledged as indispensable for the health of the planet and vital in the context of climate change mitigation, these behaviours often assume a tangential role in the core operations of organizations and the immediate needs of employees.

Despite their crucial significance for Earth's well-being, pro-environmental actions are perceived as being of a lesser priority by employees, reflecting a challenge in aligning organizational priorities with the imperative of fostering sustainable practices. Research proposes Green HRM practices as a vehicle for addressing this paradox (Unsworth & Tian, 2018). According to Sanyal and Haddock-Millar (2018), integration of a firm's Green HRM strategy into the performance management system can leverage employee involvement in enhancing the organization's environmental sustainability stance. Bratton and Bratton (2015) concur that performance appraisal programs are critical in improving the effectiveness of environmental management as they guide employees' actions towards environmental performance outcomes that organizations seek to achieve.

Research highlights the importance of setting green performance targets as they cause employees to think of action plans geared towards achieving the set environmental objectives. Establishing these targets is vital for organizations, as they empower organizations, through their employees, to contribute actively to global climate change mitigation and the well-being of the planet. Beyond environmental considerations, they ensure strategic alignment by seamlessly integrating sustainability goals into the overall business strategy. This not only reaffirms a commitment to environmental responsibility but also improves operational efficiency (Bratton & Bratton, 2015). The specificity of these targets prompts organizations to implement measures optimizing resource usage, reducing waste, and promoting eco-friendly practices. Also worth noting is that many regions have stringent environmental regulations, and Kenya is no exception. For instance, organizations are required to adhere to a range of environmental regulations set by the National Environment Management Authority (NEMA). These obligations include conducting Environmental Impact Assessments (NEMA, 2000), proper waste handling and disposal (NEMA, 2006; NEMA, 2015), controlling air and water quality, minimizing noise pollution, managing chemicals responsibly, and implementing measures for biodiversity conservation (NEMA, 2000). Furthermore, Kenya, as a party to various international environmental conventions and agreements, requires organizations to align their activities with the stipulations of these agreements. This commitment extends to global initiatives such as the Paris Agreement, emphasizing the imperative for organizations to contribute to both

national and international environmental sustainability goals. Compliance with these regulations not only fosters sustainable practices but also reinforces Kenya's dedication to environmental protection on a global scale. Setting green performance targets therefore helps organizations stay compliant with environmental laws and regulations, reducing the risk of legal issues, fines, and reputational damage associated with non-compliance, while making their noble contribution to preserving mother earth.

Green performance indicators have been cited in literature as being crucial in promoting and assessing environmental sustainability within organizations. The significance of performance indicators in the context of environmental sustainability lies in their ability to enhance response efficacy, aligning with the principles of protection motivation. When organizations establish green performance targets, they not only inspire employees to create action plans for achieving environmental objectives but also contribute to an improved perception of the effectiveness of those actions in addressing environmental concerns. By providing measurable metrics tied to green performance targets, these indicators showcase the progress and impact of employees' efforts in addressing these concerns. When individuals can see tangible evidence of their actions through these indicators, it enhances their perception of how their contributions positively affect the environment. Sanyal and Haddock-Millar (2018) propose operationalizing environmental sustainability practices and aligning them to corporate strategy then translating them into key performance indicators. These indicators would lead to formation of certain green criteria encompassing themes such as environmental incidents, green responsibilities, pollution minimization and communication of ecological concerns and policies. Inclusion of measurable performance indicators in the firm’s formal Green Performance Management process therefore becomes necessary as they form the basis for a green evaluation criterion which will in turn be used to assess green employee performance (Tang et. al, 2018). The integration of ES indicators within individual and firm performance management processes, according to Sanyal & Haddock-Millar (2018), is likely to reinforce and impact employee involvement in environmental practices. Moreover, employees should be kept abreast on their individual key performance indicators (KPIs) and consequent green outcome requirements should also be clarified and specified in the

performance appraisal (Russell & Hill, 2018a). Green performance indicators thus support a culture of continuous improvement. By regularly monitoring and analysing environmental metrics, organizations can identify opportunities for innovation and optimization, driving ongoing progress in sustainability

Measuring employee green performance of their jobs is another critical aspect of GPM. Green performance appraisal is deemed necessary in measuring behaviour because, when behaviour is measured to assess an individual, its perceived value rises and efforts to conform with it intensify. Likewise, performance evaluation infuses a sense of shared responsibility for environmental outcomes amongst the various key stakeholders, including employees. The evaluation may be done using a series of green criteria established from the green performance indicators and which may incorporate areas such as environmental incidents, environmental responsibilities, reduction of carbon emissions among others. This would require linking of performance evaluation to duties and responsibilities as outlined in the job description and the overall business ES objectives (Das & Singh, 2016; Hassan, 2019; Masri & Jaaron, 2017; Sanyal & Haddock-Millar, 2018; Tang et al., 2018). Similarly, Dumont (2015) suggests the need for a fair and equitable balance when applying penalties for non-achievement of targets, KPIs or work-related environmental incidents, to avoid negative repercussions for the organization. Finally, to ensure a smooth integration, employee skills and capabilities should be aligned to the individual KPIs and the assigned job responsibilities (Dumont, 2015; Renwick et al., 2013).

2.3.4 Green Employee Rewards (GRE)

AMO theory has indicated that employees will perform well when, among other things, they are motivated to do so, for instance, by rewarding appropriate behaviour (Rayner & Morgan, 2018). Dumont, Shen and Deng (2017) agree on the organization's need to appropriately appraise employee green behaviour and link it to promotional opportunities and pay in order to encourage them to participate in green initiatives. Compensation is considered the most powerful means of linking employees' interest to those of the organization, hence key in supporting ES initiatives (Aburahma et al., 2020; Jabbour & Jabbour, 2016). Jackson and Seo (2010) see compensation as the vehicle for establishing a "personal line of sight" that connects

organizational and self-interests. Haque (2017) agrees that pay and rewards are deemed influential in aligning employees' performance with corporate objectives. Renwick et al. (2013) concur that there is need to align pro-environmental activities with employee rewards to facilitate achievement of set environmental goals. They propose a range of incentives, both monetary and non-monetary.

As one of the GHRM practices, Green Rewards (GRE) have been proposed in literature as being key to encouraging employee pro-environmental behaviour hence the need to embed them into the organization's reward system. Mandip (2012) asserts that employees should be rewarded for changing behaviour if specific ES initiatives are to be realized. For instance, behaviours that may lead to waste reduction or successful green suggestions that would result in cost savings ought to be rewarded to propagate such behaviour. In line with AMO theory, HRM works by among other things, enhancing employees' motivation and commitment through practices such as contingent rewards. A range of pro-environmental activities aligned to employee rewards and compensation; and aimed at promoting achievement of green goals have been identified by Renwick et al. (2013). They include both incentives - monetary: bonuses, tax exemptions, profit shares and nonmonetary-based: recognition and praise; as well as disincentives - negative reinforcements (Mandip, 2012; Zibarras & Coan, 2015).

Monetary-based environmental rewards may require incorporating a variable pay element into an organization's compensation system by linking pay to eco-performance. For instance, a portion of cost savings resulting from a successfully implemented green suggestion should be shared with the employee or team responsible for the suggested idea. Performance-Related-Pay (PRP) is a common phenomenon in some companies in the United States and Europe. US-based Du Pont for instance, partly greened its executive compensation and bonus system for the middle managers and senior officers where up to 10% bonuses could be offered for any non-polluting product developed (DuPont, 2022). 3M on the other hand rewards employee environmentally-friendly suggestions that also increase the firm's profitability (Mandip, 2012). Competence-based reward schemes may also be considered for frontline workers who acquire specific designated environmental competencies that

can help the organization mitigate against serious environmental accidents or illegal emissions (Renwick et. al, 2013). However, as observed by Zibarras and Coan (2015), people are motivated by different 'carrots and sticks'. The implication is that, financial incentives though effective, may not appeal to everyone hence the need for non-financial rewards.

Research has shown that some employees may be more motivated by non-financial rewards such as recognition and praise (Aburahma et al., 2020). Nonmonetary rewards are believed to trigger action of an activity for their inherent satisfaction which is presumed to encourage employee behaviour change and promote environmental sustainability (Cairns, Newson, & Davis, 2010; Lanzini, 2013; Young et al., 2015). Renwick et al. (2013) cite some US companies that use recognition-based rewards to motivate staff or teams that contribute towards reducing waste, by giving them company-wide team excellence awards, opportunities to attend green events, paid vacations, time off and gift certificates. Also suggested as pro-environmental incentives is encouraging car-pooling among employees or rewarding workers with green points through an accrued point system for using alternative transportation (Mandip, 2012).

Literature suggests that it may also be necessary to incorporate negative reinforcement such as suspensions or warnings in a reward system to reprimand employees who fail to comply with set environmental standards. Some organizations have gone ahead to develop clear rules and regulations with reference to environmental protection, whose breach would result in disciplinary action (Arulrajah et al., 2015). According to McDonald (2015), negative incentives may be more effective than positives ones. Tang et al. (2018) agree that dis-benefits have a place in GHRM, but are quick to add that extremely harsh negative warnings are likely to discourage employee support for environmental sustainability. Renwick et al. (2013) concur that they pose a danger in that workers may engage in self-protective behaviours by failing to disclose environmental problems at source. Bissing-Olson et al. (2013) add that they may also create a climate of negative affect that is likely to reduce levels of employee PEB. Arulrajah and colleagues conclude that there would be need to apply progressive discipline ranging from least to most severe, based on the breach in question.

An employee green reward scheme would require management commitment. A study by Cantor et al. (2012) revealed that employees not only valued presence of environmental rewards, but also organizational support for ES initiatives. Dumont (2015) agrees that organizations have to explicitly endorse rewards to employees for demonstrating green behaviours, otherwise, the rewards would not accurately signal the organization's intent. Unsworth (2015) observes that financial rewards tap into financial goals while recognition rewards tap into recognition and respect goals hence the need to clearly determine an employee's goals for purposes of designing rewards around those goals.

From the foregoing, it is clear that green rewards are pivotal in fostering environmental sustainability within organizations by acting as positive incentives for eco-friendly practices. They not only motivate employees and contribute to a culture that values sustainability but also instil a sense of purpose and engagement among staff members. The prospect of receiving green rewards serves as a powerful motivational factor, encouraging a higher level of commitment to consistently contribute to the organization's environmental goals and driving continuous improvement in sustainability practices. Beyond internal benefits, they also carry economic advantages and enhance the organization's external reputation, demonstrating corporate responsibility and aligning with stakeholder expectations. Furthermore, by attracting and retaining talent, green rewards position the organization as a responsible participant in global initiatives addressing climate change and environmental degradation, making them a valuable component of an organization's comprehensive commitment to environmental sustainability.

2.3.5 Green Employee Involvement (GEI)

Employee involvement refers to the stimulation of a worker's interest and commitment for better employee participation in the workplace (Sanyal & Haddock-Millar, 2018). In the wake of Green HRM, there is growing consensus that employees are one of the most important sources of knowledge, expertise and innovation in environmental sustainability initiatives (Sanyal & Haddock-Millar, 2018; Renwick, 2013). Tang et al. (2018) also agree that involving employees in greening initiatives is critical in enhancing the performance of an organization's environmental management efforts.

This is because, most environmental initiatives such as efficient resource use, recycling waste material, turning off lights or powering down electronics at the end of the day rely on employees' goodwill and individual behaviours (Boiral et al., 2015). As such, there is need for management to win the 'hearts and minds' of employees towards the environmental cause, rather than seeking mere compliance (Renwick et al., 2013).

Research has singled out three core processes through which Green Employee Involvement affects ES initiatives: firstly, by tapping employees' tacit knowledge given their proximity to production processes. Secondly, it empowers them to make contributions towards environmental improvements. Thirdly, it plays a role in cultivating a workplace culture that supports efforts for environmental management improvement (Renwick et al., 2013). Renwick and colleagues underscore a broad spectrum of Green Employee Involvement practices, encompassing both traditional approaches such as newsletters, suggestion schemes and problem-solving groups, as well as more contemporary initiatives like low carbon champions, work-based recycling schemes, and green action teams. Building on Renwick and colleagues' view, Tang et al (2018) highlight the importance of several key elements. These include articulating a clear green vision; instituting various formal and informal communication channels to disseminate and embed a green culture; and engaging employees in a variety of environmentally conscious activities. These activities may encompass tasks such as contributing sustainability-related articles in the organization's bulletin, proposing eco-initiatives and participating in green teams to collaboratively craft solutions to environmental challenges, among others endeavours.

Effectively communicating a clear green vision throughout the various levels of an organization holds profound significance in the realm of environmental sustainability (Russel & Hill, 2018). Defined by Tang et al. (2018) as a system of values and symbols that support and guide employee engagement in environmental management, a clear vision is believed to transmit green signals to the workforce, enhance environmental awareness and also augment environmental protection knowledge (Zhang et al., 2019). This communication serves as a guiding beacon, ensuring that all facets of the organizational hierarchy comprehend and align with overarching sustainability

objectives while cultivating a unified and coordinated effort toward achieving environmentally responsible goals (Tang et al., 2018; Zhang, Zhang & Zhao, 2019).

Sanyal and Haddock-Millar (2018) agree that realizing the benefits of Green HRM hinges on a collective comprehension of corporate strategic and operational goals, active employee involvement within their specific areas of operation, and the subsequent opportunity for employees to make meaningful contributions. In Mater, for example, the Director overseeing Environmental Sustainability (ES), in collaboration with the marketing department, devised a communication strategy centred around sustainability and targeted all staff within the organization. This initiative led to the development of various communication tools, including a sustainability-focused staff intranet webpage, a dedicated hospital webpage for environmental sustainability, posters, sustainability-themed articles in staff newsletters, and other relevant publications. To ensure inclusion of non-administrative employees without regular computer access, the strategy involved organizing fifteen-minute face-to-face presentations in clinical departments. Despite being time-intensive, this approach unequivocally demonstrated management's commitment to and the significance of environmental sustainability.

Green teams refer to a group of workers whose sole aim is to identify and implement specific improvements to boost an organization’s environmental performance (Labella-Fernández and Martínez-del-Río, 2019). They are presumed to act as vehicular conduits for green tacit knowledge, which resides in human minds hence unstructured, difficult to see, codify and formalize. It can therefore only be acquired or transferred by sharing experiences, observation, imitation and via face-to-face discussion (Mohajan & Mohajan, 2016). These teams may be functional or cross functional; may comprise top management tasked with environmental policy formulation; action-oriented to identify opportunities and areas of improvement; or, process-specific with the intention to improve environmental performance. Whatever their composition, the teams can champion ecological issues, generate new ideas and augment environmental learning (Sanyal & Haddock-Millar, 2018). Van Buskirk (2019) credits green teams with various benefits including improving sustainability efforts within an organization, providing environmental-centred education, increasing

pro-environmental behaviours within the workplace and developing ways to reduce cost through material conservation. Davis and Coan (2018) agree that green teams may boost diffusion of environmental sustainability within organizations.

Examining two subsidiaries of McDonald's in the UK and Sweden, a premier global brand in the ‘informal eating out’, Sanyal and colleagues underscore the company's approach to engaging its employees. They highlight McDonald's initiative called 'Planet Champions' a voluntary program designed to harness the environmental passion of restaurant teams. The programme was rolled out in 2011 and 2012 for UK and Sweden respectively. The nearly 1,100 Planet Champions spread across more than 650 restaurants played a crucial role in boosting cardboard recycling and achieving energy savings. Their efforts not only contributed to these positive environmental outcomes but also earned them the prestigious 'Green Apple Award' for outstanding employee engagement. For 2020 and beyond, the food giant was set on managing energy, waste reduction and recycling; and efficient water use. This initiative is a clear indicator of the subsidiaries’ commitment to employee involvement in environmental sustainability.

Suggestion schemes have also been cited to provide a valuable channel for employee engagement and empowerment. Enabling individuals from various levels and departments to contribute their insights, these schemes foster a diverse array of perspectives, promoting a comprehensive and effective approach to sustainability. They may thus yield key outcomes such as efficient resource use, waste and pollution reduction in workplaces (Renwick et al., 2013; citing Florida & Davidson, 2001; May & Flannery, 1995; Kitazawa & Sarkis, 2000 & Denton, 1999). Giving employees autonomy to present creative solutions to problems posed, develop environmental awareness and implement environmental management knowledge, according to Brio et al. (2007), is likely to guarantee a greater level of environmental performance. Moreover, developing a culture in the workplace to support EM improvement efforts can encourage employee suggestions and freedom to engage in sustainability activities, while keeping them well informed about environmental issues affecting their workplace. Furthermore, they cultivate a culture of problem-solving and innovation, tapping into the first-hand knowledge of employees involved in day-to-

day operations (Renwick et al., 2013). Suggestion schemes may therefore be viewed as being instrumental in leveraging the collective intelligence of employees, promoting innovation, and creating a culture of continuous improvement that is essential for the success of green initiatives in organizations.

In conclusion, the significance of green employee involvement in sustainability initiatives cannot be overstated. The complexity, diversity and interdisciplinary nature of environmental issues cannot be solely managed via formal management systems and practices but necessitates the active engagement of employees (Boiral et al., 2015). Engaging employees in sustainability initiatives not only promotes a sense of shared responsibility but also taps into their diverse perspectives, creativity and problem-solving skills. Abdulghaffar (2017) opines that environmental initiatives by management without employee involvement are likely to be unsuccessful. Mandip (2012) reiterates that a GEI approach to environmental management would therefore motivate workers and allow them to detect environmental problems at source. Bratton and Bratton (2015) thus conclude that managers should seek environmental ideas from all employees and opportunities to provide feedback to encourage employee engagement in environmental sustainability. This would in turn foster a culture of innovation, knowledge sharing, and collective commitment, ultimately driving more effective and enduring sustainability outcomes for both the organization and the broader community.

2.3.6 Employee Pro-Environmental Behaviour

Pro-environmental behaviour (PEB) has been variedly defined by different scholars. WOO (2021) defines it as actions and routines individuals adopt to minimize their negative impact on the environment while fostering sustainable practices that benefit the planet. In Ture and Ganesh's (2014) view, any activity, direct or indirect, undertaken by an employee to improve the natural environment constitutes pro-environmental behaviour at the workplace. Steg and Vlek (2009) see PEB as one that harms the environment as little as possible, or even benefits the environment while Kollmuss and Agyeman, (2002) define it as “behaviour that consciously seeks to minimize the negative impact of one’s actions on the natural and built world”. Mesmer-Magnus et al. (2012) see PEB as individual behaviours contributing to

environmental sustainability. Examples of PEB given include limiting energy and water consumption, avoiding/minimising waste, recycling waste paper, double-sided printing, saving packaging materials, separating biodegradable trash and using more ecological modes of transport (Warrick, 2016).

Most research on employee PEB has focused on single behaviours limiting them to resource re-use, reducing and recycling. However, some researchers view this as a narrow conceptualization of this concept. Ones et al. (2018) for instance conceptualize a wider range of environmentally relevant employee behaviour, hence the development of the Green Five taxonomy. In their view, this taxonomy comprehensively encompasses the relevant environmental behaviours employees are likely to perform at work. Ones et al. (2018) organize the taxonomy hierarchically into five broad meta-categories followed by subcategories below them.

An increasing focus on improving efficiency, efficacy and sustainability has led to an upward trend towards innovative and transformational use of ICT to facilitate e-service delivery (Martínez-Peláez et al., 2023). This is being catalysed by transforming behaviours which aim to adapt and change work products and processes for sustainability. The subcategories under this include: creating sustainable products and processes (eco-innovation) and calls for generating unique ideas and innovating sustainable solutions; embracing sustainable innovations which requires implementing emerging innovative ideas and applying them to one's specific situation; choosing responsible alternatives that are more sustainable; changing how work is done by optimizing existing processes to improve their environmental impact. Transforming behaviours are considered foundational to employee green behaviours and require adaptation and openness to change (Ones et al., 2018).

Interface Company Limited exemplified transforming behaviour when their customers began questioning them about what they were doing for the environment (Luqmani, 2016). Ray Anderson, the founder, realized that his carpet-selling business which heavily relied on petrochemicals was operating on a take-make-waste mode, placing immense waste to planet earth in pursuit of profit (Kennedy et al, 2015). To address these concerns, Interface, the global carpet manufacturer, came up with new product and process innovations aimed at minimizing greenhouse gas emissions and lessening

the quantity of virgin materials used (eco-innovation). Interface's process innovation involved closed-loop manufacturing where the company took back postconsumer carpet tiles for recycling in order to re-use the material and minimize landfill disposal of carpet waste ((Luqmani, 2017; Kennedy et al, 2015).

Waste elimination may be conceptualized under conserving behaviour whose aim is to promote resource preservation by avoiding wastefulness. It is pegged on the traditional '3Rs' (reduce, reuse, recycle). Reducing use is at the apex and considered most responsible for minimizing environmental impact, followed by re-using and repurposing which involve putting the same materials into multiple uses instead of disposing after a single use. At the bottom of the apex is recycling considered to be the least desirable hence a last resort. Resources that can be conserved under this category include paper, water, energy, gas and other natural resources. Besides raising environmental awareness among staff in McDonald's for instance, the Planet Champion's initiative increased cardboard recycling and realised energy savings (Sanyal & Haddock-Millar, 2018).

In a university context, the application of the '3Rs' approach is likely to promote sustainability. Measures may include minimizing paper usage through double-sided printing and digital communication, reducing energy consumption via energy-efficient technologies, and implementing water conservation practices. Embracing reuse could involve encouraging repeated use of office supplies, refurbishing furniture, and establishing sharing programs for laboratory materials. Recycling initiatives may encompass paper, cardboard, plastic, glass, metal, and electronic waste, facilitated by dedicated bins and educational programs to ensure proper disposal.

Avoiding harm targets to inhibit negative environmental behaviour, reducing impact and mitigating environmental damage. The subcategories here include pollution prevention, monitoring environmental impact to assess behaviours, processes and outcomes to anticipate potential for long-term harm and strengthening ecosystems which may involve repairing or recovering from current environmental damages for instance by planting trees. An example of pollution prevention behaviour demonstrated by Interface was an innovative idea by a pro-environment employee which begot "Net-Works", an initiative that spearheaded the collection of discarded

fishing nets from Danajon Bank, in the Philippines. It not only aided in environmental clean-up to protect the endangered coral reef, but also improved fish catches in the longer term -strengthening the ecosystem (Kennedy et al, 2015).

Green leadership is basically meant to influence others. The main focus of this meta-category is to spread sustainability behaviours from one individual to the other. Being a social category, influencing others requires extraversion, agreeableness and interpersonal skill, according to Dilchert and Ones (2012). It corresponds to general job performance associated with leadership, management and communication. The subcategories thus including: leading, encouraging and supporting. These involve interpersonal influence aimed at encouraging, supporting, incentivizing, empowering, motivating and guiding others to behave pro-environmentally. In Mater for instance, targeting to reduce energy usage in administrative areas, senior managers modelled behaviour through a “Turn it off” campaign. The success was evident as a significant reduction in electricity consumption was realized in form of standby power for computing equipment where employees took individual responsibility to turn off computer monitors and hard drives (Russel & Hill, 2018; Russel et al., 2016).

The second in the subcategory is managing, facilitating and coordinating (or green management). This entails actions that support and encourage environmentally responsible behaviour in others. It includes creating opportunities for responsible environmental behaviour, giving access to resources necessary for behaving pro-environmentally, coordinating pro-environmental behaviour across individuals, departments and organizations, and strategically planning for environmentally friendly actions. For instance, Ray Anderson, the founder of Interface, introduced "Mission Zero" through his Eco Dream Team. The mission had seven targets: eliminating waste (material, time, and effort), ensuring benign emissions with no toxic effects on natural systems, transitioning to renewable energy instead of fossil fuels, closing the loop through end-of-life recovery, adopting resource-efficient transportation with minimal waste and emissions, educating stakeholders on the functioning of ecosystems and their impact, and ultimately redesigning commerce to prioritize service delivery and value over profit (Luqmani, 2017). Interface realized 80% of the target by 2012, having started the sustainability journey in 1994. This was made possible by the founder’s

own pro-environmental actions which inspired employees' PEB and an organizational climate that facilitated diffusion of green behaviours amongst the employees (Kennedy et al, 2015).

The final subcategory is educating and training aimed at enhancing others' environmental knowledge. In this area, Mater decided to utilize monthly orientation for all new employees; departmental presentations, online education modules and short face-to-face seminars and feedback sessions for employees in clinical and non-clinical work areas (Russel & Hill, 2018). Dilchert and Ones (2012) state that the behaviours can be directed towards subordinates, co-workers, superiors and other interested parties outside the organization.

Green programmes may arise as a result of taking initiative. This is the last meta-category in the Green Five taxonomy and involves behaviours that are proactive, entrepreneurial and bearing a certain level of personal risk or sacrifice. The performance of these behaviours may thus involve some negative consequences such as financial loss, discomfort or social costs. They may be geared towards avoiding harm, transforming or conserving. Its subcategories include: initiating programmes and policies to address any aspect of environmental sustainability such as a recycling programme; lobbying and activism (or green voice) aimed at advocating for environmental causes which requires effort and courage; putting environmental interests first by sacrificing personal interests such as comfort, convenience, financial, social etc. for environmental sustainability. An example may be opting for public commute instead of driving. Interface's "Mission Zero" is a good example of a programme initiated in pursuit of sustainability at the expense of profit.

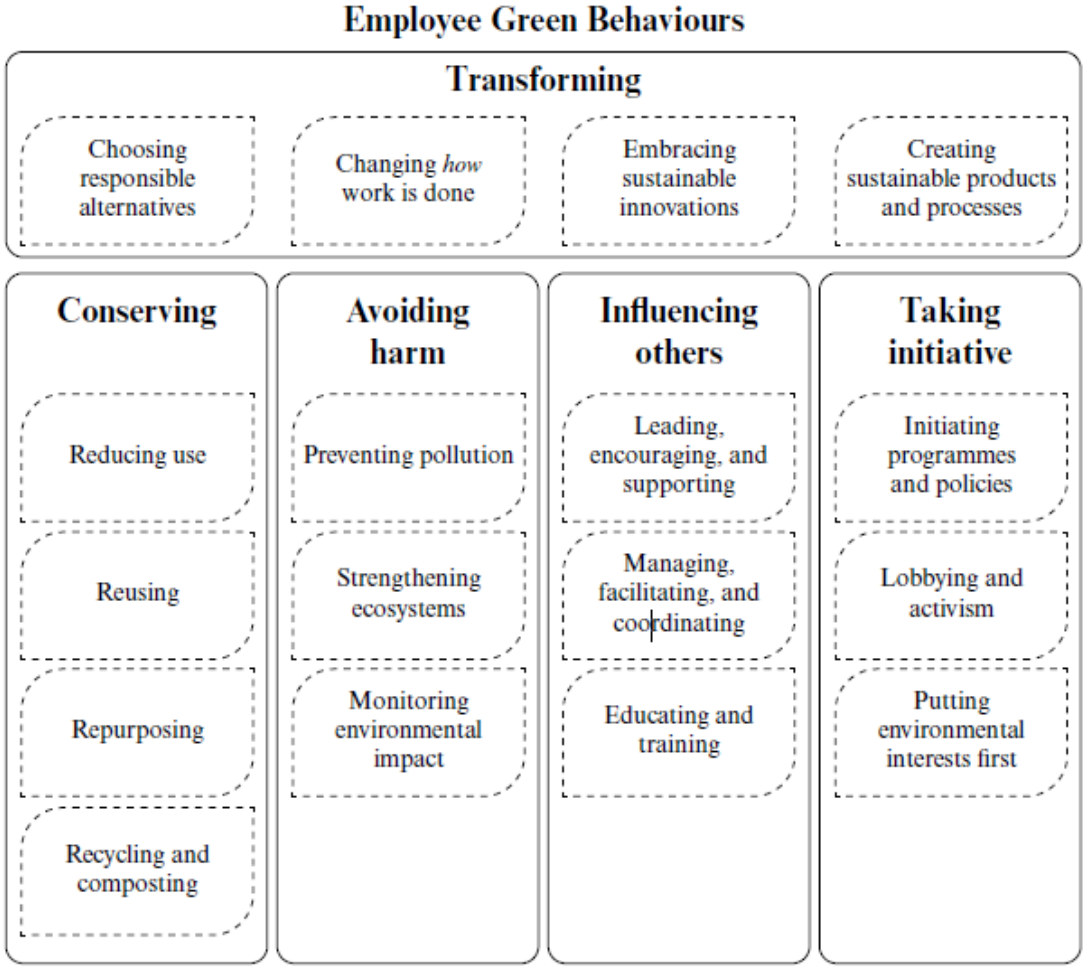

Figure 2.2: Meta-categories and sub-categories of employee green behaviours in the Green Five taxonomy as conceptualized by Ones et al. (2018).

2.3.7 Socio-Demographic Factors

Demographics refer to particular attributes describing the status of a population or a person such as age, gender, education, ethnicity or income. They are critical in research as they provide data regarding research participants necessary for generalization purposes (Refae et al., 2021). This, according to Hammer (2011), would allow comparisons across replicated studies. Socio-demographic characteristics, such as age, gender, education, income, locale, ethnicity, occupation and social identity have been identified as probable factors influential to individuals' engagement in pro-environmental actions (Milfont & Sibley, 2016; Patel et al., 2017; Rampedi & Ifegbesan, 2022; Ifegbesan et al., 2022). A study by Chen and Wu, (2022) used age, gender, education, years of experience and position as control variables.

Similarly, Dumont et al. (2017) controlled for the same in their study on effect of green HRM practices on employee workplace green behaviours. This study used gender, age and education as moderating variables.

Several studies have presented mixed findings on the correlation between age and environmental concern. Wiernik et al. (2016) for instance report that more mature age groups demonstrate slightly higher levels of pro-environmental behaviour compared to their younger counterparts. Wang et al.(2021) concur that older people portray greater environmental concern and perceived responsibility for climate change mitigation. Conversely, other studies (Tomomi, Yamane & Kaneko, 2021) have linked younger age groups with affinity to environmental issues and their predisposition to participate in pro-environmental activities for example, recycling and energy conservation.

Research has further identified gender as one significant factor critical in shaping environmental concerns, attitudes and behaviour. Literature further highlights the aspect of gender socialization as having a bearing on the gender-PEB relationship, where the female gender is socialized to prioritize care, interconnectedness and collective well-being which closely align to pro-environmental behaviour (Milfont & Sibley, 2016; Vicente-Molina et al., 2018). Consequently, a number of studies have linked gender and PEB, where findings have indicated that women are more pro-environmental than male (Li et al., 2022; Gökmen, 2021). Other studies however present mixed findings on the actual behaviour engagement across different genders.

Literature has also revealed various dimensions of the education-PEB relationship. For instance, formal education is believed to promote increased environmental knowledge and awareness (Estrada-Araoz et al., 2023) and consequently, enhanced understanding and increased concern for environmental issues (Suárez-Perales et al., 2021). Further, empirical literature (Wang et al., 2022) has alluded that highly educated individuals are more likely to exhibit pro-environmental attitudes and values. Hoffmann and Muttarak (2020) concur through their empirical findings which demonstrated that an extra year of education increases the likelihood of engaging in eco-friendly behaviours.

2.4 Empirical Review

2.4.1 Green Employee Resourcing and Employee Pro-Environmental Behaviour

Research has highlighted the need to communicate an organization's environmental stance through recruitment messages. Respondents in a study by Kennedy et al. (2015) on workplace pro-environmental behaviour in Netherlands reported that their firm's strong sustainability reputation made it an attractive workplace not only for those within the carpet industry, but also for talented jobseekers who would otherwise not have considered working in that industry. The study used the case methodology to gather data from multiple sources, including semi-structured interviews with multiple respondents from various hierarchical levels and functional areas at Interface, which had 3,146 employees. The study employed the computer qualitative analysis software (CAQDAS) to analyse data.

Results of another study on external employer branding of sustainable organizations in Poland by Macalik and Sulich (2019) indicated that green employer branding was a tool used to build strong relationships with the candidate. Using a sample of 12 Polish enterprises, the study concluded that branding could equally be utilized as a means for reaching the rare, albeit growing cluster of highly qualified candidates extremely desirous of working in pro-environmental organizations. Likewise, Mandago (2019), in her descriptive study that sampled 122 respondents from five state corporations, reported the presence of green employer branding while examining the influence of GHRM practices on environmental sustainability in service-based state corporations in Kenya.

In another study conducted by Grolleau et al. (2012) on the effect of environmental-related standards on employees' recruitment targeting 13,790 private firms situated in France, it was found that some job seekers preferred firms that genuinely embraced environmental standards, as opposed to those merely using them as a 'smokescreen' for other motives. Using the bivariate probit model, findings confirmed that a firm's environmental responsibility was a significant attribute considered by potential employees. Likewise Gully et al.'s (2013) study involving 339 job-seekers confirmed

that communicating a firm's environmental commitment influenced job seekers' perceptions about an organization. The study revealed that recruitment messages communicating high levels of social and environmental responsibility were related to high levels of job pursuit intentions.

Green recruitment is not just about attracting ecologically competent candidates, but also advocates for a paperless approach when recruiting. Suleman et al. (2022) substantiated this through their qualitative study that thematically analysed responses from purposively chosen manufacturing firms in Ghana. Employing an interpretive research design to investigate Green HRM practices in these firms, Suleman and colleagues reported that the firms attract potential job applicants through various channels such as their official company websites, social media platforms, and professional job advertisement platforms like LinkedIn. Mandago's (2019) findings also confirmed that most state corporations in Kenya had institutionalised online recruitment where applications were received via recruitment portals while handwritten ones were declined. As a result, respondents stated that cost-savings and green solutions had been realized. The study employed correlation and multiple regression analyses to test relationships between variables, and also between independent and dependent variables, respectively.

The reviewed literature underscores the significance of green employee selection in advancing environmental stewardship. This approach not only aligns with ecological responsibility but also amplifies an organization's attractiveness to environmentally conscious individuals. By integrating green practices into the selection process, organizations effectively broaden the pool of qualified candidates. This not only fosters a more sustainable workplace but also positions the organization as an appealing choice for individuals who prioritize environmental values in their professional pursuits (Suleman et al., 2022). In their study of selected Ghanian manufacturing firms, Suleman et al. (2022) report that shortlisted applicants in these firms are engaged virtually during the selection process. The sampled firms indicated a preference for online systems in conducting interviews, utilizing platforms such as Zoom, Skype, Cisco WebEx meetings, among others. Furthermore, successful applicants received their appointment letters electronically.

Further afield, Jepsen and Grob (2015), in their examination of sustainability in recruitment and selection practices in Australia, similarly agree that leveraging technology to minimize paperwork in various selection processes, including managing applicant resumes, conducting background checks, and issuing induction materials, stands out as an environmentally friendly and preferable approach. The study utilized a phased approach to collect data from diverse sources. It involved scrutinising various sources of secondary data; conducting interviews with 15 HR specialists affiliated to Australian organizations and, engaging in focus group discussions with sustainability and HR experts.

Findings of a study by Mwita and Kinemo (2018) investigating the role of green employee resourcing on the performance of processing industries in Tanzania concluded that green employee resourcing practices that were in place had contributed in attracting more qualified job candidates. Employing a case study approach, the study sampled a total of 72 respondents from Tanzania Tobacco Processors Ltd and used content and regression analyses to analyse qualitative and quantitative data respectively. It is therefore evident that the adoption of a paperless approach in employee resourcing is crucial for advancing both environmental sustainability and operational efficiency. Through the reduction of paper consumption, organizations actively mitigate their environmental impact and promote responsible resource conservation. In addition to the ecological advantages, transitioning to a paperless system in employee resourcing yields tangible benefits such as cost savings, heightened workflow efficiency, and the facilitation of a broader global reach through virtual engagement methods. The integration of digital platforms not only guarantees data security and compliance but also underscores an organization's adaptability to contemporary technological trends. This commitment to eco-friendly practices also enhances employer branding positively in addition to playing a pivotal role in fostering employee satisfaction and nurturing a socially responsible organizational culture.

2.4.2 Green Employee Training and Employee Pro-Environmental Behaviour

From the reviewed literature, knowledge and skills appear to be indispensable, since in their absence, individuals lack the facts and ability to make informed choices (Cleveland & Kalamas, 2015). Findings of a survey by Zhang et al. (2019) involving 150 respondents spread across an array of state-owned and private enterprises in China confirmed that green training offered to active staff improved environmental knowledge of the employees. Likewise, in their study encompassing 314 logistic service provider firms in China to identify determinant factors of green practice infusion, Ho et al. (2014) discovered the crucial role of improving the quality of human resources through comprehensive, specialized training. This was found to have a notably positive impact on the organizational infusion of green practices. The study employed regression analysis to assess the validity of the proposed research hypotheses.

Training needs analysis has been highlighted in literature as being critical in revealing environmental skills and knowledge gaps that have to be bridged in order to create a pro-environment workforce (Aishwarya & Thahriani, 2020). Findings of a study by Teixeira et al. (2016) established a significant positive relationship between systematic analysis of training needs and green supply chain management. The electronic-based quantitative survey that sampled 95 ISO 14001 certified Brazilian firms concluded that organizational learning and alignment of HRM practices was crucial to greening of firms. Teixeira and colleagues applied structural equation modelling (SEM) to analyse data using partial least squares. In a cross-sectional survey involving 347 respondents drawn from various industry sectors in Pakistan, Saeed et al. (2019) report that green training to intensify employee concern for the environment was paramount in promoting employee pro-environmental attitudes and behaviours. Training needs analysis was found to be key in revealing the green trainings needs of employees.

The effectiveness of training programmes in promoting PEB has also been underscored in literature. Respondents in a survey done by Zibarras and Coan (2015) to investigate HRM practices used to promote PEB in a sample of 214 UK organizations ranked green training programmes as being topmost in encouraging

employee PEB. Bishop and Daily's (2012) findings in a study of 220 manufacturing organizations in Mexico reported that the absence of environment-specific training made it difficult to achieve high levels of environmental performance. Structural equation modelling was used to analyse data and test the hypothesized model of the variable relationships. In Ghana, certain manufacturing firms are ensuring that their employees acquire environmental competencies through mandatory green training programs. One such program, named 'one planet one health,' is designed to specifically instil environmental consciousness among the workforce (Suleman et al., 2022).

The surveyed literature has also shown the need to not only green training content but also the methods. A study by Oyedokun (2019) investigated GHRM and its effect on the sustainable competitive edge in Nigerian manufacturing industry. Utilizing both descriptive statistics and multiple regression to analyse data and test hypotheses, the findings of the study that targeted 242 employees from Dangote Nigeria Plc concluded that green employee training practices had a positive and significant effect on the industry's sustainable competitive edge. Moreover, the training was found to utilize web-based audio-visuals and lectures via skype in order to reduce paper consumption, minimize environmental pollution and consequently enhance employee PEB. Similarly, Suleman et al. (2022) found that Ghanaian manufacturing firms were utilizing online systems for their employees' training. Moreover, these firms consistently update their training modules to address and incorporate evolving environmental concerns. Also, findings of a case study of Mater Misericordiae Limited in eastern Australia by Rusell and Hill (2018) revealed the healthcare provider's success in entrenching environmental sustainability through dedicated education and awareness programmes via monthly orientation for all new employees; departmental presentations; online education modules and short face-to-face seminars and feedback.

2.4.3 Green Performance Management and Employee Pro-Environmental Behaviour

Performance management has been highlighted as a key process that contributes to the achievement of green outcomes (Dumont, 2015; Renwick et al., 2013). Guerci et al. (2016), in their multi-respondent survey of HR Managers and Supply Chain Managers in Italy, confirm that green performance management and compensation have a positive impact on environmental performance. The study sampled 74 manufacturing and service firms in Italy, and employed partial least squares (PLS) approach using Smart PLS to test the research model.

Literature has further underscored the need for employees to be well-versed with environmental issues to ensure environmental targets and objectives are realized (Bratton & Bratton, 2015). For instance, in their study focusing on sustainable innovation at Interface, a carpet manufacturer in Europe, Kennedy et al. (2015) report on the firm's "Mission Zero" strategy. Findings reveal that "Mission Zero" was not only quantifiable and time-bound but also well recognized by Interface employees who were fully engaged to it because they had a very clear target about zero emissions by 2020. Results further indicate that the mission successfully inspired and drove the behaviour of the European workforce. Shen et al. (2019), investigating Green HRM in Chinese firms, report that most of the companies sampled set clear green goals for their employees in line with government and industry guidelines and ensured a monthly or quarterly evaluation of employee green performance.

The tangential nature of pro-environmental behaviour is a major challenge that may be resolved by integrating environmental sustainability performance indicators into the organization's performance management process (Sanyal & Haddock-Millar, 2018). Results of a study of the healthcare provider, Mater, by Russel and Hill (2018) report a number of behaviours which were translated into performance indicators: energy behaviours encouraging employees to switch of lights or encouraging employees to use stairs instead of lifts; water behaviours promoting use of refillable/reusable water bottles; alternative transport behaviours such as cycling or carpooling to work to minimise emissions; and waste behaviours encouraging

recycling among others. Mandago (2019) also reports a notable positive impact on environmental sustainability resulting from the integration of performance indicators by Kenyan state corporations aimed at steering the behaviour of their employees.

Integration of performance measures in ES initiatives has been proposed in literature as a lever for engaging employees in environmental practices (Sanyal & Haddock-Millar, 2018). In their study of two McDonald's subsidiaries, Sanyal and colleague report that respondents expressed strong feelings towards performance measures as they believed 'if we can't measure it, it doesn't exist'. The study sampled 33 participants from the two subsidiaries (UK and Sweden). Similarly, results of a global survey sanctioned by UNEP (2011) to explore the state of environmental employee engagement in North America indicated that the financial institutions survey used various direct and indirect mechanisms to measure environmental performance against set resource baselines. For instance, one of the participants – Scotiabank – successfully tracked employee participation by measuring results of a paper reduction use campaign. Another study by Jabbour et al. (2010) to analyse the contribution of HRM to environmental management in Brazilian companies showed that systematic use of environmental performance evaluation systems had elevated environmental performance of one of the respondent firms. Ninety-four (94) ISO 14001 certified firms were sampled. Spearman correlation coefficient was used to analyse the relationship between the dependent and independent variables (bivariate analysis).

2.4.4 Green Employee Rewards and Employee Pro-Environmental Behaviour

Dumont et al. (2017) examined the effects of GHRM practices on employee workplace green behaviour. Findings of their survey, which had sampled 388 employees of a Chinese subsidiary of an Australian multinational enterprise, revealed that employee in-role green behaviour that was formally assessed, recognized and rewarded was directly affected by GHRM practices. The study conducted structural equation modelling using MPlus 7.2 to test hypotheses.

A UK survey investigating HRM practices used to promote pro-environmental behaviour by Zibarras and Coan (2015) revealed that rewards were rated as being among the most effective HRM practices, although they were least utilized in the UK

organizations surveyed. The study sampled 214 organizations of varying sizes and drawn from different industry sectors. Young et al. (2015), citing Zhen et al. (2002), underscore the effectiveness of a group-based incentive reward program in a Hong Kong housing project. The program resulted in significant savings of construction materials, with the incentivized group saving HK$705,344.85, while the control group incurred a wastage of construction material amounting to HK$747,947.71. Similarly, findings of a study by Luqmani (2017) investigating sustainability and innovation at Interface, a global carpet manufacturing company in Europe, provide support for the implementation of financial rewards. The results indicated that Interface's ability to meet its aggressive sustainability goals was propelled by financial rewards which saw the firm realize a cumulative saving of over $480M, resulting from reduction in waste, material consumption and energy costs.

Empirical literature has however shown that people are motivated by different 'carrots' and 'sticks' (Zibarras & Coan, 2015), implying the inefficacy of financial rewards in certain cases. Results of a study by Blazejewski et al. (2018) confirm this assertion. Their research investigated the potential advantages for firms stemming from employees' personal green activism. The study focused on individuals who were publicly or privately engaged in green activism, finding that these employees were intrinsically motivated to participate in environmentally friendly workplace behaviours. Blazejewski and colleagues gathered data from public and private green activists in Germany and supplemented it with organizational-level data on GHRM structures from 14 large and medium-sized firms. Findings indicated that interviewed respondents felt more rewarded by accomplishing a green project or receiving positive feedback on green issues from colleagues than they were by receiving financial rewards or formal acknowledgement.

The findings concur with those of Handgraaf et al. (2013) who examined the effects of rewards on energy conservation targeting 83 employees of a Dutch environmental consultancy firm. The trio concluded that social rewards had a stronger positive effect on energy conservation than financial rewards, while public feedback had a stronger positive effect than private feedback. Literature has also proposed that individuals are drawn towards behaviours that offer positive incentives while refraining from those

that attract negative incentives (McDonald, 2015). As such, incorporating negative reinforcement such as suspensions or warnings into the reward system to deter undesirable environmental behaviour has been fronted.

In a study focusing on leader's choice of positive and negative incentives to shape a team's culture, Gürerk et al. (2009) found that transitioning from positive to negative incentives resulted in an immediate increase in employee contributions, indicating a positive impact of the threat of potential punishment on employee behaviour. This observation aligns with the cognitive processes delineated in the Protection Motivation Theory, where negative incentives, specifically the prospect of punishment, functioned as fear-arousing stimuli. The swift upsurge in employee contributions strongly implies that the perceived threat of potential punishment played a positive role in shaping employee behaviour. Employing an experimental design, the study sampled 120 respondents from Erfurt University, Germany.

2.4.5 Green Employee Involvement and Employee Pro-Environmental Behaviour

Empirical investigation has confirmed that environmental performance of organizations largely relies on employees. This is due to the fact that most ES initiatives such as recycling, turning off lights and switching off electronics when not in use depend solely on employee's goodwill and individual behaviours (Boral, Paillé & Raineri, 2015). Abdulghaffar (2017), in his study on Green Workplace Behaviour in Saudi Arabia, established that employee involvement was ranked as one of the most important HR practices by the respondents. The study sampled 147 respondents from EnviroCo, a government agency.

A study by Brı´o et al. (2007) validated necessity for employee involvement in environmental sustainability initiatives. Further, the findings presented a statistically significant relationship between workers' involvement in a firm's environmental activity and the achievement of its environmental action-based competitive advantage. The study utilized a mixed-methods research design, sampled 110 firms and conducted regression analysis to test the research models. Mandip (2012) cites American Airlines' earnings of $40,000 a year resulting from recycling of 616,000 pounds of

aluminium cans by flight attendants as a result of the company's GEI initiatives. Suleman et al.(2022) found that Ghanaian manufacturing companies actively involve their employees in making environmentally conscious decisions. This includes seeking input from employees on ways to promote green initiatives in their communities and strategically safeguarding the environment in which these firms operate.

A shared understanding of the corporate strategic and operational goals is critical in realizing benefits of Green HRM. In their study of Mater Misericordiae Limited, Russel and Hill (2018) report how the healthcare provider's communication strategy targeted all staff across the organization. The Director overseeing Environmental Sustainability, in collaboration with the marketing department, formulated a communication strategy with a focus on sustainability. This initiative led to the development of diverse communication tools, including a sustainability-centric staff intranet webpage, a dedicated Environmental Sustainability (ES) webpage on the hospital's site, posters, articles addressing sustainability in staff newsletters, and relevant publications. Recognizing the needs of non-administrative employees who lacked regular computer access, the strategy also addressed this by arranging 15-minute face-to-face presentations in clinical departments.

Suggestion schemes have been portrayed as effective mechanisms and major elements of the Green HRM strategy which gives employees autonomy to use their discretion to come up with eco-friendly initiatives. Findings of studies investigating sustainability and innovation at Interface, a global carpet manufacturer (Luqmani, 2017; Kennedy et al., 2015), revealed how employee involvement led to a suggestion by one of the sustainability ambassadors resulting in 'Net-Works', an initiative for recovering discarded fishing nets in Danajon Bank, in the Philippines and recycling them into high quality nylon used as an input into Interface's products – the carpet tiles. The Netherlands-based studies adopted a case approach, using a multi-source data collection strategy.

Various researchers have endorsed formation of green teams as mechanisms for employee involvement in green management practices (Sanyal & Haddock-Millar, 2018; Jabbour et al., 2013; Jabbour, 2011). Findings of a study of two subsidiaries

(UK and Sweden) of McDonald's by Sanyal and Haddock-Millar (2018) report how the global food giant involved her employees through 'Planet Champions', a voluntary programme aimed at leveraging the environmental enthusiasm of restaurant teams. In his study on sustainability and innovation of Interface, a global carpet manufacturing company, Luqmani (2017) reports how the founder's bold step to assemble a green team dubbed 'Eco Dream Team' in 1994, to address environmental concerns raised by customers enabled the company achieve unparalleled environmental sustainability. Another study by Kennedy et al. (2015) focusing on the same organization reported that by 2012, Interface had already achieved 80% of its targets. The findings further indicated that Mission Zero, which was clearly understood by Interface employees, was able to effectively inspire and drive the behaviour of the European workforce. Similarly, Dangelico (2015), examining the role of green teams in improving a firm's environmental performance and reputation, concluded that green teams built to pursue environmental objectives positively affect both a firm's environmental performance and its environmental reputation. The study sampled 500 US-based companies from different industry sectors, and analysed data using correlation and regression analyses.

2.4.6 Socio-Demographic Factors and Employee Pro-Environmental Behaviour

The role of socio-demographic factors in shaping employee pro-environmental behaviour has been emphasized in empirical literature. Using an extensive meta-analytical method to evaluate eco-responsible actions among employees drawn from multiple datasets across 11 countries, Wiernik et al. (2016) found out that older employees demonstrated slightly higher levels of pro-environmental behaviour at work compared to the younger ones. In another study examining the role of socio-demographic factors on consumers' pro-environmental behaviour, Patel et al.(2017) found an association between pro-environmental behaviour and age, where the more mature adults (≥36 years) were believed to display green behaviours more than the younger adults (20-30 years). Other studies have however reported contrary findings. For instance, in their study predicting pro-environmental behaviour amongst citizens in African countries, Ifegbesan et al. (2022) found no significant association between age and eco-behaviours thereby concluding that age may not substantially affect employee PEB. Similarly, from their investigation on effect of age and generational

differences on environmental concern, Goto et al. (2019) found no significant difference between age and environmental concern, thus concluding that age may not significantly determine PEB.

Empirical literature has also revealed varied findings with respect to association between gender and employee PEB. Li et al. (2022) in their study examining gender differences in people's pro-environmental psychology and behaviours in China report a significant relationship between the two variables, where women tended to display pro-environmental behaviours to a greater extent than their male counterparts. The study concluded that gender had a significant role in shaping individuals' eco-friendly behaviours. These findings are supported by those of a study by Milfont and Sibley (2016) where gender was believed to significantly predict workplace PEB, with female employees emerging as the gender that was most likely to engage in pro-environmental behaviour compared to male employees. Noteworthy is the observation that women often play significant roles in caregiving, education, and fostering values such as altruism, compassion, cooperation, and empathy, thus demonstrating their active involvement in environmental conservation beyond the workplace (Teixeira et al., 2023). This suggests that they may already be engaged in pro-environmental activities in their personal lives, driven by these values. As such, organizations should recognize and harness these inherent qualities when designing green initiatives, aiming to create a holistic and inclusive approach that engages both male and female employees in environmental sustainability efforts. Conversely, Patel et al. (2017) report higher PEB in males than in females in their study investigating role of socio-demographic factors on consumers' pro-environmental behaviour in India. However, Rütgers (n.d.) reports no gender differences in pro-environmental behaviour.

The connection between education and pro-environmental behaviour has been extensively explored in environmental psychology and related disciplines. Numerous studies indicate a positive link between higher education levels and environmentally conscious actions. Patel et al. (2017) – citing Chen et al, (2011) - report that education significantly affects employees' uptake of eco-friendly behaviours at the workplace, where those with higher education tend to display increased environmental awareness, knowledge, and a heightened sense of concern for sustainability. This resonates with

earlier findings by Estrada-Araoz et al. (2023) whose study confirmed a direct and significant relationship between education and pro-environmental behaviour, yielding a Pearson correlation co-efficient of 0.877 ($p < 0.05$). Results of a study by Hoffmann and Muttarak (2020) further confirm the crucial role of education. The duo found education to positively influence environmental behaviour where an additional year of schooling seemingly increased the likelihood to engage in environmentally friendly actions by a significant 3.3%. They concluded that employees with higher education levels were more likely to engage in sustainable behaviours like energy-saving, waste minimization and green commute since education crucially fosters environmental awareness thus promote employee PEB.

2.5 Critique of Existing Literature Relevant to the Study

Reviewed research studies have highlighted the role of individual behaviour in corporate greening. The empirical literature has unequivocally demonstrated that the environmental performance of organizations largely depends on employee pro-environmental behaviours geared towards reducing pollution, contributing to eco-innovations, and participating in recycling programs. Consensus on pro-environmental behaviours however seems to be lacking as indicated by a plurality of terms used to describe the PEB domain in literature. PEB's nature and scope is yet to be agreed upon and a clear definition derived (Dumont, 2015; Robertson & Barling, 2015).

With respect to signalling theory, literature has revealed that job seekers form perceptions of prospective employers based on the lean information they encounter during the job search process. Recruitment practices have thus been portrayed as a critical source of information for applicants since the image they create is believed to enable applicants form a pre-hire impression of the organization (Gully et al., 2013). However, according to Behrend et al. (2009), reasons for the linkage between organizational concern for the environment and applicant attraction remain untested. Also, although findings of a policy-capturing study in US ranked positive environmental image as the strongest predictor of an organization's overall selection attractiveness, pay emerged as the strongest predictor when it came to job pursuit

intentions (Renwick et al., 2013). This suggests that pursuing employment with a pro-environmental organization is rather influenced by a combination of factors including pay, benefits and the negative consequences of working for a non-environmentally responsible firm, according to the findings of Behrend et al. (2009).

Another study in Poland by Macalik and Sulich (2019) indicated that green employer branding was a tool used to build strong relationships with the candidate. Similarly, findings of a study focusing on Interface Inc., a global carpet manufacturer based in the Netherlands, showed that the firm's strong sustainability reputation made it an attractive workplace for those within and outside the industry. However, both studies adopted a qualitative research design. Reviewed literature has also supported AMO theory that employee motivation and commitment can be enhanced through practices such as contingent rewards. This agrees with various observations (Cherian & Jacob, 2012; Norton, Zacher, & Ashkanasy, 2014) that employee actions are largely influenced by organizational factors such as HR, environmental policies, supervisory support among others. However, this perspective negates the extra-role green workplace behaviours of an employee's job which are discretionary acts by employees within the organization not rewarded or required, yet are directed towards environmental improvement (Dumont, 2015). Consequently, Unsworth and Tian (2018) propose the need for alternative means of increasing self-concordance for employees who do not value monetary rewards or recognition.

Surveyed literature has revealed that pro-environmental behaviour is both a key determinant of, as well as contributor to the success of organizational environmental sustainability. However, the same literature indicates that pro-environmental behaviours fall outside the realm of traditional workplace foci of work goals and performance. Although critical for climate change mitigation, they remain tangential to the core business of the firm and needs of employees hence assumed to be of secondary importance by employees (Unsworth & Tian, 2018). Nevertheless, Jepsen and Grob (2015) propose a solution to this anomaly: instituting alignment at the individual employee level by ensuring that sustainability practices are incorporated into the organization's job descriptions to facilitate evaluation of each job for relevant ES components.

Finally, the reviewed literature provides a comprehensive overview of the role of socio-demographic factors in shaping employee pro-environmental behaviour. It draws upon various studies to highlight associations between age, gender, and education with eco-responsible actions. The inclusion of meta-analytical findings from Wiernik et al. (2016) and Patel et al. (2017) contributes to the depth of the review, showcasing insights from multiple datasets across different countries. The contrasting results presented for age and gender, particularly from Ifegbesan et al. (2022) and Goto et al. (2019) for age, and Li et al. (2022), Milfont and Sibley (2016), and Patel et al. (2017) for gender, provide a nuanced perspective on the complexities of these socio-demographic factors. However, the literature review could benefit from a more explicit acknowledgment of the diversity and complexity within demographic categories, particularly in the context of mixed findings. The mention of studies presenting conflicting results on age and gender, for example, suggests a need for a deeper exploration of the nuanced factors that contribute to these variations. Additionally, while the review highlights the positive correlation between education and pro-environmental attitudes, it could delve further into potential moderating factors or contextual nuances that may influence the education-PEB relationship. Overall, while the review effectively synthesizes existing knowledge, a more nuanced exploration of contradictory findings and methodological considerations would enrich its scholarly contribution.

2.6 Research Gaps

Past literature was extensively reviewed and several conceptual and contextual gaps noted. For instance, effects of climate change have been widely researched within the field of natural sciences but still remain elusive within the social sciences sphere. Being largely anthropogenic however, social scientific research on environmental sustainability becomes necessary. Similarly, PEB has extensively been researched in household settings but paucity of the same within the workplace still remains prevalent (Paillé & Boiral, 2013). Further, studies on the extent to which organizations use HRM practices to promote employee PEB through workplace HRM practices has been done abroad (Zibarras & Coan, 2015). In the local context, research on Green HRM practices and their correlation with employee pro-environmental behaviour is notably

lacking. More specifically, there is a scarcity of local studies that have investigated the AMO-aligned practices (green employee resourcing, green employee training, green performance management, green employee rewards, green employee involvement) and their effect on employee pro-environmental behaviour in public institutions of higher learning. This study filled the gap.

A case study by Kennedy et al. (2015) targeting a global manufacture-based corporate investigated workplace PEB as a collective driver for continuous improvement. This study examined employee PEB as an antecedent of e-service (transformational behaviour) delivery in public universities in Kenya, thus filling an existing literature gap. Mandago (2019) examined the influence of GHRM practices on environmental sustainability in service-based state corporations in Kenya. While investigating how recruitment and selection practices influenced environmental sustainability, a conceptual gap is noted since the study focused on how green job descriptions and green culture affected ES, whereas this study gauged the relationship between green recruitment methods, green selection methods and employee pro-environmental behaviour. Although Mandago considered the ability (recruitment, training) and motivation (performance management and reward) aspects of GHRM, the study missed out on the opportunity aspect (employee involvement). This study addressed this conceptual gap by considering communication of a clear green vision, green suggestion schemes and green teams as mechanisms for providing green involvement opportunities, and their consequent effect on pro-environmental behaviours of employees.

The results of Zhang et al.'s (2019) study affirmed that administering green training to active staff led to an enhancement in environmental knowledge. Similarly, Ho et al.'s (2014) research findings demonstrated that specialized training had a noteworthy positive impact on the incorporation of green practices within organizations. It is essential to acknowledge that these studies, while valuable, were conducted in China and centred around business enterprises. In contrast, the present study was conducted in Kenya, specifically focusing on public institutions of higher learning, thereby filling a contextual gap in the existing research landscape. Guerci et al. (2016), through their multi-respondent survey affirmed that green performance management and

compensation positively influence environmental performance. Notably, their study focused on evaluating green performance management against environmental performance. In contrast, the present study deviates conceptually by assessing the impact of green performance management specifically on employee pro-environmental behaviour. Moreover, the current research addresses a contextual gap, as it was conducted in Kenya, focusing on public universities. This territorial and industry-specific focus provides a unique perspective, providing a clearer understanding of the relationship between green performance management and employee pro-environmental behaviour within a distinct organizational setting.

The results of Blazejewski et al. (2018) study align with those of Handgraaf et al. (2013), suggesting that individuals derive greater satisfaction from accomplishing green projects or receiving positive feedback on environmental issues from colleagues compared to financial rewards or formal acknowledgments. While both prior studies were conducted in Germany and Holland respectively, the present study addresses a contextual gap by being conducted in Kenya, providing a more diverse understanding of the factors influencing environmentally conscious behaviour in different cultural and organizational settings. A study by Brı´o et al. (2007) validated necessity for employee involvement in environmental sustainability initiatives in Spain. The study investigated management and employee involvement in achieving an environmentally action-based competitive advantage. The current study however focused on Green HRM practices and employee PEB, and specifically examined how green employee involvement practices affected employee pro-environmental behaviour in Kenya's public universities. This bridged a conceptual, as well as contextual gap.

The significance of socio-demographic factors, including age, gender, and education, in influencing employee pro-environmental behaviour has been emphasized. However, a noteworthy research gap emerges upon closer examination, as prior studies (Mandago, 2019; Mungai, 2017; Langat & Kwasira, 2016; Owino & Kwasira, 2016) did not consider the intricate effect of these socio-demographic elements on employee environmental conduct. This study bridged this conceptual gap by specifically addressing the role of age, gender, and education in shaping pro-environmental behaviour among employees.

2.7 Summary of Literature Reviewed

This chapter has discussed five theories upon which the study was anchored. AMO theory has postulated that a firm's performance is a function of employees' ability, motivation and opportunity, while Bundling theory has emphasized the importance of implementing HR practices which are integrated and mutually reinforcing. Signalling theory assumes that applicant attraction is partly influenced by signals about an organization's characteristics revealed during recruitment activities, whereas PMT has shown how individuals form behaviour from a cost-benefit analysis using threat appraisal and coping appraisal. ISO 14001 Model has also been seen to be key in helping organizations to identify, manage, monitor and control their significant environmental aspects holistically to enhance environmental sustainability. Green employee resourcing practices have been portrayed as being critical in communicating an organization's social and environmental responsibility to potential job candidates while green employee training is projected as a tool for improving employees' eco-literacy. Similarly, green performance management has been shown to be critical in analysing current employee efficiency, identifying gaps and consequent measures to address them whereas green employee rewards have emerged as being crucial due to their ability to trigger desired environmental-related behaviours in employees. Likewise, the need to win the 'hearts and minds' of employees towards sustainability through green employee involvement has been emphasized in the literature.

Finally, literature has underscored the importance of socio-demographic factors in understanding individuals' engagement in environmentally friendly actions. In conclusion, empirical literature has validated Green HRM practices as a catalyst for employee pro-environmental behaviour, with socio-demographic factors of age, gender and education playing a moderating role. However, the surveyed literature equally revealed paucity of research on the nexus between Green HRM practices, socio-demographic factors and employee pro-environmental behaviour within the local context, a gap this study endeavoured to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents a detailed description of the research methodology that was adopted for the study. Research philosophy, research design, target population, sampling frame, sample size, sampling techniques, data collection instruments, data collection procedure, pilot study, data analysis and presentation are also discussed.

3.2 Research Philosophy

Philosophy refers to a system of beliefs and assumptions about the development of knowledge (Saunders, Lewis & Thornhill, 2016). Although there are a number of views debated upon, research philosophies are mainly categorized into three: positivism, constructivism and pragmatism (Saunders et al, 2016). This study adopted the pragmatic philosophy which assumes that research starts with a problem and aims to contribute practical solutions that inform future practice (Saunders et al, 2016). This view, according to Creswell (2014), stems from actions, situations and consequences rather than antecedent conditions as is the case with the positivist approach. It tends to focus on the research problem and utilizes all available techniques to understand it (Rossman & Wilson, 1985). The pragmatic philosophy employs a mixed methods research approach, allowing the researcher to draw from both quantitative and qualitative assumptions. This flexibility enables the selection of methods, techniques, and procedures that most effectively address the research needs and objectives, thereby enhancing clarity in addressing a research problem. Proponents of pragmatism do not view the world as an absolute unity. As such, those ascribing to this approach blend mixed methods to gather and analyse data rather than stick to only one way: quantitative or qualitative, as is the case with positivists or constructivists, respectively. This view opens more avenues to multiple methods, varying worldviews and assumptions, as well as several forms of data collection and analysis. In summary, the core elements of pragmatism are consequences of actions, problem-centred, pluralistic and real-world practice-oriented (Saunders *et al*., 2019).

3.3 Research Design

A research design is the blueprint for carrying out research and specifies the methods and procedures for collecting and analysing data (Adams et al., 2014). The study utilized correlational research design which is normally used to search for, and describe relationships among measured variables (Mackenzie, 2013). Correlation research aims to establish the extent to which two variables are related where values for one variable may be used to predict changes in the values of another (Stangor, 2011). In this design, the researcher does not attempt to control or manipulate the variables (Creswell, 2013). The research employed a mixed methods approach, incorporating both quantitative and qualitative research techniques. This dual methodological strategy was considered essential due to the inclusion of both closed-ended and open-ended questions in the questionnaire. By combining these approaches, the study aimed to enhance the validity of the methodology, mitigating certain limitations and issues associated with singular research methods. This comprehensive approach ensures a more thorough and holistic exploration of the research inquiry (Bryman & Bell, 2015; Creswell, 2013). A similar approach was employed in a study conducted by Mtembu (2017), who examined green human resource management at KwaZulu-Natal higher education institutions in South Africa. Similarly, Dumont (2015) utilized this research design when investigating the relationship between Green HRM and employee workplace outcomes in a foreign-owned company operating in two Chinese provinces.

3.4 Target Population

Population refers to the exact enumeration of all units or elements targeted for a given study. It is the population that is the actual focus of the research inquiry and to which the main results of the study will be extrapolated (Saunders et al., 2016; Sekaran & Bougie, 2016). This study targeted 30,758 employees of these institutions comprising 114 top level management, 4955 middle level management and 25, 689 other employees (KUSU, 2020). Their gender, age and level of education were among the socio-demographic factors considered in the study. These universities were targeted since they have been described as microcosms of the environmental problems facing

society today, being chief consumers of paper, water and energy, given the large number of students they accommodate (Thondhlana & Hlatshwayo, 2018). They were also the majority in Kenya compared to their private counterparts which stood at 18 in number at the period (CUE, 2016). They therefore had a wider reach and consequently, greater impact on the environment through their operations.

3.5 Sampling Frame

A sampling frame refers to the complete list of elements from which the sample is to be drawn (Adams et al., 2014). In the study, the sampling frame consisted of 31 accredited public chartered universities (CUE, 2016) attached as Appendix IV. It targeted 30,758 employees of these institutions comprising 114 top level management, 4955 middle level management and 25, 689 other employees (KUSU, 2020).

3.6 Sample and Sampling Technique

3.6.1 Sampling Technique

This refers to the procedure of selecting the subjects to be included in the sample. Following the chosen philosophy and research design, the study combined both probabilistic and non-probabilistic sampling techniques to determine the sample and select the sample size. Multi-stage sampling was therefore adopted to select respondents for the study. The first stage entailed purposively selecting three universities from a list of thirty-one (31) public chartered universities accredited by CUE. Purposive selection of the three universities was on the premise that they fulfilled at least one criterion highlighted by UNEP as being key in combating climate change by institutions of higher learning that ascribe to the Kenya Green University Network (KGUN) membership. These criteria fell within four work streams: Behaviour Change, Greening Campuses, Greening Curricula and Community Engagement, introduced by UNEP during the re-launch of the KGUN initiative in June 2019.

The identified universities were not only among the seven (7) public universities which attended the strategic re-launch meeting of the campus greening initiative, but also the

only ones that fulfilled at least one criterion highlighted in each of the mentioned work streams (UNEP, 2019). For instance, JKUAT fulfilled the criteria for sustainable waste management through waste segregation in the Greening Campuses initiative. Kenyatta University, in the Greening Curricula stream, was actively reviewing its programs to incorporate sustainability. Additionally, in the Community Engagement domain, KU, JKUAT, and KarU had already established directorates/centres that directly connected them with the community. The element of Behaviour Change, recognized as a crucial aspect related to people, was identified as a cross-cutting stream in the framework outlined by UNEP (2019).

The second stage utilized stratified random sampling technique, where each purposively selected university was treated as a distinct stratum. Table 3.1 displays the universities chosen for the study.

Table 3.1: Target Population

University	Top Level Management	Middle Level Management	Others (Teaching & Non-teaching Staff)	Total
Kenyatta University	5	135	2825	2965
JKUAT	5	128	2507	2640
Karatina University	3	22	427	452
Total	**13**	**285**	**5759**	**6057**

Source: (KUSU, 2020; Websites of respective Universities, 2020)

3.6.2 Sample Size

The sample size from the total of 30,758 employees across all public universities was determined using Yamane's formula (Yamane, 1967). This formula has been consistently applied in previous studies on green human resource management practices, as evidenced by the works of Owino and Kwasira (2016), Mandago (2019), and Oyedokun (2019).

$$n = \frac{N}{1+Ne^2} = \frac{30758}{1+30758\,(0.09)^2} = 122.96$$

= 123 respondents.

Where *n* is the sample size, *N* is the population size, and *e* is margin of error (0.10, 0.05 or 0.01).

Further stratification was applied to categorize the respondents into top-level management, middle-level management and others (including teaching and non-teaching), within each university. This was done to guarantee proportionality in the sample selection. The stratified sample size was obtained using the following formula (Guzman, 2009):

$$nh = (Nh / N) * n$$

where *nh* is the sample size for stratum h, Nh is the population size for stratum *h*, *N* is total population size, and *n* is total sample size.

The final step involved choosing respondents from each sub-stratum by utilizing computer-generated random numbers. The selected sample sizes are detailed in Table 3.2.

Table 3.2: Sample Size

University	**Top Level Management**	**Middle Level Management**	**Others (Teaching & Non-teaching Staff)**	**Total**
Kenyatta University	1	3	56	**60**
JKUAT	1	3	50	**54**
Karatina University	1	1	7	**9**
Total	**3**	**7**	**113**	**123**

3.7 Data Collection Instruments

Data collection is a key feature in any research (Bryman, 2012). Cooper and Schindler (2006) identify questionnaires, interviews and observations as the most commonly used data collection instruments. The study utilized an online questionnaire to collect primary data from the 123 selected respondents. The questions were aligned to the AMO framework and the Green Five Taxonomy to measure the independent and dependent variables respectively. They were structured to answer to the specific study objectives by eliciting employee perceptions and behaviours in the following areas: green employee resourcing, green employee training, green performance management, green employee rewards, green employee involvement and employee pro-environmental behaviours. The survey tool contained open-ended, closed-ended and matrix questions to facilitate collection of both qualitative and quantitative data. It began with a series of close-ended, followed by open-ended items intended to give respondents autonomy in their answers. Matrix questions were used to gauge the extent to which a respondent agreed or disagreed with a statement or series of statements. The responses were anchored on a five-point scale ranging from strongly agree to strongly disagree (a scale of 1-5, where, 5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree 2 = Disagree and 1 = Strongly disagree). The Likert Scale was deemed appropriate for the study since it is a multiple-indicator measure thus overcomes the challenge associated with reliance on just a single indicator (Bryman, 2012).

Additionally, secondary data was collected through document analysis, focusing on establishing the status of various aspects such as green recruitment methods, green selection methods, green training programs, green evaluation methods, and e-service delivery. A document analysis guide (attached as Appendix III) was prepared for the study. While looking at data relating to green employee resourcing and green employee training, the study considered information spanning a five-year period to discern trends and offer a comprehensive view of how the institutions under study had embraced Green GHRM practices over time (Bowen & Ostroff, 2004).

3.8 Data Collection Procedure

The research employed a combination of primary and secondary sources for data collection. Primary data was acquired through an online questionnaire, while secondary data was gathered using a document analysis (guide provided in Appendix III). The key indicators for secondary data included green recruitment methods, green selection methods, green training programs, green evaluation methods, and e-service delivery. This information was sourced from the individuals responsible for the human resource departments of the institutions under investigation.

Prior to data collection, an introductory letter as a student was obtained from the University. Subsequently, official consent was sought from the respective university managements. An introductory email, containing a hyperlink to the data collection tool, was then sent to the respondents. However, clicking on the link required the respondent to go through the Informed Consent process and confirm their willingness to participate in the study before gaining access to the questionnaire. A total of 123 questionnaires were administered via email.

The study addressed the following ethical issues to guarantee respondent participation was free and objective, and to ensure proper acknowledgement of works by other researchers: -

i) ***Informed consent***: the purpose of the research was clearly explained to the respondents and their consent to participate in the study sought before proceeding to complete the online survey.

ii) ***Confidentiality***: respondents were assured that the information they were to provide would not be availed to anyone outside the study team. Their names and email addresses were not collected when they submitted their responses and only codes were used to identify each respondent. No personal identifying information appeared in any part of the report generated from the study.

iii) ***Anonymity***: the survey did not require the respondents to identify themselves neither were their email addresses collected when they submitted their responses.

iv) ***Plagiarism:*** where works of other researchers were quoted, in addition to paraphrasing, the original author was credited in an in-text citation and reference list to safeguard against plagiarism. A plagiarism checker was also used before submitting this research.

3.9 Pilot Study

A pilot study was conducted to gauge reliability of the tool and the construct validity. According to Doody and Doody (2015), respondents in pilot studies should be as similar as possible to those in the main enquiry. To ensure exclusion of the pilot-test participants from the main study, pilot study respondents were drawn from two public universities which had attended the Kenya Green University Network (KGUN) re-launch strategic meeting in June 2019. The two universities were: University of Nairobi (UoN) and Embu University. A total of 12 participants, seven (7) from UoN and five (5) from Embu University were used for the pilot study. The pilot-test participants comprised 10% of the study sample size and according to Hertzog (2008) – citing Lackey and Wingate (1998) - the sample size was considered sufficient. Data obtained from the pilot study was used to establish construct validity, reliability of the research tool and also to determine extent to which statistical assumptions of normality, homoscedasticity, linearity and multi-collinearity were satisfied.

3.9.1 Reliability

Reliability is a measure of the degree to which an instrument measures the same way whenever it is used under the same conditions with the same subjects. Simply put, reliability measures stability and consistency (Rozali et al., 2022). It is the extent to which a questionnaire, observation or any measurement procedure produces the same results on repeated trials (Stangor, 2011; Bryman & Bell, 2003). In assessing the reliability of data obtained from the pilot test, Cronbach's Alpha was employed to measure internal consistency and generalizability (Sekaran & Bougie, 2016; Zinbarg,

2005). The variables, subjected to the reliability measure included "Green Employee Resourcing," "Green Employee Training," "Green Performance Management," "Green Employee Rewards," "Green Employee Involvement," and "Employee Pro-environmental Behaviour".

3.9.2 Validity

Validity is defined as the extent to which the instrument measures what it purports to measure and how precisely the collected and analysed data represents the phenomenon (Rozali et al., 2022; Stangor, 2011; Bryman & Bell, 2003). It is a check of whether an indicator or set of indicators that are developed to gauge a concept really measure that concept (Cohen et al., 2007). The survey instrument underwent a rigorous validation process, ensuring robustness in its measurement properties. Face validity was established through scrutiny by a panel of HRM experts, including research supervisors, familiar with the concept (Saunders et al., 2016). Content validity was achieved by conducting a comprehensive literature review to ensure the instrument adequately covered study variables, supplemented by expert opinions from supervisors. For construct validity, Kaiser-Meyer-Olkin (KMO) and Bartlett's tests were employed to validate the influence of Green Human Resource Management (GHRM) Practices on Employee Pro-environmental Behaviour (EPEB). The KMO statistic values, ranging between 0 and 1, were assessed, with a value greater than 0.5 considered adequate for factor analysis (Hair et al., 2009).

Principal Component Analysis (PCA) was utilized for factor analysis to achieve dimension reduction and refine the measurement instrument in preparation for the main study. The objective was to streamline indicators associated with each research variable, retaining only those elucidating the impact of the independent variable on the dependent variable - specifically, the influence of Green Human Resource Management (GHRM) practices on employee pro-environmental behaviour. The refinement process adhered to criteria such as retaining factors with eigenvalues >1, excluding single-item factors, and considering cumulative percent variance extracted (Taherdoost et al., 2022). Factor loadings exceeding >.40, recommended by Hair et al.

(2009), were also considered for interpretative purposes. This approach ensured a focused and reliable measurement instrument for the imminent main study.

3.10 Data Analysis and Presentation

Data analysis is the application of reasoning to understand data that has been collected in order to determine consistent pattern and summarize relevant details revealed in the investigation (Zikmund et al., 2013). In order to reveal patterns within the data collected with respect to study variables, analysis of data was guided by the research objectives. Data collected using closed-ended questions were coded by generating a set of rules which were utilized to allocate numbers to the variables. It was then recorded and cleaned before entering it into the Statistical Package for Social Sciences (SPSS) software Version 26 for analysis.

3.10.1 Descriptive Statistical Analysis

Frequency distributions were used to summarize data. Graphical techniques were utilized to present a picture of nominal and ordinal data. For measures of central tendency, the arithmetic mean was calculated for the interval variables. To measure dispersion, standard deviation for interval variables was calculated (Sekaran & Bougie, 2016).

Open-ended questions from primary data and secondary data from organizational documents such as reports, strategy documents and textual material in corporate websites, yielded qualitative data. This data was analysed using content analysis, an analytical technique that categorizes and codes qualitative data into themes in order to analyse them quantitatively. This method is objective since it makes it possible to identify factual objects in data rather than rely on subjective judgment. It is also systematic in that it is conducted in a consistent, transparent and replicable way (Saunders et al, 2016).

Content Analysis involved devising analytical categories that linked to the scope and purpose of the research topic, were mutually exclusive, independent and exhaustive (Sekaran & Bougie, 2016). Further, a unit of analysis focusing on individual words or

phrases was defined and used to record content into themes. Data was then coded based on the categories devised and analysed quantitatively, where the emphasis was on counting and analysing the frequency of specific themes.

3.10.2 Diagnostic Tests

a) Test of Multicollinearity

Multicollinearity is a statistical phenomenon that occurs when two or more independent variables in a multiple regression model are highly correlated, making it difficult to assess the individual effect of each variable on the dependent variable. This implies that the sample coefficient may be far from the actual population parameter. Similarly, when the coefficients are tested, the t-statistic will be small leading to the inference that there is no linear relationship between the affected independent variables and the dependent variable, an inference which may be wrong (Keller, 2012). In this study, multicollinearity was assessed using the Variance Inflation Factor, with a threshold of ≥ 10 indicating the presence of high collinearity, as suggested by Saunders et al. (2016).

b) Tests of Normality

Parametric tests assume that the numerical data cases in a sample are drawn from normally distributed populations, meaning that data values for each quantitative variable should also be normally distributed (Saunders et al., 2016). The study used Kolmogorov-Smirnov and Shapiro-Wilk tests to examine whether the study data were normally distributed. P-values $<.05$ were taken to mean that the sample scores were not normally distributed (Saunders et al., 2016).

c) Heteroscedasticity

Breusch pagan test was used to establish whether the residual error term changed with changes in the independent variables. The test presupposes that, independent variables are regressed on the residual error term as response values. For the Breusch-Pagan test, the null hypothesis is that the error variances are all equal while the alternative hypothesis is that the error variances are a multiplicative function of

one or more variables. Using the Breusch-Pagan test, Heteroscedasticity is evident when $p \leq 0.05$ (Bera & Jarque, 2012).

d) Test of Linearity

Linearity is a fundamental assumption in regression analysis, and it implies that there is a linear relationship between the independent variable(s) and the dependent variable. In a linear relationship, a change in the value of the independent variable is associated with a constant change in the average value of the dependent variable. It tests whether there is a linear relationship between the dependent and the independent variables so as to necessitate performance of linear regression. This assumption is essential for accurate parameter estimation and reliable interpretation of the regression model (Saunders et al., 2016).

3.10.3 Inferential Statistical Analyses

Pearson's correlation was used to assess the strength and direction of the linear relationship between the predictor variables (Green Employee Resourcing, Green Employee Training, Green Performance Management, Green Employee Rewards and Green Employee Involvement) and response variable (Employee Pro-Environmental Behaviour). A positive correlation ($r > 0$) indicates that as one variable increases, the other tends to increase as well, with a stronger positive correlation approaching +1. Conversely, a negative correlation ($r < 0$) suggests that as one variable increases, the other tends to decrease, with a stronger negative correlation approaching -1. A correlation coefficient of 0 was taken to signify no systematic linear relationship between the variables (Zikmund et al., 2013). Pearson's correlation analysis was utilized to assess the strength and direction of the linear relationship between Green HRM Practices and Employee Pro-Environmental Behaviour.

Guided by the research objectives, the study conducted a univariate regression analysis in order to test the effect of each predictor variable on the response variable as follows:

Objective 1: To evaluate the influence of green employee resourcing (GER) on employee pro-environmental behaviour (EPEB) in public universities

in Kenya. This was determined by the simple linear regression equation; $y = \beta_0+\beta_1X_1 + e$,

where y was employee pro-environmental behaviour, X_1 was the variable green employee resourcing and β1, the coefficient of correlation of green employee resourcing and *e*, the error term. The independent variables green employee training, green performance management, green employee rewards and green employee involvement were held constant.

Objective 2: To examine the influence of green employee training (GET) on employee pro-environmental behaviour in public universities in Kenya. This was determined by the simple linear regression equation; $y = \beta_0+\beta_2X_2 + e$

where y was employee pro-environmental behaviour, X_2 was the variable green employee training and β_2, the coefficient of correlation of green employee training and *e*, the error term. The independent variables green employee resourcing, green performance management, green employee rewards and green employee involvement were held constant.

Objective 3: To measure the influence of green performance management (GPM) on employee pro-environmental behaviour in public universities in Kenya. This was determined by the simple linear regression equation; $y = \beta_0+\beta_3X_3 + e$

where y was employee pro-environmental behaviour, X_3 was the variable green performance management and β_3, the coefficient of correlation of green performance management and *e*, the error term. The independent variables green employee resourcing, green employee training, green employee rewards and green employee involvement were held constant.

Objective 4: To investigate the influence of green employee rewards (GRE) on employee pro-environmental behaviour in public universities in Kenya. This was determined by the simple linear regression equation; $y = \beta_0+\beta_4X_4 + e$

where y was employee pro-environmental behaviour, X_4 was the variable green employee rewards and β_4, the coefficient of correlation of green employee rewards and *e*, the error term. The independent variables green employee resourcing, green employee training, green performance management and green employee involvement were held constant.

Objective 5: To evaluate the influence of green employee involvement (GEI) on employee pro-environmental behaviour in public universities in Kenya. This was determined by the simple linear regression equation; $y = \beta_0+\beta_5X_5 + e$

where y was employee pro-environmental behaviour, X_5 was the variable green employee involvement and β5, the coefficient of correlation of green employee involvement and *e*, the error term. The independent variables green employee resourcing, green employee training, green performance management and green employee rewards were held constant.

A multiple regression analysis was also conducted to assess the combined influence of the independent variables (GER, GET, GPM, GRE and GEI) on the variation in the dependent variable (EPEB). This was based on the multiple regression model; $y = \beta0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5+ e$

Where:

y = Employee Pro-environmental Behaviour

β_0 = Constant (co-efficient of intercept)

X_1= Green Employee Resourcing

X_2= Green Employee Training

X_3= Green Performance Management

X_4= Green Employee Reward

X_5= Green Employee Involvement

$B_1 \ldots \beta_5$ = The corresponding coefficients for the respective independent variables and e = Error term

Moderating Effect Analysis

When a researcher seeks to establish whether a particular variable influences or is contingent to the size of one variable's effect on another, the analytical strategy applied is referred to as moderation analysis. A moderator is a variable that influences the relationship between an independent variable (X) and a dependent variable (Y). It can affect the size, direction or strength of the relationship, and is characterized by its ability to predict or explain the variability in the relationship. By identifying a moderator, we gain insights into the conditions or factors that determine when and how the effect of X on Y is significant or non-significant, strong or weak, positive or negative. Understanding the role of a moderator helps establish the boundaries or specific circumstances in which the effect occurs, providing a more nuanced understanding of the relationship between X and Y (Hayes, 2022). Thus:

Objective 6: To analyse the moderating effect of socio-demographic factors (gender, age and education) on the relationship between Green HRM practices and Employee Pro-Environmental Behaviour in public universities in Kenya.

$$y = \beta_0+\beta_1X+\beta_2W+\beta_3XW+ e$$

Where:

y = Dependent Variable (EPEB)

β_0 = Constant (co-efficient of intercept)

X = Independent Variable (GHRM)

W = Moderating Variable (Socio-Demographic Factors)

XW = Interaction term between X and W

β_1 and β_2 are conditional effects (*effect of X when W=0 and effect of W when X=0, respectively*)

e = Error term (representing variation in *y* not accounted for by the independent variables)

To assess and isolate the moderating effect of each specific sub-variable on the relationship between Green HRM practices and Employee Pro-Environmental Behaviour in public universities in Kenya, the following regression models were utilized:

a) $y = \beta_0+\beta_1X+\beta_2W_{gender}+\beta_3(X\times W_{gender})+e$

b) $y = \beta_0+\beta_1X+\beta_2W_{age}+\beta_3(X\times W_{age})+e$

c) $y = \beta_0+\beta_1X+\beta_2W_{education}+\beta_3(X\times W_{education})+e$

Hypotheses Testing

The study utilized Analysis of Variance (ANOVA) to test the hypotheses. Two tests were essentially used: F-test and t-test. The F-test of hypothesis was based on the statistical significance of R^2 (as an indicator of goodness of fit) of the full model at a level of $p<0.05$. The t-test statistic on the other hand was used to test the significance of each individual predictor or independent variable. Conclusions were drawn based on the p-value for each test. Where the p-value was less than 5%, the alternative hypothesis was accepted and the null hypothesis rejected. On other hand, a p-value greater than 5% led to failure to reject the null hypothesis and rejection of the alternative hypothesis. The F-test established the whole model fit (Cohen & Birchall, 2004; Cooper & Shindler, 2011).

Table 3.3: Hypotheses Testing

S/No.	Hypothesis	Hypothesis Test	Interpretation
1.	Green employee resourcing has no significant influence on employee pro-environmental behaviour in Public Universities in Kenya.	t-tes; F-test	P≤.05, significant; reject Ho_1 and accept Ha_1
2.	Green employee training has no significant influence on employee pro-environmental behaviour in Public Universities in Kenya.	t-tes; F-test	P≤.05, significant; reject Ho_2 and accept Ha_2
3.	Green performance management has no significant influence on employee pro-environmental behaviour in Public Universities in Kenya.	t-tes; F-test	P≤.05, significant; reject Ho_3 and accept Ha_3
4.	Green employee rewards have no significant influence on employee pro-environmental behaviour in Public Universities in Kenya.	t-tes; F-test	P≤.05, significant; reject Ho_4 and accept Ha_4
5.	Green employee involvement has no significant influence on employee pro-environmental behaviour in Public Universities in Kenya.	t-tes; F-test	P≤.05, significant; reject Ho_5 and accept Ha_5
6.	Socio-demographic factors have no significant moderating effect on the relationship between green human resource practices and employee pro-environmental behaviour in public universities in Kenya	t-tes; F-test	P≤.05, significant; reject Ho_6 and accept Ha_6

3.10.4 Operationalization and Measurement of Study Variables

The study investigated the relationship between GHRM practices and employee PEB in Kenya's public universities. A five-point Likert scale ranging from strongly agree (5) to strongly disagree (1) was used to measure all the study variables. Respondents were presented with a series of opinion items for each construct and asked to express the extent of their agreement or disagreement with the statements using one of a number of positions on the five-point Likert scale. Responses from the scale were aimed at tapping a particular variable and were summated to obtain a composite score for each respondent across the items as proposed by Sekaran and Bougie (2016). The questions were constructed to reflect the theoretical framework of the study. Open-ended items intended to give respondents autonomy in their answers and include aspects not captured in the close-ended questions were also included. Respondent

demographics relating to gender, age, level of education, job title and length of service were collected.

Table 3.4: Operationalization of Study Variables

Nature of Variable	Name of Variable	Indicators	Scale	Instrument
Independent Variable	Green Employee Resourcing	- green employer branding - green recruitment methods - green selection methods	Likert Scale; open ended question	Online Survey Document Analysis Guide
	Green Employee Training	- green training needs analysis - green training programmes - green training methods	Likert Scale; open ended question	Online Survey Document Analysis Guide
	Green Performance Management	- green performance targets - green performance indicators - green evaluation methods	Likert Scale; open ended question	Online Survey Document Analysis Guide
	Green Employee Rewards	- competence-based rewards - recognition/praise rewards - negative reinforcement (punishment)	Likert Scale; open ended question	Online Survey
	Green Employee Involvement	- communicating strategic issues - green suggestion schemes - green teams	Likert Scale; open ended question	Online Survey
Moderating Variable	Socio-Demographic Factors	- gender - age - education	Nominal/ Categorical Scale	Online Survey
Dependent Variable	Employee Pro-Environmental Behaviour	- - e-service delivery - waste elimination - pollution prevention - green leadership - green programmes	Likert Scale;	Online Survey

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents findings and discussions of the study resulting from data collected from three (3) public universities in Kenya. While the general objective of the study was to examine the relationship between Green HRM practices and Employee Pro-environmental Behaviour, it specifically examined the influence of green employee resourcing, green employee training, green performance management, green employee rewards and green employee involvement on employee pro-environmental behaviour in public universities in Kenya. It also assessed the moderating effect of socio-demographic factors (gender, age and education) on the relationship between Green HRM practices and Employee Pro-Environmental Behaviour.

4.2 Response Rate

A total of 123 questionnaires were administered to respondents, out of which, 90 were dully completed, representing a 73.17% response rate. This rate was deemed sufficient given that 60% and above is considered acceptable (Rant, 2013). Further, Kothari (2014) observes that 50%, 60% and >70% are considered average, adequate and excellent respectively. Mellahi and Harris (2016) posit that, a response rate above 50% for HRM and business management should be considered good. Achieving 73.17% was therefore considered a good basis for data analysis and drawing of conclusions. Response rate findings are presented in Table 4.1.

Table 4.1: Response Rate

Questionnaires	Frequency	Percentage (%)
Emailed Questionnaires	123	100.00
Completed Questionnaires	90	73.17
Non-responsive	33	26.83
Total	**123**	**100**

4.3 Pilot Study Results

Data obtained from the pilot study was used to establish the validity and reliability of the research tool.

4.3.1 Findings on Reliability of Pilot Test Research Instrument

Cronbach's Alpha was applied to measure the reliability of the gathered pilot test data. An alpha coefficient ≥.70 indicates that the gathered data is reliable as it has a relatively high internal consistency and can be generalized to reflect the opinions of all respondents in the target population (Zinbarg et al., 2005). Results showed that the variables' subscales had alpha levels of .917, .903, .901, .917, .941 and .835 respectively, thus indicating that they had an adequate level of inter-item reliability. The summary is shown in Table 4.2.

Table 4.2: Reliability Test Results

Construct	Number of Items	Cronbach's Alpha Value	Conclusion
Green Employee Resourcing	15	0.917	Accepted
Green Employee Training	6	0.903	Accepted
Green Performance Management	7	0.901	Accepted
Green Employee Rewards	6	0.917	Accepted
Green Employee Involvement	6	0.941	Accepted
Employee Pro-Environmental Behaviour	25	0.835	Accepted

4.3.2 Findings on Validity of Research Instrument

Content validity was achieved by conducting a comprehensive literature review to ensure the instrument adequately covered study variables, supplemented by expert opinions from supervisors. For construct validity, Kaiser-Meyer-Olkin (KMO) and Bartlett's tests were employed to validate the influence of Green Human Resource Management (GHRM) Practices on Employee Pro-environmental Behaviour (EPEB). Bartlett's test of sphericity results for GER, GET, GPM, GRE, and GEI demonstrated significance ($p<.001$), indicating that the sample met the requirements for factor analysis using the Principal Component Analysis (PCA) method. Specifically, χ^2 (21) = 327.668, χ^2 (15) = 446.827, χ^2 (21) = 256.129, χ^2 (15) = 229.917, χ^2 (15) = 352.459, and χ^2 (22) = 368.997 for GER, GET, GPM, GRE, and GEI, respectively. These results affirmed the construct validity of the instrument, providing confidence in its ability to measure GHRM Practices and their impact on EPEB (refer to Table 4.62 in Appendix 6).

Principal Component Analysis (PCA) was utilized for factor analysis to achieve dimension reduction and refine the measurement instrument in preparation for the main study. The objective was to streamline indicators associated with each research variable, retaining only those elucidating the impact of the independent variable on the dependent variable - specifically, the influence of Green Human Resource Management practices on Employee Pro-Environmental Behaviour. The refinement process adhered to criteria such as retaining factors with eigenvalues >1, excluding single-item factors, and considering cumulative percent variance extracted (Taherdoost et al., 2022). Factor loadings exceeding .40, recommended by Hair et al. (2009), were also considered for interpretative purposes. This approach ensured a focused and reliable measurement instrument for the imminent main study.

Factor Analysis for Green Employee Resourcing

"Green Employee Resourcing" (GER) construct analysis involved 15 indicators, revealing significant loadings across four factors. Utilizing VARIMAX rotation for factor matrix adjustment, items 12 to 15 were excluded due to cross-loadings, and items 10 and 11 were removed for loading on a single factor each (Hair et al., 2009). This refinement process resulted in the retention of seven items. Notably, items 5, 6,

and 7, sharing a similar thematic focus, were merged to eliminate redundancy and enhance the clarity and coherence of the measurement tool. The PCA using VARIMAX rotation identified two components with eigenvalues greater than 1. The first component explained 62.656% of the total variation, while the second accounted for 18.555%, collectively explaining 81.211% of the total variation in GER, indicating that the identified components captured a substantial proportion of the underlying variability in the GER construct (refer to Table 4.63 & 4.64 in Appendix 6).

Factor Analysis for Green Employee Training

The pre-study analysis of the "Green Employee Training" (GET) construct involved six indicators. The results yielded the extraction of a single component with an eigenvalue of 4.094, explaining 68.240% of the total variance. As only one component was extracted, rotation was unnecessary in this instance. All six indicators were retained for the main study, signifying that the identified component captured a significant proportion of the underlying variability in the GET construct (refer to Tables 4.65 & 4.66 in Appendix 6).

Factor Analysis for Green Performance Management

The factor analysis conducted on the seven (7) indicators of Green Performance Management (GPM) in relation to Employee Pro-environmental Behaviour (EPEB) revealed valuable insights. While initially, two components were extracted, subsequent scrutiny of the anti-image correlation matrix identified an issue with the seventh item, as it had a value of .413, falling below the recommended threshold for Measures of Sampling Adequacy (> .5). Following the deletion of this item, the analysis resulted in the extraction of a single component, consolidating the factors and ensuring a more reliable structure. The refined structure, representing a more reliable configuration, comprised a single component with an eigenvalue of 4.362, elucidating 72.701% of the total variance. These refined findings lay the groundwork for the main study, ensuring a more robust exploration of the relationship between GPM and EPEB (refer to Tables 4.67, 4.68 & 4.69 in Appendix 6).

Factor Analysis for Green Employee Rewards

The factor analysis results for the six (6) indicators of Green Employee Rewards yielded extraction of a single crucial component with an Eigenvalue of 4.140, explaining 69.000% of the total variance in the construct. Since only one factor was extracted, the rotation of the solution was deemed unnecessary. This streamlined component structure enhanced the reliability of the research instrument, paving the way for a more comprehensive investigation in the main study (refer to Tables 4.70 & 4.71 in Appendix 6).

Factor Analysis for Green Employee Involvement

Factor analysis on the six (6) indicators of Green Employee Involvement (GEI) revealed a significant singular component with an Eigenvalue of 4.773. This component accounted for 79.552% of the total variance within the construct. The results affirmed the reliability of all six indicators in assessing the impact of GEI on EPEB in public universities in Kenya. As a result, all six indicators were retained for inclusion in the subsequent main study, ensuring a comprehensive evaluation of the relationship between GEI and EPEB (refer to Tables 4.72 & 4.73 in Appendix 6).

Factor Analysis for Employee Pro-environmental Behaviour

The examination of Employee Pro-Environmental Behaviour (EPEB) through factor analysis involved a thorough assessment of its 25 indicators. The diverse nature of these indicators led to a careful examination of their communalities, revealing the individual contributions to the overall factor solution. Subsequently, 17 factors with values below .50 were identified and eliminated, aligning with Hair et al.'s (2009) guideline. The refined research instrument underwent a collaborative expert review, engaging supervisors, subject matter experts, and proficient colleagues. This collective effort ensured the alignment of survey items with established theories and best practices, aiming to enhance the instrument's robustness and effectiveness in capturing EPEB intricacies. This holistic approach, integrating insights from factor analysis outcomes and collaborative expert input, reflects efforts made to refine the research

instrument for optimal deployment in the main study (refer to Tables 4.74, 4.75 & 4.76 in Appendix 6).

4.3.3 Findings on Reliability and Validity of Main Study Research Instrument

Reliability and validity of the gathered data were assessed using structural equation modelling. The variables measured included: Employee Pro-Environmental Behaviour (EPEB), Green Employee Involvement (GEI), Green Employee Rewards (GER), Green Employee Training (GET), Green Performance Management (GPM), and Green Employee Resourcing (GRE). For reliability, Cronbach's alpha values closer to 1 indicate higher internal consistency while for validity, Average Variance Extracted (AVE) values above 0.5 are generally considered acceptable. Results are displayed in Table 4.3.

Table 4.3: Reliability and Validity Measures for Study Variables

Construct	Number of Items	Cronbach's alpha	Average variance extracted (AVE)
GER	7	0.844	0.517
GET	6	0.916	0.708
GPM	6	0.829	0.547
GRE	6	0.826	0.535
GEI	6	0.932	0.748
EPEB	8	0.824	0.569

4.4 Distribution of Respondents

4.4.1 Distribution of Respondents by University

The third stage in the multi-stage sampling utilized stratified random sampling technique, where each purposively selected university was treated as a stratum. The study therefore sought to establish the institution to which each respondent belonged. As indicated in Figure 4.1, JKUAT had the highest number of respondents at 50.0% (45) followed by Kenyatta University at 40.0% (36) and lastly, Karatina University at 10.0% (7).

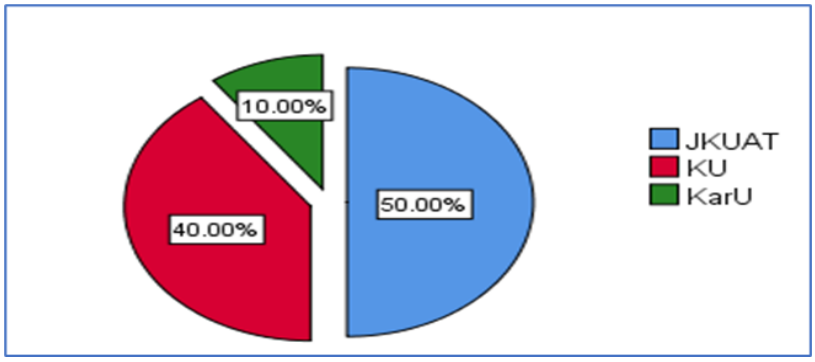

Figure 4.1: Distribution of Respondents by University

4.4.2 Distribution of Respondents by Category

The study applied stratification to categorize respondents into top level management, middle level management and others under the teaching and non-teaching category within each university. This stratified approach was utilized to ensure proportionality when drawing the sample, ensuring representation from various staff levels within each specific category. As displayed in Table 4.4, 88.9% (80) of the respondents were from the "other" (teaching and nonteaching staff) category while 8.9% (8) and 2.2% (2) were from the middle-level and top-level management categories respectively.

Table 4.4: Distribution of Respondents by Position in the University

Position	Frequency	Percent
Other: Teaching Staff	80	88.9
Middle Level Management	8	8.9
Top Level Management	2	2.2
Total	**90**	**100.0**

4.4.3 Distribution of Respondents by Position/Designation

The study further stratified respondents based on their position/designations. The results presented in Figure 4.2 reveal that Grades 7/8 (CD) and 9/10 (EF) constituted the majority of respondents, accounting for 30% and 25.56%, respectively. Following closely were Senior Lecturer/Lecturer and Middle-Level Managers at 11.11% and 7.76%, respectively. Full/Associate Professor and Assistant Lecturer/Tutorial Fellow

comprised 6.6% and 5.56%, respectively. Grades 13, 11, 12, and Top Managers made up 4.4%, 3.33%, 3.33%, and 2.2%, respectively. The sample therefore demonstrated representativeness of the various cadres making up the workforce in public universities in Kenya.

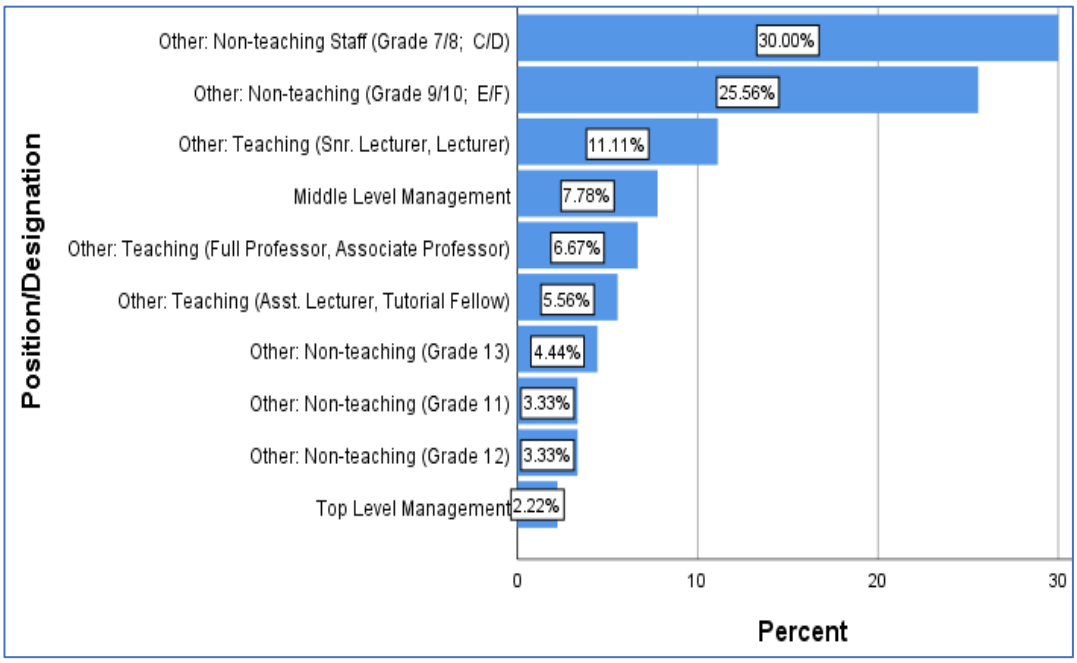

Figure 4.2: Distribution of Respondents by Position/Designation

4.4.4 Distribution of Respondents by Length of Service

From the data presented in Table 4.5, it is evident that a significant majority of the respondents had put in many years of service, having served for more than five (5) years, an indication that they had a mastery of their institutions' practices. The information resulting from the findings of this study may therefore be deemed to be credible. Similarly, in their study on employee green behaviour, a meta-analysis, Katz et al. (2022) found a significant relationship between employee tenure and green behaviours.

Table 4.5: Distribution of Respondents by Length of Service

Respondents by Length of Service	Frequency	Percent
0-4 years	4	4.4
5-9 years	33	36.7
10 years & above	53	58.9
Total	**90**	**100.0**

4.4.5 Membership to Kenya Green University Network

Table 4.6 displays the opinion of respondents regarding the membership status of their university to the "Kenya Green University Network." The responses were categorized into three distinct groups: "Yes," "No," and "I don't know." Firstly, it was evident that a portion of the respondents, specifically 19 individuals (constituting 21.1% of the total), were certain that their university was indeed a member of the Kenya Green University Network. This affirmative response signifies an active engagement with sustainability initiatives within the network. Conversely, a smaller fraction, consisting of 5 respondents (or 5.6% of the total), firmly stated that their university was not affiliated with the network. These respondents were distinctly aware of their university's non-membership. However, the most noteworthy revelation arose from the large majority of respondents, totalling 66 individuals (or 73.3% of the total), who expressed uncertainty regarding their university's membership status in the Network. This uncertainty signals a vital opportunity for further exploration and clarification. It would be valuable to investigate the underlying reasons for this lack of clarity, whether it stems from communication gaps, information dissemination challenges, or other factors. Moreover, it would be prudent to provide additional resources and information to assist those who are uncertain about their university's involvement with the network. Overall, these findings underscore the importance of enhancing awareness and understanding of the criteria and benefits associated with network membership. It also highlights the potential for increased participation in sustainability initiatives by addressing the prevailing uncertainties among the majority of respondents.

Table 4.6:Membership to Kenya Green University Network

Response Category	Frequency	Cumulative Percent
Yes	19	21.1
No	5	5.6
I don't know	66	73.3
Total	**90**	**100.0**

4.5 Descriptive Statistical Analysis of the Study Variables

Descriptive analysis aids in describing the main features of the data and provides simple summaries about the sample and the measures used, the most common being the measures of central tendency (mean, mode and median) and measures of spread (ranges, quartiles, standard deviations and variances). Descriptive analysis forms the basis for quantitative analysis of data (Stangor, 2011). The study's aim was to investigate the influence of GHRM practices on employee PEB in Kenya's public universities. Specifically, it looked at the influence of green employee resourcing (GER), green employee training (GET), green performance management (GPM), green employee rewards (GRE) and green employee involvement (GEI) on employee pro-environmental behaviour (EPEB) in public universities in Kenya. Responses were collected from respondents across three different institutions: JKUAT (N=45), KU (N=36) and KarU (N=9). A five-point Likert Scale ranging from strongly agree to strongly disagree (Scoring range of Likert Scale: SD-Strongly Disagree 1; D-Disagree 2; N-Neither Agree nor Disagree 3; A-Agree 4; SA-Strongly Agree 5) was applied for the study.

4.5.1 Descriptive Findings for Employee pro-Environmental Behaviour

The dependent variable (EPEB) was based on the Green-Five Taxonomy by Ones et al. (2018), which comprehensively encompasses the relevant environmental behaviours employees are likely to perform at work. The taxonomy is organized hierarchically into: transforming behaviours considered to be foundational to employee green behaviours; conserving behaviour (waste elimination) whose aim is to promote resource preservation by avoiding wastefulness; avoiding harm which

targets to inhibit negative environmental behaviour and mitigate environmental damage; green leadership, basically meant to influence others by spreading sustainability behaviours from one individual to the other; and green programs that may arise as a result of taking initiative and involve behaviours that are proactive, entrepreneurial and bearing a certain level of personal risk or sacrifice. Respondents were subjected to eight statements designed to gauge the level of pro-environmental behaviour in their institutions. Descriptive statistics for EPEB presented an overall mean score of 3.25 while the mean scores across the three institutions were: JKUAT (Mean=3.4528, SD=.4873, N=45), KU (Mean=2.9063, SD=.46519, N=36) and KarU (Mean=3.611, SD=.2684, N=9). Results are displayed in Table 4.7.

Table 4.7: Employee Pro-environmental Behaviour across Institutions

Name of University	Mean	N	Std. Deviation
JKUAT	3.4528	45	.48726
KU	2.9063	36	.46519
KarU	3.6111	9	.26842
Total		**90**	

Results in Table 4.7 show that KarU has the highest mean (Mean = 3.61) for pro-environmental behaviour score, indicating that her employees, on average, exhibit the highest level of pro-environmental behaviours among the three universities. JKUAT follows with the second highest mean score (Mean = 3.45), suggesting higher pro-environmental behaviours compared to KU which had a mean score of 2.91. The standard deviations provide insights into the variability of respondents' pro-environmental behaviour scores within each university and the total sample. KarU has the smallest standard deviation (SD=.268), implying that its employees' behaviours are more consistent, hence clustered around the mean, consequently signifying a more uniform agreement with pro-environmental statements. JKUAT and KU on the other hand had a slightly higher standard deviation (.487 and .465 respectively), inferring somewhat more variation in pro-environmental behaviours among their employees compared to KarU. Overall, there was a general tendency towards agreement with pro-environmental statements in the total sample. However, KU may need to work on

improving and encouraging more environmentally friendly practices among its workforce.

The study sought to establish extent to which respondents patronised the array of pro-environmental behaviours as defined under the Green Five Taxonomy. The results are displayed in Table 4.8.

Table 4.8: Descriptive Results on Employee Pro-environmental Behaviour

Employee Pro-environmental Behaviour	**SD** %	**D** %	**N** %	**A** %	**SA** %	**Mean**	**SDEV**
EPEB1: I proof-read, edit on screen and save my documents electronically	0.0	18.9	13.3	60.0	7.8	3.57	.873
EPEB2: Whenever I must print or photocopy, I use both sides of the paper (double-sided printing)	0.0	13.3	17.8	62.2	6.7	3.62	.801
EPEB3: Whenever I need to relay a message, I send emails instead of paper correspondence	0.0	15.6	28.9	51.1	4.4	3.44	.809
EPEB4: I participate in periodic clean-up drives organized for all employees to keep our environment clean	0.0	00	41.1	21.1	0.0	2.53	.753
EPEB5: I encourage my colleagues to adopt environmentally friendly behaviour when performing their duties to minimize pollution	0.0	37.8	38.9	22.2	1.1	2.87	.796
EPEB6: I encourage my colleagues to dispose waste responsibly	0.0	28.9	58.9	8.9	3.3	2.87	.706
EPEB7: I make suggestions on ways to protect the environment	0.0	20.0	37.8	37.8	4.4	3.27	.832
EPEB8: I volunteer for activities that address environmental issues in my university such as tree-planting	0.0	14.4	22.2	58.9	4.4	3.53	.796

Through EPEB1, the study confirmed that a majority of respondents proof-read, edited on screen and saved their documents electronically (Mean=3.57, SDEV=.887) while EPEB2 revealed that they used both sides of the paper when photocopying or printing documents (Mean=3.62, SDEV=.501). From the findings, respondents generally demonstrate agreement with conserving behaviours, an indication that a significant portion is inclined towards practices that conserve resources and reduce waste.

Behaviours related to avoiding harm (pollution prevention) received a neutral level of agreement from respondents. A proportion of respondents stated their preference for green communication channels through EPEB3 whose aim was to establish whether emails were preferred to paper correspondence (Mean=3.44, SDEV=.809). When asked whether they participated in periodic clean-up drives organized for all employees to keep their environment clean (EPEB4), respondents neither agreed nor disagreed (Mean=2.53, SDEV=.753). This may portray a failure, on the institutions' part, to institute green programs designed to reduce their carbon footprint given that findings of Thondhlana and Hlatshwayo (2018) concluded that these institutions are microcosms of the environmental problems facing society today.

Influencing behaviours (green leadership) also received a neutral level of agreement (Mean=2.87, SDEV=.796; Mean=2.87, SDEV=.706) for EPEB5 and EPEB6 respectively. Here, the study sought to establish whether respondents encouraged their colleagues to adopt environmentally friendly behaviour when performing their duties or whether they encouraged their colleagues to dispose waste responsibly. Respondents maintained a neutral stance regarding their role in influencing colleagues to adopt pro-environmental behaviour. The employees' neutral attitude toward influencing behaviours might stem from a potential absence of role-model behaviour among leaders, creating a perception of insufficient encouragement for eco-friendly practices. This contradicts the results of a study at Mater, a healthcare provider, where senior managers aimed to reduce energy usage in administrative areas by modelling behaviour through a "Turn it off" campaign (Russel & Hill, 2018; Russel et al., 2016).

The study further sought respondents' opinions regarding initiative-related behaviours (green programs). EPEB7, seeking to establish whether respondents made suggestions

on ways to protect the environment, yielded a mean of 3.27 (SDEV=.832). EPEB8, with a mean of 3.53 (SDEV=.796) confirmed that respondents volunteered in activities that address environmental issues such as tree-planting. Overall, the state of employee PEB in the respondents' institutions may be described as moderately positive. There seems to be a willingness by respondents to engage in conserving behaviours. However, it may be necessary to raise awareness and encourage more active participation in pollution-prevention, green leadership and green programs which received a more neutral response from respondents. While there was no strong disagreement, there was also no strong agreement in these categories. This may indicate a deficiency on management's part to facilitate employee green behaviours by providing opportunities for responsible environmental behaviour.

4.5.2 Descriptive Findings for Socio-Demographic Factors

Socio-demographic characteristics, such as age, gender, education, income, locale, ethnicity, occupation and social identity have been identified as probable factors influential to individuals' engagement in pro-environmental actions (Estrada-Araoz et al., 2023; Gökmen, 2021; Hoffmann & Muttarak, 2020; Li et al., 2022; Patel et al., 2017; Rampedi & Ifegbesan, 2022; Wiernik et al., 2016; WOO, 2021; Milfont & Sibley, 2016). This study considered gender, age and education; and sought to establish the moderating effect of these socio-demographic variables on the relationship between green human resource management practices and employee pro-environmental behaviour.

The study sought to establish the respondents' gender. Findings revealed that both genders were well represented at 40.44% and 55.6% for male and female respectively. This variable was deemed necessary for this particular study since literature has averred that gender may shape pro-environmental behaviour, where it is believed that females are more pro-environmental than their male counterparts (Patel et al., 2017). Results in Table 4.8 indicate that a majority of the respondents (47.8%) were in the 50 years and above age bracket, 27.8% were between 40-49 years and 24.4% were between ages 30-39 years. This portrays a good blend of the different age groups which may provide valuable information regarding the behaviour and attitudes of the

respondents with regard to EPEB. A study by Patel et al. (2017) found an association between pro-environmental behaviour and age, where the more mature adults were believed to display green behaviours more than the younger adults.

Table 4.9: Socio-Demographic Factors of Respondents

		Frequency	Percentage (%)
Respondent's Gender	Male	40	44.4
	Female	50	55.6
Respondent's Age	30-39 years	22	24.4
	40-49 years	25	27.8
	50 years & above	43	47.8
Highest Education Level	Diploma	6	6.7
	Bachelors	14	15.6
	Masters	47	52.2
	PhD	23	25.6

Education is considered to be a core social background variable in surveys and also useful in statistical analyses (Schneider, 2021). Wang et al. (2022), in their study on green returns to education report positive effects of education on pro-environmental attitudes and behaviours. Their results revealed an increase of 2.1% in pro-environmental behaviours for every additional year of schooling. Hoffmann and Muttarak (2020) also concur through their findings, that an extra year of schooling seemingly increased the likelihood of engaging in environmentally friendly actions by a significant 3.3%. Moreover, understanding the respondents' education level was deemed important for this study given that the questionnaires were administered online. Results displayed in Table 4.9 and Figure 4.3 reveal that an impressive majority 52.2% were holders of master's degree, followed by PhD holders (25.6%), bachelor's degree (15.6%) and finally, Diploma (6.7%). The environment (institutions of higher learning) could explain the extent of education achieved by respondents.

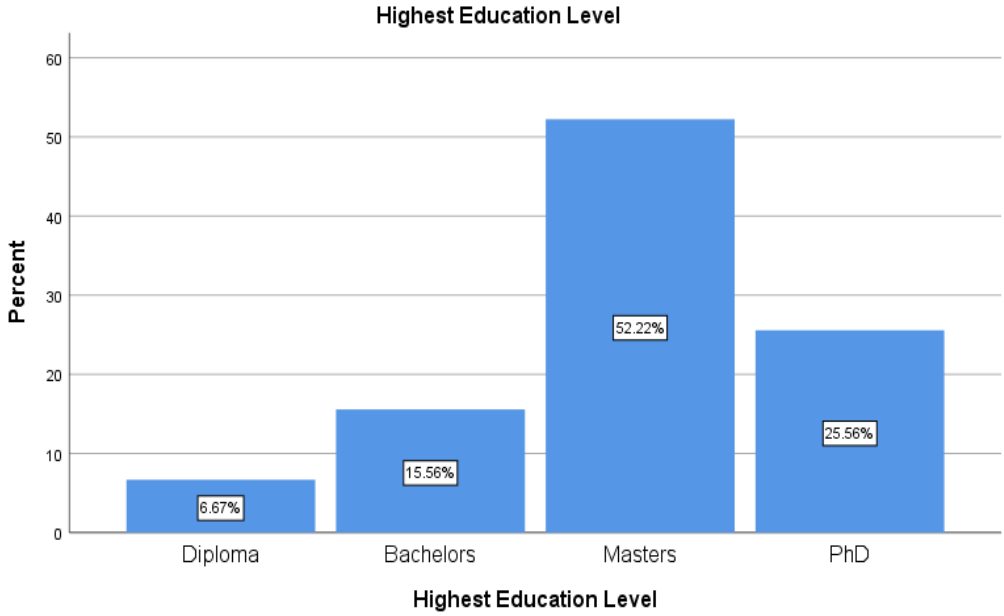

Figure 4.3: Distribution of Respondents by Level of Education

4.5.3 Descriptive Findings for Green Employee Resourcing (GER)

The study sought to evaluate the influence of green employee resourcing (GER) on employee pro-environmental behaviour in public universities in Kenya. Seven statements were used to establish this fact. The study utilized a five-point Likert Scale ranging from strongly agree to strongly disagree (Scoring range of Likert Scale: SD-Strongly Disagree 1; D-Disagree 2; N-Neither Agree nor Disagree 3; A-Agree 4; SA-Strongly Agree 5). Descriptive statistics for GER presented different scores for each institution: JKUAT (Mean=2.9444, SD=.5063, N=45), KU (Mean=2.3657, SD=.5920, N=36) and KarU (Mean=3.1667, SD=.3536, N=9). The overall mean score for GER (Mean=2.7352, SD=.6099) however, indicates that the institutions under study have yet to embrace GER practices. Table 4.10 displays these results.

Table 4.10: Green Employee Resourcing across Institutions

Name of University	Mean	N	Std. Deviation
JKUAT	2.9444	45	.50627
KU	2.3657	36	.59204
KarU	3.1667	9	.35355
Total		**90**	

Seeking to establish whether green employee resourcing took place in the institutions under study, several statements were deployed to gauge the respondents' opinions. Results are shown in Table 4.11. GER1, with a mean of 3.41 (SD=.947), showed respondents' neutrality on the institution's communication of its environmental policy. This contrasts with Mwita and Mwakasangula's (2020) findings, indicating that prioritizing environmental sustainability in recruitment reflects industries' commitment to a green agenda and communicates dedication to environmental management to new recruits. Their findings cite an interviewee who emphasized that maintaining a green workplace was part of CSR reflected in their hiring process, aiming to employ individuals dedicated to environmental conservation. GER2, with the highest mean score (Mean= 3.58, SD=.749), affirmed the practice of advertising job vacancies online by the institutions. This aligned with the findings of Suleman et al. (2022), indicating that manufacturing firms in Ghana utilize official company websites, social media platforms, and other recognized job advertisement outlets, such as LinkedIn, to attract prospective applicants.

For GER3, respondents disagreed that their institution used social networking platforms to reach potential job applicants (Mean=1.68, SD=.732). Respondents also disagreed with GER4, which sought to establish whether job applications were received electronically (Mean=2.23, SD=.995). However, GER5 with the second highest mean score (Mean=3.57, SD=.835) suggested that the institutions used green communication channels (email, telephone or SMS) to invite shortlisted candidates for interview. Respondents however disagreed with GER6 (Mean=1.81, SD=.847) which sought to establish whether environmental protection formed part of the job descriptions in the advertised jobs. This omission may deny the institutions the opportunity to attract talented pro-environmental employees as the candidates would

not have a chance to infer what type of an organization they are interacting with during recruitment as proposed by signalling theory (Tsai & Yang, 2010).

Respondents also expressed disagreement with GER7 (Mean=1.94, SD=.770), indicating that environmental protection was not considered in the selection process for job vacancies based on candidates' environmental awareness. This contradicts the findings of Mwita & Mwakasangula (2020) who reported that Tanzanian industries often assess job candidates to ensure they are knowledgeable and skilled on environmental conservation. Overall, the findings imply a partial embracing of green employee resourcing strategies due to lack of requisite technological infrastructure which may be capital intensive. This aligns with Jepsen and Grob's (2015) findings, indicating that while technology facilitates reductions in paperwork, travel and resource usage, its implementation cost may be a barrier for organizations facing financial constraints, a circumstance many public universities currently encounter. Kodua et al. (2022) also emphasize limited financial resources as a hindrance to the adoption of Green HRM practices in some Ghanaian organizations.

Table 4.11: Descriptive Findings for Green Employee Resourcing Construct

Green Employee Resourcing	SD %	D %	N %	A %	SA %	Mean	SDEV
GER1: My university communicates its environmental policy on her website to attract environmentally friendly job applicants	0.0	25.6	7.8	62.2	3.3	3.41	.947
GER2: My university advertises job vacancies online	0.0	14.4	14.4	70.0	1.1	3.58	.749
GER3: My university uses social networking platforms to reach potential job applicants (twitter, Facebook, LinkedIn etc)	43.3	50.0	2.2	4.4	0.0	1.68	.732
GER4: My university receives job applications electronically	23.3	46.7	13.3	16.7	0.0	2.23	.849
GER 5: In my university, candidates shortlisted for interview are invited through email, telephone, or SMS	0.0	17.8	12.2	65.6	4.4	3.57	.835
GER6: My university includes environmental protection as part of job description	41.1	42.2	11.1	5.6	0.0	1.81	.847
GER7: My university selects candidates with environmental awareness to fill job vacancies	26.7	57.8	10.0	5.6	0.0	1.94	.770

In order to analyse the open-ended question (GER8), content analysis was conducted. Themes linked to the scope and purpose of the research topic, specifically to green employee resourcing, were devised. Based on the responses, data was then coded and analysed quantitatively. When asked to recommend environmentally friendly recruitment practices, 36% of respondents suggested the comprehensive adoption of e-recruitment. 32% of the respondents on the other hand recommended green interviews where candidates were interviewed via Zoom, Google Meet or KENET. This entails online job advertisements, online job application submissions, virtual short-listing teams, digitized pre-employment assessments, and electronic feedback on the process outcome. These suggestions align with practices in the Ghanaian manufacturing industry, where virtual engagement of shortlisted applicants and digital

interviews via platforms like Zoom, Skype, and Cisco WebEx meetings are common. Additionally, appointment letters for successful candidates are issued digitally (Kodua et al., 2022).

A further 24% suggested institution of green onboarding where new recruits are trained on all environmental protection-related policies and procedures, as well as the requirements of the National Environmental Management Authority (NEMA) relating to waste management. A study by Flagstad et al. (2021) supports these findings as it confirms that newcomer socialization is key to the diffusion of shared green perceptions. Jepsen and Grob (2015) agree that best sustainability practices should be used during employee onboarding to demonstrate the organization's expectations and concern for sustainability. Finally, 8% proposed use of green reference checks to establish the authenticity of candidates' claims of being pro-environmental.

Respondents' reactions may indicate that public universities in Kenya are yet to entrench green employee resourcing as a HRM practice aimed at mitigating the environmental impact of their operations. This agrees with findings of a survey of 214 UK organizations by Zibarras and Coan (2015), which revealed that HRM practices are seldom used to promote employee pro-environmental behaviour in spite of their potential in enhancing environmentally-friendly behaviour. The results further show that the key organizational gatekeepers responsible for the management of employees are yet to fully exploit the power of HRM practices to inculcate pro-environmental behaviour of employees under their management. In a study involving three South African universities, Mtembu (2018) discovered that 50% of the HR practitioners surveyed were not only unfamiliar with the Green HRM concept but also held the belief that responsibilities related to the environment were not within their domain. Table 4.12 displays the results.

Table 4.12: Suggested Additional Green Recruitment Practices

Theme	Frequency	Percentage
e-Recruitment	32	36%
Green Interviews	29	32%
Green Onboarding	22	24%
Green References Checks	7	8%
Total	**90**	**100%**

The study sought to establish whether the institutions in focus had environmental policies declaring their environmental stances. Secondary data assessed revealed that JKUAT had published its environmental policy on its website (www.jkuat.ac.ke), while KU and KarU availed no information on this attribute. The findings, displayed in Table 4.13 align with those of Smith and Johnson (2018) whose investigation on environmental practices revealed that a significant number of organizations lacked formal environmental policies.

Table 4.13: Findings on Availability of Environmental Policy, Green Job Descriptions and Green Performance Evaluation

Attribute	JKUAT	KU	KarU
Environmental Policy availability	Available (www.jkuat.ac.ke)	No response	None
Green job descriptions availability	None	No response	None
Green performance evaluation availability	No	No response	None

The analysis further established that e-job postings happened in the institutions and the trend over a five-year period ranging between 2016 – 2020 was assessed. From Table 4.14, JKUAT reported a total of 11 postings for the period except for the year 2020, while KarU reported five (5) postings accounting for one job posting each year. This finding aligns with the responses of participants who confirmed that the institutions advertised job vacancies online (Mean= 3.58, SD=.749). This, coupled with the public display of environmental policy is likely to enhance the institutions' employer branding among pro-environmental job seekers, potentially reducing

information asymmetry as proposed by signalling theory and increasing the pool of qualified job candidates for open positions (Connelly et al., 2011; Spence, 1973).

Table 4.14: Findings on Number of Online Job Advertisements

Attribute	JKUAT	KU	KarU
No. of e-job adverts:			
2016 -	3	No response	1
2017 -	2		1
2018 -	3	No response	1
2019 -	3		1
2020 -	0	No response	1

The study further strived to ascertain the number (if any), of job applications received electronically over the same period, following the e-job posts. However, contrary to the respondents' assertions that job applications were not received electronically (Mean=2.23, SD=.995), JKUAT reported 65, 45, 34 and 67 for 2016, 2017, 2018 and 2019 respectively, as shown in Table 4.15. KarU however reported none while KU remained unresponsive.

Table 4.15: Results of Number of Applications Received Electronically

Attribute	JKUAT	KU	KarU
No. of applications received electronically			
2016 -	65	No response	None
2017 -	45		None
2018 -	34	No response	None
2019 -	67		None
2020 -	0	No response	None

Further assessment of the secondary data could not establish the presence of green job descriptions in the three public institutions. This may imply that the institutions are not explicitly outlining the environmental responsibilities and requirements associated with certain positions. Again, the findings correspond to those of respondents who, through GER6 and GER7 asserted that environmental protection did not form part of the job descriptions in the advertised jobs and neither was selection to fill job vacancies based on the candidate's environmental awareness, respectively. This lack denotes a

missed opportunity to attract and align environmentally conscious talent with roles that directly contribute to sustainable practices. Without clear job descriptions, potential applicants who prioritize environmental stewardship may not be aware of relevant positions within these institutions. The findings agree with those of Brown and Jones (2019) who concluded that the lack of green job descriptions portrayed a potential oversight by organizations in integrating environmental considerations into their HRM practices.

4.5.4 Descriptive Findings for Green Employee Training (GET)

There were six items examining the influence of green employee training on employee pro-environmental behaviour in public universities in Kenya. The mean scores across the three institutions were 3.4778 (SD=.6663, N=45), 2.5231 (SD=.6018, N=36) and 3.8519 (SD=.7925, N=9) for JKUAT, KU and KarU respectively. The overall mean score for GET was 3.1333 (SD=.8253, N=90), an indication that, green employee training as an HR practice, was not fully implemented in public universities in Kenya. Table 4.16 presents these results.

Table 4.16: Green Employee Training across Institutions

Name of University	Mean	N	Std. Deviation
JKUAT	3.4778	45	.66629
KU	2.5231	36	.60179
KarU	3.8519	9	.79252
Total		**90**	

Results in Table 4.17 reveal participants' neutral stance on GET1 regarding the execution of training needs analysis in their institutions (Mean=2.52, SD=.974). This contradicts Mandago's (2019) findings, where state corporations were reported to actively conduct environmental training needs analyses. Similarly, they remained non-committal on GET2, which suggested that their institutions provided environmental training to equip them with knowledge and skills to safeguard the environment (Mean=3.44, SD=1.153). The absence of TNA might compromise environment-

specific training, potentially hindering optimal environmental performance, as suggested by Bishop and Daily's (2012) findings.

Contrary to the findings of Mwita and Mwakasangula (2020) where Tanzanian industries provided induction training to new recruits to acquaint them with environmental management interventions, the current study portrayed a different scenario. GET3 revealed that the institutions did not prioritize environmental awareness when on-boarding new employees (Mean=2.52, SD=.810). It could therefore be inferred that the institutions, by neglecting environmental awareness in the onboarding process for new employees, are overlooking a valuable opportunity to firmly entrench sustainability principles through the green socialization of their workforce (Russell & Hill, 2018; Flagstad et al., 2021)

GET4 sought to establish whether the public universities incorporated aspects of efficient resource use, pollution prevention, waste management and recycling when designing training programs. Respondents neither agreed nor disagreed (Mean=3.21, SD=1.065). This contrasts with the results of a study by Rayner and Morgan (2018) in Australia, which indicated that employees engaged in recycling practices and avoided unnecessary waste in their workplaces. They were further supported by the findings of Adubor et al. (2022) which averred that employees were exposed to green training to reduce waste and reuse materials. The results of the current study may be attributed to the misstep occasioned by failure to conduct training needs analysis which, according to Saeed et al.'s (2019) findings, is key in revealing the green training needs of employees.

By leveraging information from GET5 and GET6, the research aimed to ascertain the training medium and the accessibility of course materials. Respondents affirmed the use of digital learning platforms in training sessions (Mean=3.51, SD=.927) and the electronic provision of training materials (Mean=3.59, SD=.935). These results align with prior studies, suggesting that the surveyed firms commonly employed online systems for employee training. Additionally, diverse technologies, such as LCD projectors, were used, and learning materials were distributed electronically in the training processes. This demonstrates the institutions' commitment to promoting green

citizenship behaviour and encouraging pro-environmental actions among employees. This aligns with Zhang's (2019) research, emphasizing that the green aspect should not only be reflected in training content but also in the methods used, ensuring the adoption of eco-friendly approaches in training and development programs. The observation further suggests that the institutions are not only incorporating environmentally friendly content but also utilizing eco-conscious methods, indicating a level of awareness regarding the environmental impact of their operations.

Table 4.17: Descriptive Results for Green Employee Training Construct

Green Employee Training	**SD** %	**D** %	**N** %	**A** %	**SA** %	**Mean**	**SDEV**
GET1: My university conducts training needs analysis to identify environmental-based knowledge gaps to guide in design of environmental training programs	6.7	57.8	16.7	14.4	4.4	2.52	.974
GET2: My university provides us with environmental training to help us develop knowledge and skills we require to protect the environment	5.6	20.0	15.6	42.2	16.7	3.44	1.153
GET3: My university incorporates environmental awareness in induction programs for new employees	3.3	57.8	22.2	16.7	0.0	2.52	.810
GET4: My university incorporates aspects of efficient use of resources, pollution prevention, waste management and recycling when designing training programs	2.2	31.2	20.0	36.7	10.0	3.21	1.065
GET5: My university uses digital learning platforms when conducting environmental training	0.0	17.8	25.6	44.4	12.2	3.51	.927
GET6: In my university, induction and course training materials are availed in soft copy	0.0	17.8	18.9	50.0	13.3	3.59	.935

The study further sought the respondents' suggestions on how else training could be used to equip employees with work behaviours that protect the environment (GET7). From Table 4.18, a significant majority (44%) proposed green simulation where employees get an opportunity to experience and learn about the impact of their actions through hands-on application in a controlled environment. This suggestion is supported by the findings of Rooney-Varga et al. (2020), which revealed that Climate Action Simulation increased participants' understanding of carbon emissions and actions needed to mitigate climate change. The findings also indicated that the respondents' personal and emotional engagement with climate change was amplified. The same is echoed by Labella-Fernández and Martínez-del-Río (2019) whose findings highlighted experiential practices introduced to informally entrench environmental sustainability. They cite Google and Intel as examples of companies that have established on-site employee gardens. In these gardens, employees actively engage in growing organic vegetables, which are later used in the organizations' cafeterias and restaurants. This initiative is recognized as a deliberate strategy aimed at fostering pro-environmental behaviour among employees.

A further 20% of the respondents suggested green role-modelling by their superiors. This corresponds to the findings of a study by Kennedy et al. (2015) which report the realization of 80% of environmental targets set by Interface, a global carpet manufacturer, made possible by the founder's own pro-environmental actions which inspired employees' PEB. Similarly, in Mater, targeting to reduce energy usage in administrative areas, senior managers modelled behaviour through a "*Turn it off*" campaign. The success was evident as a significant reduction in electricity consumption was realized in form of standby power for computing equipment where employees took individual responsibility to turn off computer monitors and hard drives (Russel & Hill, 2018; Russel et al., 2016). Findings of Wesselink et al. (2017) concluded by emphasizing that supervisors should not only support employees in acting pro-environmentally but also portray the right behaviour from which employees can learn and consequently alter their own behaviour.

Another 18% of respondents suggested incorporating green visual imagery that exposes employees to visual pro-environmental messages, highlighting the invisible aspects such as future consequences of their current behaviour. This approach is grounded in the belief that "seeing is believing," emphasizing the potential impact of visually impactful messages on employees' understanding and commitment to pro-environmental actions (Boomsma, 2012 - citing Sheppard, 2005). The suggestion to incorporate green visual imagery for promoting pro-environmental is consistent with the Protection Motivation Theory (PMT), which posits that individuals are motivated to protect themselves based on their perceptions of threat severity, vulnerability, and the effectiveness of protective behaviours. Utilizing visually impactful messages is considered a strategy to overcome internal and external barriers to pro-environmental behaviour, influencing individuals' perceptions, understanding, and commitment to sustainable actions (Boomsma, 2012). This integration reflects the core principles of PMT, where motivation for protective actions is tied to cognitive assessments of threats and the perceived efficacy of response measures (Rogers, 1975).

A final 18% of respondents proposed the integration of green evaluation after a training program to assess the transfer of learning to the work setting. This proposition aligns with Steg and Vlek's (2009) observation that behavioural interventions are most effective when they are carefully planned, systematically implemented, and evaluated sequentially. This involves identifying the behaviour to be changed, examining the key factors influencing it, applying interventions to modify relevant behaviours and their determinants, and finally, evaluating the effects of the intervention on the behaviour.

Table 4.18: Suggested Additional Green Training Strategies

Theme	Frequency	Percentage
Green Simulation	40	44%
Green Role-modelling	18	20%
Green Visual Imagery	16	18%
Green Training Evaluation	16	18%
Total	**90**	**100%**

Secondary data was collected to establish the number of green trainings that may have been conducted in each of the three institutions. JKUAT conducted two trainings each year for 2016, 2017 and 2018 and one (1) in 2019. KarU reported one (1) for each year over the entire five-year period. KarU highlighted one sensitization cautioning against printing email messages, which accompanied every message relayed via the corporate email. There was no response from KU. Overall, these findings concur with the respondents who confirmed that digital learning platforms were used during training and that training materials were availed electronically. This infers the institutions' efforts to emphasize green citizenship behaviour and encouraging employees to behave pro-environmentally. Results are presented in Table 4.19.

Table 4.19: Findings on Number of Green Awareness Trainings Conducted

Attribute		JKUAT	KU	KarU
No. of green awareness trainings conducted				
	2016 -	2	No response	1
	2017 -	2	No response	1
	2018 -	2	No response	1
	2019 -	1	No response	1
	2020 -	0	No response	1
If sensitizations, indicate frequency and forums:		No response	No response	1 (caution against printing emails) each time an individual received email

4.5.5 Descriptive Findings for Green Performance Management (GPM)

The study employed six indicators to determine the influence of GPM on EPEB in public universities in Kenya. The study utilized a five-point Likert Scale ranging from strongly agree to strongly disagree (Scoring range of Likert Scale: SD-Strongly Disagree 1; D-Disagree 2; N-Neither Agree nor Disagree 3; A-Agree 4; SA-Strongly Agree 5). Analysis of data gathered for GPM generated mean scores of 2.5444 (SD=.6585, N=45), 2.1991 (SD=.5583, N=36) and 2.7407 (SD=.3643, N=9) for JKUAT, KU and KarU respectively. The overall mean score for GPM was 2.4259

(SD=.6316, N=90), indicating that GPM as a green HRM practice for promoting pro-environmental sustainability was yet to take root in the institutions under study. Table 4.20 presents the findings.

Table 4.20: Green Performance Management across Institutions

Name of University	Mean	N	Std. Deviation
JKUAT	2.5444	45	.65847
KU	2.1991	36	.58530
KarU	2.7407	9	.36430
Total		**90**	

Table 4.21 presents the results related to GPM1 – GPM6. GPM1 sought to determine whether the university developed environmental performance targets that employees were required to accomplish in the conduct of their duties. Contrary to what Mandago (2019) found in state corporations, a significant majority of participants in the current study maintained a neutral position regarding whether their institutions established environmental performance targets for employees to meet in the course of their duties (Mean=2.49, SD=1.073). GPM2 was designed to gauge whether efficient resource use was incorporated into employees' performance as an indicator of their eco-performance. However, results indicated that this integration did not take place in the institutions under focus (Mean=2.40, SD=.790).

Respondents also disagreed with GPM3 which investigated whether waste minimization targets were incorporated into employees' performance contracts (Mean=2.36, SD=.865). A mean of 2.50 (SD=.864) also portrayed respondents' neutrality with GPM4 (my university incorporates green performance indicators into our performance management system). Respondents neither agreed nor disagreed with GPM5 (Mean=2.49, SD=.753), which aimed to establish whether the university assessed how efficiently employees used resources at their disposal when evaluating

the employees' job performance. This is contrary to the findings of Mwita and Mwakasangula (2020), which revealed a collaborative goal-setting process where individual employees were assigned specific green targets in addition to their regular duties. The assessment measures were also put in place to evaluate employees' eco-friendly performance. They also contradict Ojo et al. (2022) who asserted that performance indicators play a role in monitoring the impact and involvement of employees' eco-performance.

Finally, participants responded in the negative for GPM6 which sought to establish whether supervisors gave feedback to their subordinates regarding the environmental impact of their work (Mean=2.32, SD=.819). On the overall, results reveal that green performance management, as a GHRM practice, was not entrenched in the public institutions of higher learning in Kenya as a measure to curb their carbon footprint. Tang et al. (2018) found that inclusion of measurable performance indicators in a firm's formal GPM process formed the basis for a green evaluation criterion which was in turn used to assess green employee performance. The results of this study however reveal an incoherence between the green training and green performance management strategies (Mean=.250, SD=.864), since aspects of efficient resource use, pollution prevention and waste minimization somewhat featured in the green training programme (Mean=3.21, SD=1.065). This is also a clear violation of the bundling theory which proposes integration of mutually reinforcing HR strategies to enhance desired performance. As a result, the institutions clearly miss out on a double-edged evaluation opportunity: assessing extent of achievement of training objectives and effectiveness of knowledge transfer to the work-setting.

Table 4.21: Descriptive Results for Green Performance Management Construct

Green Performance Management	SD %	D %	N %	A %	SA %	Mean	SDEV
GPM1: My university develops environmental performance targets that employees are required to accomplish in the conduct of their duties.	20.0	35.6	20.0	24.4	0.0	2.49	1.073
GPM2: My university considers efficient use of resources (e.g. paper) when evaluating the employees' performance	7.8	55.6	25.6	11.1	0.0	2.40	.790
GPM3: My university incorporates waste minimization targets such as double-sided printing into the employees' performance appraisal system	6.7	67.8	11.1	12.2	2.2	2.36	.865
GPM4: My university incorporates green performance indicators into our performance management system	8.9	47.8	27.8	15.6	0.0	2.50	.864
GPM5: My university assesses how efficiently employees used resources at their disposal when evaluating the employees' job performance.	5.6	50.0	34.4	10.0	0.0	2.49	.753
GPM6: In my university supervisors give feedback to their subordinates regarding the environmental impact of their work	12.2	53.3	24.4	10.0	0.0	2.32	.819

Table 4.22 displays the results of a content analysis carried out on qualitative data obtained through GPM7. This analysis focused on the suggestions provided by respondents regarding how employee performance can be improved to encourage behaviours that promote environmental protection in public institutions of higher learning. 28% of the respondents proposed green gifts to recognize exemplary environmental performance by departments and staff. This agrees with the findings of Guerci et al. (2016) in their multi-respondent survey of HR Managers and Supply Chain Managers in Italy which confirmed that green performance management and compensation have a positive impact on environmental performance. An additional 24% of respondents proposed a full transition to a paperless office, endorsing electronic processes for all operations. This aligns with the findings of a study in the Ghanaian context, which revealed that manufacturing firms predominantly rely on

online performance management systems to assess employee performance. Notably, these firms invest in unique Human Resource Information Systems tailored to their specific operations (Suleman et al., 2022). A similar proportion (24%) of respondents proposed regular green campaigns to ensure the employee is constantly reminded on the need to behave pro-environmentally. The results align with the findings of Russell and Hill (2018), which highlighted the implementation of extensive education and awareness programs. These initiatives included monthly orientations for new employees, departmental presentations, online education modules, and brief face-to-face seminars with feedback sessions for both clinical and non-clinical personnel, all aimed at solidifying commitment to sustainability.

Finally, 23% of the participants suggested setting clear green targets. Sanyal and Haddock-Millar (2018) found that integration of performance measures in the ES initiatives leverages employee green performance. Their study findings of two McDonald's subsidiaries report that respondents expressed strong feelings towards performance measures as they believed 'if we can't measure it, it doesn't exist'.

Table 4.22: Suggested Additional Green Performance Strategies

Theme	Frequency	Percentage
Green Gifts	25	28%
Paperless Office	22	24%
Regular Green Campaigns	22	24%
Clear Green Targets	21	23%
Total	**90**	**100%**

Further probing of secondary data revealed that green performance evaluation could not be established for the three public institutions. This finding was consistent with what had already been established through the respondents whose responses tended to the negative continuum for all the constructs under GPM.

4.5.6 Descriptive Findings for Green Employee Rewards (GRE)

Through six statements designed to elicit participants' opinions, the study sought to assess the influence of Green Employee Rewards on Employee Pro-Environmental Behaviour. The study utilized a five-point Likert Scale ranging from strongly agree to strongly disagree (Scoring range of Likert Scale: SD-Strongly Disagree 1; D-Disagree 2; N-Neither Agree nor Disagree 3; A-Agree 4; SA-Strongly Agree 5). From the findings displayed in Table 4.23, the means across the sampled groups - JKUAT (Mean=2.0926, SD=.4918, N=45), KU (Mean=1.9444, SD=.4346, N=36) and KarU (Mean=2.4815, SD=.2693, N=9) - and the overall mean score of 2.0722 (SD=.4734 N=90), indicate that a majority of the respondents believe that green employee rewards are non-existent in their respective institutions.

Table 4.23: Green Employee Rewards across Institutions

Name of University	Mean	N	Std. Deviation
JKUAT	2.0926	45	.49180
KU	1.9444	36	.43461
KarU	2.4815	9	.26932
Total		**90**	

Results shown in Table 4.24 indicate that respondents disagreed with GRE1 which stated that the university rewarded employees who acquired environmental management skills that enabled them to protect the environment (Mean=1.87, SD=.603). Similarly, a mean of 1.87 (SD=.565) portrayed the respondents' disagreement with GRE2 which stated that the university rewarded employees who came up with successful environmental innovations. They also responded negatively to GRE3 - my university gives bonuses to employees with green competencies that enable them to protect the environment (Mean=1.97, SD=.644). The results contradict the findings of Mandago (2019) who reported that they there were bonuses given to employees who accomplish environmental assignments in Kenya's state corporations. Respondents further contradicted GRE4's assertion that employees who protected the environment were publicly praised (Mean=2.22, SD=.595) and also countered GRE5 which stated that the university awarded certificates of excellence to employees who

protect the environment (Mean=2.26, SD=.680). Finally, the respondents disputed GRE6's statement that their respective institutions prescribed punishments for employees who failed to meet environmental protection objectives (Mean=2.26, SD=.815).

Overall, the findings of the study align with the findings of a UK study by Zibarras and Coan (2015) which revealed that rewards, despite being highly valued, were not widely implemented within organizations to promote pro-environmental behaviour. The current study's findings suggest that the institutions are yet to effectively develop their reward systems to achieve maximal benefits in promoting eco-friendly behaviour. Haque's (2017) findings revealed that pay and rewards were deemed influential in aligning employees' performance with corporate objectives. The institutions seemed not to fully exploit the power of reward hence they were not likely to tap into their employees' full potential with regard to environmental sustainability. The findings of Renwick et al.'s (2013) study confirm that there is need to align pro-environmental activities with employee rewards to facilitate achievement of set environmental goals.

Table 4.24: Descriptive Results for Green Employee Rewards Construct

Green Employee Rewards	SD %	D %	N %	A %	SA %	Mean	SDEV
GRE1: In my university, employees who acquire environmental management skills receive a salary increment	25.6	62.2	12.2	0.0	0.0	1.87	.603
GRE2: In my university, employees who come up with successful innovations get a salary increment	23.3	66.7	10.0	0.0	0.0	1.87	.565
GRE3: My university gives bonuses to employees with green competencies that enable them protect the environment as they work	22.2	58.9	18.9	0.0	0.0	1.97	.644
GRE4: In my university, employees who protect the environment are publicly praised	8.9	60.0	31.1	0.0	0.0	2.22	.595
GRE5: My university awards certificates of excellence to employees who protect the environment	10.0	57.8	28.9	3.3	0.0	2.26	.680
GRE:6: My university punishes employees who fail to meet environmental protection targets	17.8	44.4	32.2	5.6	0.0	2.26	.815

GRE7 aimed to identify additional rewards for encouraging pro-environmental behaviours in the targeted institutions. Content analysis results in Table 4.25 showed that a substantial majority (57%) expressed a desire for the implementation of cash incentives, given their apparent absence in the current scenario. 14% proposed the introduction of annual eco-awards that recognize employees or departments whose environmental performance exceeds expectations, while 13% felt that eco sponsorships to attend environmental-themed conferences and events would motivate them. 9% suggested pictorial recognition of exemplary employees where pro-environment warriors are recognized in monthly publications of the institution (such as employee of the month) or where exceptional performers get their pictures displayed on a designated "Wall-of-Fame" most frequented by members of the university community. Social influence refers to how individuals alter their attitudes and

behaviours in response to the demands of their social environment (Nguyen-Van et al., 2021). Extending this analogy, having green halls of fame where pictures of exemplary environmental champions are displayed can instigate pro-environmental behaviour in others, while reinforcing this behaviour in those recognized (social incentives). Results of a study by Nguyen-Van and colleagues revealed a positive and significant impact of external social influence on pro-environmental behaviours. Lastly, 7% of the respondents suggested branded corporate gifts for environmental champions.

The findings so far align with those of a UK study by Zibarras and Coan (2015), which revealed that rewards, despite being highly valued, were the least prevalent methods used to promote pro-environmental behaviour. Overall, results yielded by GRE7 confirm that people are motivated by different 'carrots' and 'sticks'. The implication is that, financial incentives though effective, may not appeal to everyone hence the need for a hybrid reward system (Zibarras & Coan, 2015). Moreover, research has shown that besides being costly, the effectiveness of monetary incentives may diminish with time hence the need for social incentives which may be intrinsic or extrinsic (Asensio & Delmas, 2015).

Table 4.25: Suggested Additional Green Employee Rewards

Theme	Frequency	Percentage
Cash Incentives	51	57%
Annual Employee Eco Awards	13	14%
Eco-sponsorships	12	13%
Social Influence (pictorial recognition)	8	9%
Branded Corporate Gifts	6	7%
Total	**90**	**100%**

4.5.7 Descriptive Findings for Green Employee Involvement (GEI)

To determine the role of green employee involvement in EPEB, respondents were asked to react to six statements on this aspect. The study utilized a five-point Likert Scale ranging from strongly agree to strongly disagree (Scoring range of Likert Scale: SD-Strongly Disagree 1; D-Disagree 2; N-Neither Agree nor Disagree 3; A-Agree 4;

SA-Strongly Agree 5). The mean scores across the three institutions were 3.6667 (SD=.8476, N=45), 2.6620 (SD=.6140, N=36) and 3.9259 (SD=.4648, N=9) for JKUAT, KU and KarU respectively (see Table 4.26). The overall mean score for GEI was 3.2907 (SD=.8916, N=90), indicating that green employee involvement could still be in its infancy in the institutions under study, but is likely to get rooted.

Table 4.26: Green Employee Involvement across Institutions

Name of University	Mean	N	Std. Deviation
JKUAT	3.6667	45	.84761
KU	2.6620	36	.61397
KarU	3.9259	9	.46481
Total		**90**	

From the results presented in Table 4.27, respondents neither agreed nor disagreed with GEI1, which asserted that the university communicated her environmental vision to all employees (Mean=3.04, SDEV=.1.151). In contrast, Russell and Hill (2018) report that Mater Misericordiae designed a communication strategy to reach all staff throughout the organization to promote a shared understanding. Respondents remained noncommittal on GEI2 which claimed that environmental policy objectives were communicated in every meeting (Mean=3.01, SDEV=.1.156). In contrast, recognizing the needs of non-administrative employees who lacked regular computer access, Mater's communication strategy was extended to include 15-minute regular face-to-face presentations in clinical departments (Russell & Hill, 2018).

Respondents maintained a neutral stance with GEI3 which probed whether they received regular email reminders on environmental policy objectives (Mean=3.42, SDEV=.971). They were also still unsure regarding GEI4's assertion that the university encouraged employees to make suggestions on environmental issues (Mean=3.41, SDEV=.959) and also with GEI5 which investigated whether their institution used environmental teams to identify environmental opportunities for exploitation (Mean=3.42, SDEV=.971). To conclude on this aspect, respondents neither agreed nor disagreed with GEI6 which investigated whether environmental teams were used to identify environmental problems and their appropriate solutions

(Mean=3.43, SDEV=.972). Results in a survey investigating HRM practices used to promote pro-environmental behaviour in a sample of 214 UK organizations report internal awareness-raising campaigns and green champions as being among the most effective practices (Zibarras & Coan, 2015).

The results imply that universities have yet to recognize employees as the most important sources of knowledge, expertise and innovation in environmental sustainability initiatives, hence the need to win their 'hearts and minds' towards the environmental cause. Tang et al (2018) concluded that instituting various formal and informal communication channels to disseminate and embed a green culture are crucial tools for stimulating employee involvement in environmental initiatives. Tang and colleagues (2018) also found that involving employees in diverse green activities such as being part of green teams to craft solutions to environmental problems is key to environmental sustainability.

Table 4.27: Descriptive Results on Green Employee Involvement

Green Employee Involvement	**SD** %	**D** %	**N** %	**A** %	**SA** %	**Mean**	**SDEV**
GEI1: My university clearly communicates her environmental vision to all employees	7.8	30.0	22.2	30.0	10.0	3.04	.1.151
GEI2: In my university, environmental policy objectives are communicated in every meeting	7.8	34.4	35.6	20.0	2.2	3.01	1.156
GEI3: My university regularly sends us reminders on environmental policy objectives via email	0.0	20.0	32.2	34.4	13.3	3.42	.971
GEI4: In my university, employees are encouraged to make suggestions on environmental issues	0.0	18.9	30.0	40.0	11.1	3.41	.959
GEI5: My university uses environmental teams to identify environmental opportunities for exploitation	0.0	17.8	30.0	36.7	15.6	3.42	.971
GEI6: My university uses environmental teams to identify environmental problems and their appropriate solutions	0.0	17.8	35.6	32.2	14.4	3.43	.972
GEI						3.29	.892

GEI7 required respondents to suggest other approaches their institutions could employ to ensure employees were more involved in safeguarding the environment while working. Table 4.28 shows that 58% proposed continual engagement on matters environment through reminders about the mission, policies and environmental procedures, empowerment through training, and provision of upstream feedback channels. This aligns with Renwick et al.'s (2013) findings supporting continual employee engagement as it facilitates tapping employees' tacit knowledge given their proximity to production processes; empowering them to make contributions towards environmental improvements and also developing a culture in the workplace to support EM improvement efforts.

A further 20% proposed the identification and installation of green interdepartmental champions to spearhead environmental issues. This suggestion resonates with the findings of a study of two McDonald's subsidiaries (UK and Sweden) by Sanyal and Haddock-Millar (2018). Their findings highlighted how the global food giant involved her employees through 'Planet Champions', a voluntary programme aimed at leveraging the environmental enthusiasm of restaurant teams. The nearly 1,100 Planet Champions in over 650 restaurants in the UK helped increase cardboard recycling and energy savings, in addition to winning the Green Apple Award for employee engagement. The remaining respondents (22%), recommended the involvement of employees in green corporate social responsibility (Green CSR) such as observance of environmental days, organization of clean-up drives and establishment of environmental outreach programmes. Empirical research (Khattak et al., 2021; Ertuna et al., 2018) confirms that CSR is a critical element that enhances employee involvement in pro-environmental behaviour. In their study on Corporate Social Responsibility and Employee Green Behaviour in the Hospitality Industry, Khattak et al. (2021) concluded that CSR affects well-being and, consequently, employee involvement in green behaviour through their CSR initiatives. The findings are consistent with those of Hameed, et al. (2022) which revealed a positive relationship between PEB and Green CSR.

Table 4.28: Suggested Approaches for Green Employee Involvement

Theme	Frequency	Percentage
Continual Green Engagement	52	58%
Green Corporate Social Responsibility	20	22%
Green Champions	18	20%
Total	**90**	**100%**

4.6 Results for Diagnostic Tests

4.6.1 Test for Normality

Parametric tests assume that the numerical data cases in a sample are drawn from normally distributed populations, meaning that data values for each quantitative variable should also be normally distributed (Saunders et al., 2016). The study used Kolmogorov-Smirnov and Shapiro-Wilk tests to examine whether the data were normally distributed. The results displayed in Table 4.29 indicate that the variables had a significant p-value > .05 thus implying that they were normally distributed.

Table 4.29: Results for Normality Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Green Employee Resourcing	.089	90	.078	.978	90	.125
Green Employee Training	.090	90	.071	.978	90	.125
Green Performance Management	.083	90	.163	.982	90	.255
Green Employee Rewards	.095	90	.054	.978	90	.126
Green Employee Involvement	.090	90	.068	.975	90	.084
Employee Pro-Environmental Behaviour	.081	90	.200*	.982	90	.241

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

In Figure 4.4, we visually examined the histogram for the response variable, EPEB, as a straightforward diagnostic test for normality. This visual analysis complements the prior statistical assessments conducted using the Kolmogorov-Smirnov and Shapiro-Wilk tests, both of which had already confirmed the normality of the variable (refer to

Table 4.29). The histogram comparison provides a swift and intuitive confirmation of the normal distribution assumption. In this context, Figure 4.4 acts as a visual reinforcement, demonstrating that the observed values closely align with a distribution that approximates normality. Significantly, the associated p-value, surpassing the 0.05 threshold, further strengthens the conclusion that the response variable is normally distributed. By employing this dual approach, incorporating both statistical tests and visual inspection, we bolster the robustness of our normality assessment for Employee Environmental Behaviour.

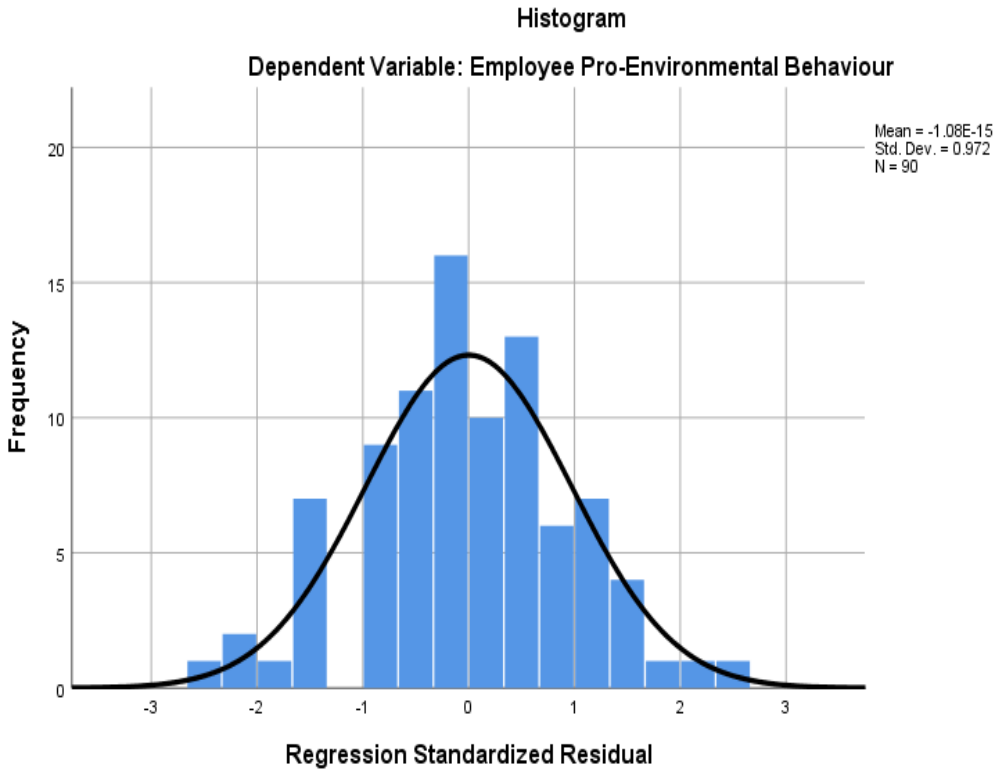

Figure 4.4: Distribution of EPEB

Hair et al. (2009) further propose that a normal probability plot is considered a more reliable approach than the histogram. Thus, the predictor and response variables were subjected to this analysis. Results displayed in Figures 4.5 to 4.10 indicate that the data had fulfilled the normality assumptions and could therefore support regression analysis.

Figure 4.5: Normal Probability Plot of GER

Figure 4.6: Normal Probability Plot of GET

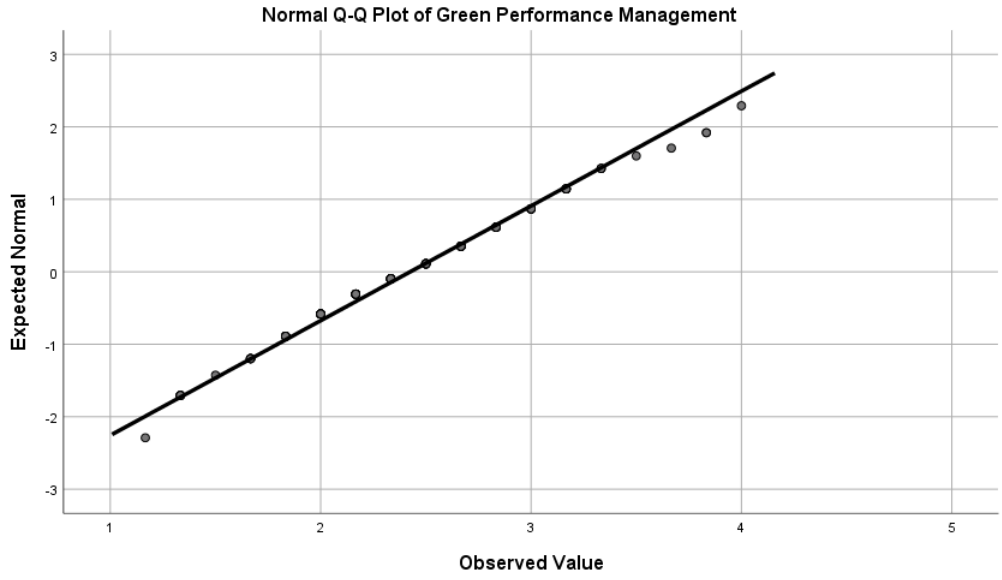

Figure 4.7: Normal Probability Plot of GPM

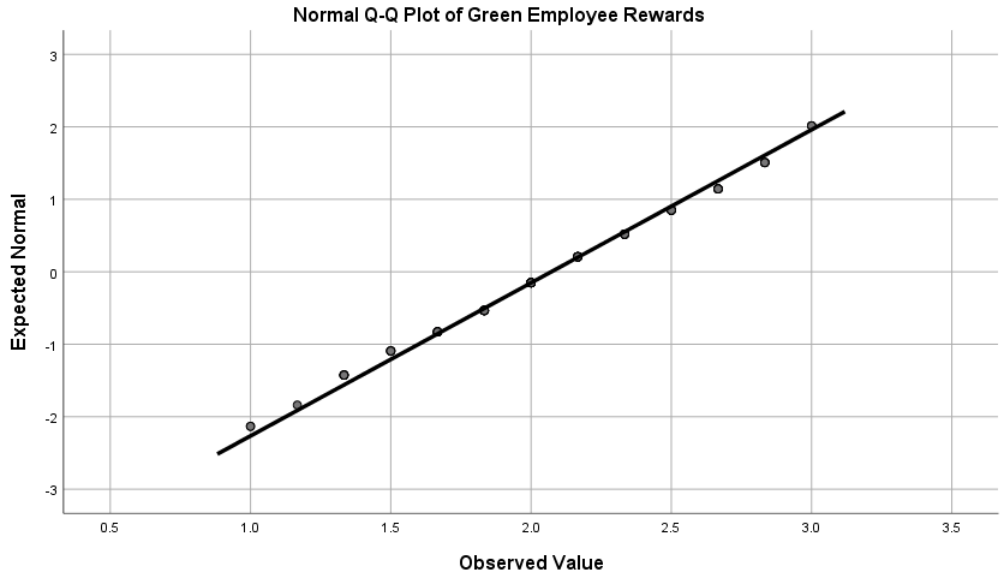

Figure 4.8: Normal Probability Plot of GRE

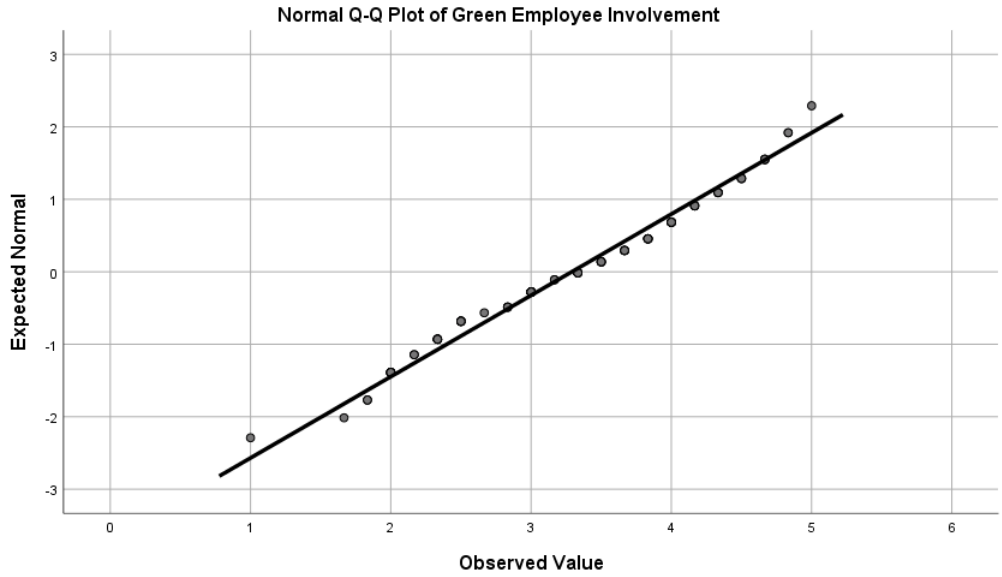

Figure 4.9: Normal Probability Plot of GEI

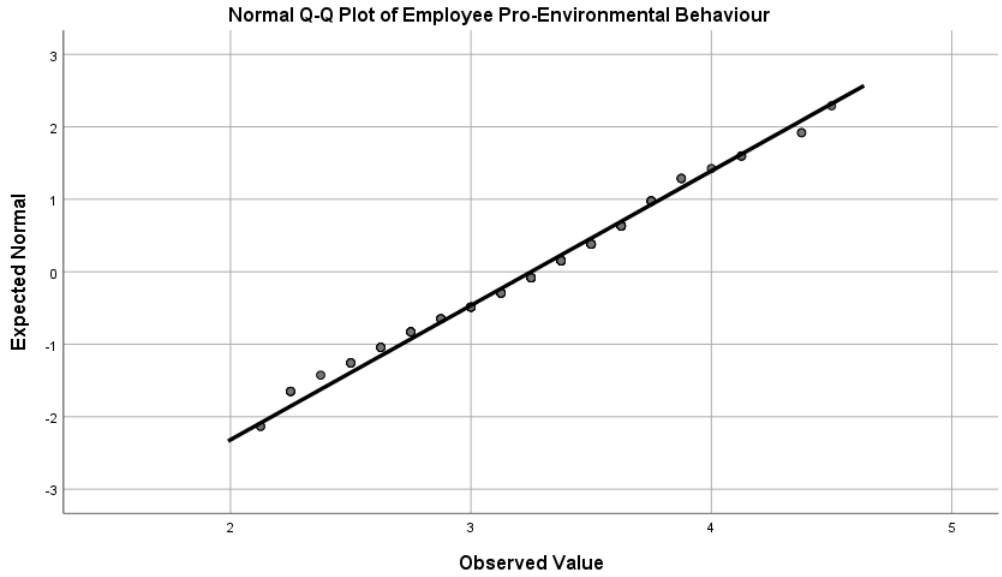

Figure 4.10: Normal Probability Plot of EPEB

4.6.2 Test for Multicollinearity

Multicollinearity occurs when independent variables in a regression model are correlated (Marcoulides & Raykov, 2019; Frost, 2019). A high degree of this correlation between variables can cause problems when fitting the model and interpreting the results. This makes it difficult for the model to estimate the

relationship between each independent variable and the dependent variable independently, given the independent variables tend to change in unison (Frost, 2019). Multicollinearity was tested using the Variance Inflation Factor where a value >10 indicated high collinearity (Saunders et al., 2016). As shown in Table 4.30, the VIF values of the independent variables were within the prescribed threshold. The tolerance value was also greater than 0.1 thus ruling out the possibility of multicollinearity (Marcoulides & Raykov, 2019).

Table 4.30: Results for Multicollinearity Test

Variable	Tolerance	VIF
Green employee training	.715	1.398
Green performance management	.605	1.653
Green employee rewards	.738	1.356
Green employee involvement	.741	1.349
Green employee resourcing practises	.729	1.372
Mean Tolerance/VIF	**.706**	**1.426**

4.6.3 Test for Heteroscedasticity

The study sought to establish whether there was a presence of unequal variances (heteroscedasticity), one of the most common assumption violations. The Breusch-Pagan test was employed for this purpose, assessing whether the residual error term varies with changes in independent variables. It operates on the assumption that independent variables are regressed on the residual error term as response values. For the Breusch-Pagan test, H_0 states that the error variances are all equal while H_a avers that the error variances are a multiplicative function of one or more variables. Using the Breusch-Pagan test, Heteroscedasticity is evident when $p \leq 0.05$ (Astivia & Zumbo, 2019). Table 4.31 shows that the constant variance ($Chi^2 = 0.2387$) is insignificant ($p = 0.9986$). Thus, we fail to reject the null hypothesis and conclude that the error variance is equal thus homoscedasticity is evident in the study data.

Table 4.31: Results for Heteroscedasticity Test

H_0	Chi^2	Prob. > Chi^2
Constant Variance	0.23868	.9986

4.6.4 Linearity Test

This test sought to establish whether there was a linear relationship between the dependent (EPEB) and independent (GHRM practices) variables to justify the use of linear regression. The rule of thumb dictates that the variables of interest should be multivariate normal (Saunders et al., 2016) - as already established through the normality test. Assessing Figure 4.11 reveals some form of positive linear association between EPEB and the rest of the independent variables thus satisfying the linearity assumption.

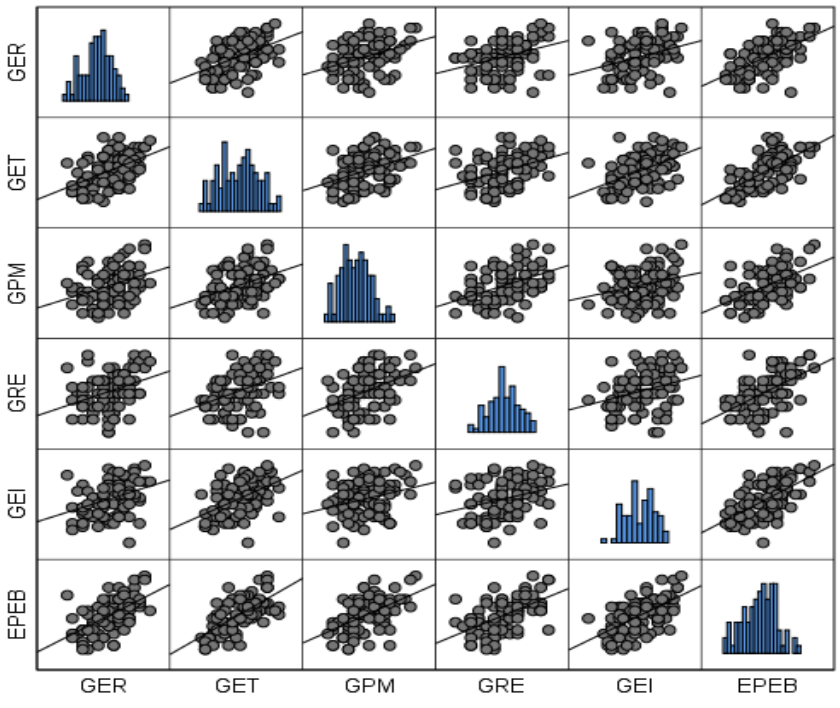

Figure 4.11: Results for Linearity Test

4.7 Inferential Statistical Analyses

4.7.1 Results of Correlation Analysis

The study employed the Pearson Correlation Coefficient to gauge the intensity and direction of the linear associations between Green HRM practices (GHRMP) and Employee Pro-Environmental Behaviour (EPEB). This statistical measure, with values ranging between -1 and +1, was calculated to evaluate the extent to which changes in Green HRM practices corresponded with changes in Employee Pro-Environmental Behaviour. A correlation analysis was conducted to specifically examine the relationships between EPEB, the response variable, and several predictor variables, namely Green Employee Resourcing (GER), Green Employee Training (GET), Green Performance Management (GPM), Green Employee Rewards (GRE), and Green Employee Involvement (GEI).

Table 4.32: Pearson Product-Moment Correlation between GHRMP and EPEB

	EPEB	GER	GET	GPM	GRE	GEI
EPEB	1					
GER	.577**	1				
GET	.660**	.472**	1			
GPM	.520**	.361**	.392**	1		
GRE	.545**	.348**	.385**	.424**	1	
GEI	.602**	.345**	.496**	.270**	.296**	1

EPB = Employee Pro-Environmental Behaviour, GER = Green Employee Resourcing, GET = Green Employee Training, GPM = Green Performance Management, GRE = Green Employee Rewards, GEI = Green Employee Involvement.

**. Correlation is significant at the 0.01 level (2-tailed).

The results, outlined in Table 4.32 unveiled noteworthy patterns of significant and positive correlations between EPEB and all predictor variables. Notably, there were strong positive correlations with GET (r = 0.660) and GEI (r = 0.602), both statistically significant at the 0.01 level. Moderate positive correlations were observed with GER (r = 0.577), GPM (r = 0.520), and GRE (r = 0.545), all of which were also statistically significant at the 0.01 level.

To validate the credibility of the correlation findings, the study conducted a thorough cross-examination by comparing them with the results of multicollinearity tests presented in Table 4.30. This meticulous analysis aimed to ensure the consistency and reliability of the observed relationships between the dependent variable, EPEB, and amongst the predictor variables (GER, GET, GPM, GRE and GEI). The consistent alignment between the correlation and multicollinearity results offered additional assurance regarding the robustness of the observed relationships. The confirmation that multicollinearity was not a significant concern, supported by high Tolerance and low VIF values, fortified the credibility of the correlation findings. This comprehensive validation process reinforced the study's confidence in the reliability of the subsequent regression analysis, emphasizing that each predictor contributes unique information without introducing detrimental multicollinearity.

The correlation analysis revealed a statistically significant positive association between green employee resourcing and employee pro-environmental behaviours ($r = .577$, $p < .001$), consistent with Ayaz et al.'s (2023) findings. However, Owino and Kwasira's (2016) study at the Menengai Oil Refinery showed a weak, positive yet insignificant link between employee resourcing and environmental sustainability. Green employee training exhibited a robust and significant positive correlation with employee pro-environmental behaviours ($r = .660$, $p < .001$), aligning with findings from Estrada-Araoz et al. (2023) and Langat's (2015) study investigating the influence of GHRM practices on environmental sustainability. Green performance management revealed a significant positive correlation with employee pro-environmental behaviours ($r = .520$, $p < .001$), consistent with Ojo et al.'s (2022) findings in the information technology sector in Malaysia.

Green Employee Rewards demonstrated a significant and positive correlation ($r = .545$, $p < .01$) with EPEB, contrasting with Ojo et al.'s (2022) results but aligning with Mandago's (2019) findings in a study focusing on Kenya's state corporations. Lastly, Green Employee Involvement revealed a significant and strong positive correlation ($r = .602$, $p < .001$) with EPEB, consistent with Langat and Kwasira's (2016) study, emphasizing the positive impact of employee involvement in green initiatives on environmental sustainability. Overall, the results underscore the multifaceted nature of GHRM practices and their varied impacts on pro-environmental behaviours, emphasizing the need for context-specific considerations in fostering sustainable workplace practices.

4.7.2 Hypothesis Testing

The study employed hypothesis testing to investigate the intricate connections between Green Human Resource Management (HRM) practices and Employee Pro-Environmental Behaviour (EPEB) within the context of Public Universities in Kenya. It methodically scrutinized five critical independent variables - Green Employee Resourcing (GER), Green Employee Training (GET), Green Performance Management (GPM), Green Employee Rewards (GRE), and Green Employee Involvement (GEI). The primary aim was to systematically assess the potential significant influence wielded by these strategic components of Green HRM practices on the pro-environmental behaviours exhibited by employees of public universities in Kenya. Through rigorous hypothesis testing applied to each variable, the study sought to provide a comprehensive understanding of the sustainability dynamics within these academic institutions.

4.7.2.1 ANOVA between Green Employee Resourcing and Employee Pro-Environmental Behaviour

The study sought to evaluate the effect of green employee resourcing (GER) on employee pro-environmental behaviour (EPEB) in public universities in Kenya. This was guided by the following hypothesis:

Ho₁: *Green employee resourcing has no significant influence on employee pro-environmental behaviour in Public Universities in Kenya.*

The following model was used to estimate this relationship:

OLS Model: $y = \beta_0+\beta_1X_1 + e$

From Table 4.33, the values shown are .577 and .333 for R and R^2 respectively. The coefficient of determination indicates that the variation in the predictor variable (GER) explains 33.3% of variation in employee pro-environmental behaviour. Despite this meaningful influence, a substantial portion (66.7%) of the variability remains unaccounted for, indicating the involvement of factors not included in the model. Similar observations were made in a study by Ayaz et al. (2023), which explored green HRM practices in the manufacturing industry in Kabul, Afghanistan.

Table 4.33: Model Summary for Green Resourcing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.577[a]	.333	.326	.44277

a. Predictors: (Constant), Green Employee Resourcing

By regressing EPEB on GER, the study further sought to determine whether green employee resourcing significantly predicts employee pro-environmental behaviour. The results in Table 4.34 indicate that green employee resourcing significantly predicts employee pro-environmental behaviour as evidenced by the F-test results and the low p-value: $F(1, 88) = 43.985$, $p<.001$. This aligns with Oyedokun's (2019) findings which report a significant relationship between green recruitment and sustainability. In contrast, using a paired sample t-test, Owino and Kwasira (2016) found a non-significant impact of green employee resourcing on environmental sustainability.

Table 4.34: ANOVA between EPEB and GER

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.623	1	8.623	43.985	.000[b]
	Residual	17.252	88	.196		
	Total	25.875	89			

a. Dependent Variable: Employee Pro-Environmental Behaviour

b. Predictors: (Constant), Green Employee Resourcing

Furthermore, the study aimed to quantify the influence of GER on EPEB. The results in Table 4.35 revealed a statistically significant and positive relationship (B = 0.510, t = 6.632, p < .001), suggesting that the observed association between GER and EPEB is unlikely to be due to chance. On average, a one-unit increase in green employee resourcing is associated with a notable increase of 0.510 units in employee pro-environmental behaviour, consistent with Ayaz et al.'s (2023) findings, emphasizing the positive influence of green practices. Similarly, Behrend et al. (2009) found pro-environmental recruiting messages significant.

Table 4.35: Regression Coefficients between Green Employee Resourcing and Employee Pro- Environmental Behaviour

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.854	.216		8.600	.000
	Green Employee Resourcing	.510	.077	.577	6.632	.000

a. Dependent Variable: Employee Pro-Environmental Behaviour

A visual representation of this relationship is shown in Figure 4.12

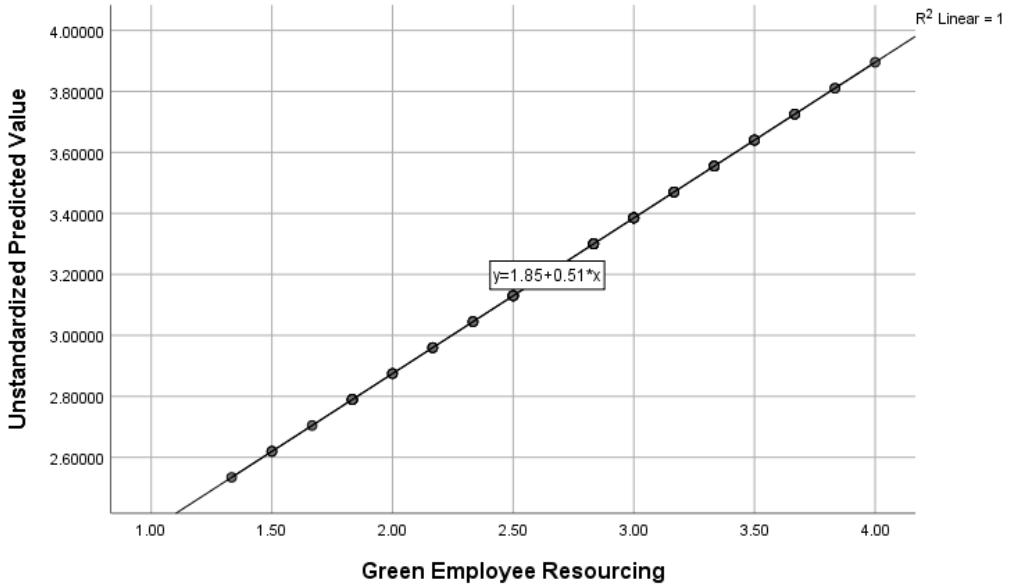

Figure 4.12: Scatterplot of EPEB (Y) and GER (X)

Hence the fitted model:

EPEB = 1.85+0.51*GER + *e* ……..…… ***Equation 1***

The overall results suggest that GER is a significant predictor of EPEB. Therefore, increasing the level of GER will be associated with higher levels of pro-environmental behaviour among employees in public universities in Kenya. $H_{01:}$ was thus rejected and the alternative accepted, H_{a1}: *Green employee resourcing significantly influences employee pro-environmental behaviour in Public Universities in Kenya,* contrary to Owino and Kwasira's (2016) findings.

4.7.2.2 ANOVA between Employee Pro-Environmental Behaviour and Green Employee Training

To determine the effect of green employee training on employee pro-environmental behaviour in public universities in Kenya, the following was hypothesized:

> ***Ho_2:*** *Green employee training has no significant influence on employee pro-environmental behaviour in Public Universities in Kenya*

The study used the following model to estimate the relationship:

OLS Model: $y = \beta_0+\beta_2X_2 + e$

Results shown in Table 4.36 suggest that 43.6% ($R^2 = .436$) of variation in employee pro-environmental behaviour is explained by variation in green employee training.

Table 4.36: Model Summary for Green Employee Training

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.660[a]	.436	.429	.40730

a. Predictors: (Constant), Green Employee Training

Seeking to examine the extent to which green employee training influenced employee pro-environmental behaviour, the study conducted a regression analysis, regressing employee pro-environmental behaviour (EPEB) on green employee training variable (GET). Results in Table 4.37 reveal that GET significantly and positively predicts EPEB: $F (1, 88) = 67.975$, $p<.001$. Oyedokun (2019) reached a similar conclusion through his findings in his study targeting employees of Dangote in Nigeria. Mandago (2019) also concluded that green training and development practices positively influenced environmental sustainability among employees of Kenyan state corporations. These findings suggest that training programs focusing on green initiatives may have a positive impact on employee pro-environmental behaviour.

Table 4.37: ANOVA between EPEB and GET

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.276	1	11.276	67.975	.000[b]
	Residual	14.599	88	.166		
	Total	25.875	89			

a. Dependent Variable: Employee Pro-Environmental Behaviour

b. Predictors: (Constant), Green Employee Training

An examination of regression coefficients in Table 4.38 reveals a substantial influence of GET on EPEB (B = .431, t = 8.245, p < .001). A one-unit increase in Green Employee Training corresponds to an expected increase of 0.431 units in Employee Pro-Environmental Behaviour. These results are consistent with Oyedokun's (2019) findings, emphasizing the positive and significant effect of green employee training. They also align with the broader literature, exemplified by the results of Estrada-Araoz et al. (2023), which indicate a significant prediction of pro-environmental behaviour by environmental education.

Table 4.38: Regression Coefficients Between Green Employee Training and Employee Pro- Environmental Behaviour

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.899	.169		11.205	.000
	Green Employee Training	.431	.052	.660	8.245	.000

a. Dependent Variable: Employee Pro-Environmental Behaviour

These results suggest that the implementation of effective green training programs is a crucial factor in fostering pro-environmental behaviours among employees within the university context. Ultimately, the rejection of the null hypothesis (H_{02}) and acceptance of the alternative hypothesis (H_{a2}) affirm that *Green Employee Training significantly influences Employee Pro-Environmental Behaviour in Public Universities in Kenya*. A visual representation of this relationship is shown in Figure 4.13.

Figure 4.13: Scatterplot of EPEB (Y) and GET (X)

Hence the fitted model:

EPEB = 1.9+0.43*GET + *e*……. ***Equation 2***

4.7.2.3 ANOVA between Employee Pro-Environmental Behaviour and Green Performance Management

The study examined the predictive influence of green performance management on employee pro-environmental behaviour in public universities in Kenya, based on the following hypothesi**s:**

> ***Ho₃:*** *Green performance management has no significant influence on employee pro-environmental behaviour in Public Universities in Kenya.*

To test this hypothesis, the following model was applied:

OLS Model: $y = \beta_0+\beta_3X_3 + e$

The R square value (R^2 = .271, Adjusted R^2 = .262) shown in Table 4.39 suggests that 27.1 % of variation in employee pro-environmental behaviour is explained by variation in green performance management.

Table 4.39: Model Summary for Green Performance Management

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.520[a]	.271	.262	.46307

a. Predictors: (Constant), Green Performance Management

The study sought to assess further whether green performance management significantly predicted employee pro-environmental behaviour. As shown in Table 4.40, the regression analysis yielded compelling results, indicating a significant prediction of EPEB by GPM (F (1, 88) = 32.667, p < .001). This aligns with Ojo et al.'s (2022) findings in the Malaysian IT sector, where performance management positively and significantly predicted environmental behaviour. Additionally, Owino and Kwasira's (2016) study at Menengai Oil Refinery Ltd reported a significant relationship, albeit in the negative direction.

Table 4.40: ANOVA between EPEB and GPM

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.005	1	7.005	32.667	.000[b]
	Residual	18.870	88	.214		
	Total	25.875	89			

a. Dependent Variable: Employee Pro-Environmental Behaviour
b. Predictors: (Constant), Green Performance Management

An in-depth analysis of the regression coefficients revealed a significant and positive relationship between green performance management and employee pro-environmental behaviour (B = .444, t = 5.716, p < .001) as shown on Table 4.41. This suggests that each unit increase in GPM corresponds to a 0.444-unit increase in EPEB. Consistent with Ayaz et al.'s (2023) and Ojo et al.'s (2022) findings, this positive association underscores the crucial role of green performance management in fostering

pro-environmental behaviour. The results also align with Mandago's (2019) study, which identified a significant, positive impact of performance management practices on environmental sustainability among state corporations in Kenya.

Table 4.41: Regression Coefficients between Green Performance Management and Employee Pro- Environmental Behaviour

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	2.172	.195		11.156	.000	1.785	2.559
	GPM	.444	.078	.520	5.716	.000	.290	.599

a. Dependent Variable: Employee Pro-Environmental Behaviour

The results decisively reject the null hypothesis (H_{03}), confirming the acceptance of the alternative hypothesis (H_{a3}): *Green performance management significantly influences employee pro-environmental behaviour in Public Universities in Kenya.* This underscores the crucial role of well-implemented performance management strategies in fostering environmentally conscious behaviours among university employees. A visual representation of this relationship is shown in Figure 4.14.

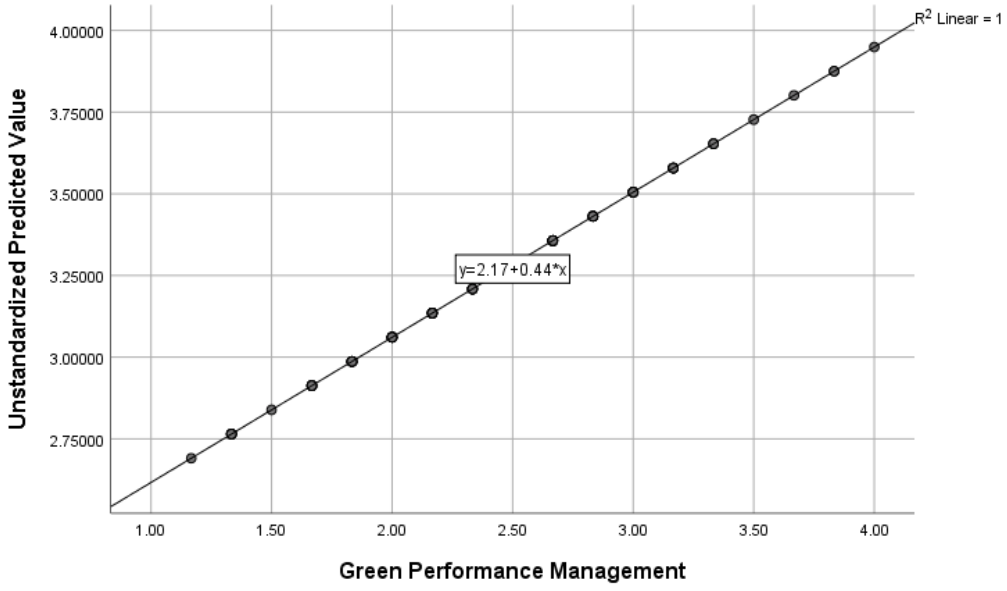

Figure 4.14: Scatterplot of EPEB (Y) and GPM (X)

Hence the fitted model:

EPEB = 2.17+0.44*GPM+ *e* ……. ***Equation 3***

4.7.2.4 ANOVA between Employee Pro-Environmental Behaviour and Green Employee Reward Practices

The study tested the following hypothesis to determine the effect of green employee rewards on employee pro-environmental behaviour in public universities in Kenya**:**

> ***Ho₄:*** *Green employee rewards have no significant influence on employee pro-environmental behaviour in Public Universities in Kenya.*

The following model was used to estimate this relationship:

OLS Model: $y = \beta_0+\beta_4X_4 + e$

The R square value (R^2=.297) in Table 4.42 indicates that about 29.7% of the variability in the dependent variable (EPB) is explained by the model.

Table 4.42: Model Summary for Green Employee Rewards

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.545[a]	.297	.289	.45474

a. Predictors: (Constant), Green Employee Rewards

ANOVA results in Table 4.43 further affirm the significance of this association, with green employee rewards demonstrating a notable and positive influence on employee pro-environmental behaviour (F (1, 88) = 37.126, p<.001). The high F-value and very low p-value underscore a moderately strong relationship between GRE and EPEB. The outcome is consistent with the findings of Handgraaf et al. (2013) indicating a

significant main effect of reward, in their study examining the effects of rewards on energy conservation by employees of a Dutch environmental consultancy firm.

Table 4.43: ANOVA between EPEB and GRE

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.677	1	7.677	37.126	.000[b]
	Residual	18.198	88	.207		
	Total	25.875	89			

a. Dependent Variable: Employee Pro-Environmental Behaviour

b. Predictors: (Constant), Green Employee Rewards

Further scrutiny of the regression coefficients in Table 4.44 revealed that green employee rewards significantly predicted employee pro-environmental ($B = 0.620$, $t = 6.093$, $p < .001$), indicating that as green employee rewards increase, so does employee pro-environmental behaviour. This implies that for each unit increase in GRE, there is a predicted increase of .620 units in the dependent variable (EPEB). These results align with Jabbar & Abid's (2014) study, emphasizing the positive predictive power of green rewards. However, this contradicts the findings of Ojo et al. (2022), where reward and compensation were not found to be significantly related to pro-environmental behaviours of IT professionals.

Table 4.44: Regression Coefficients between Green Employee Rewards and Employee Pro- Environmental Behaviour

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.964	.216		9.079	.000
	GRE	.620	.102	.545	6.093	.000

a. Dependent Variable: Employee Pro-Environmental Behaviour

This relationship is visually depicted by Figure 4.15.

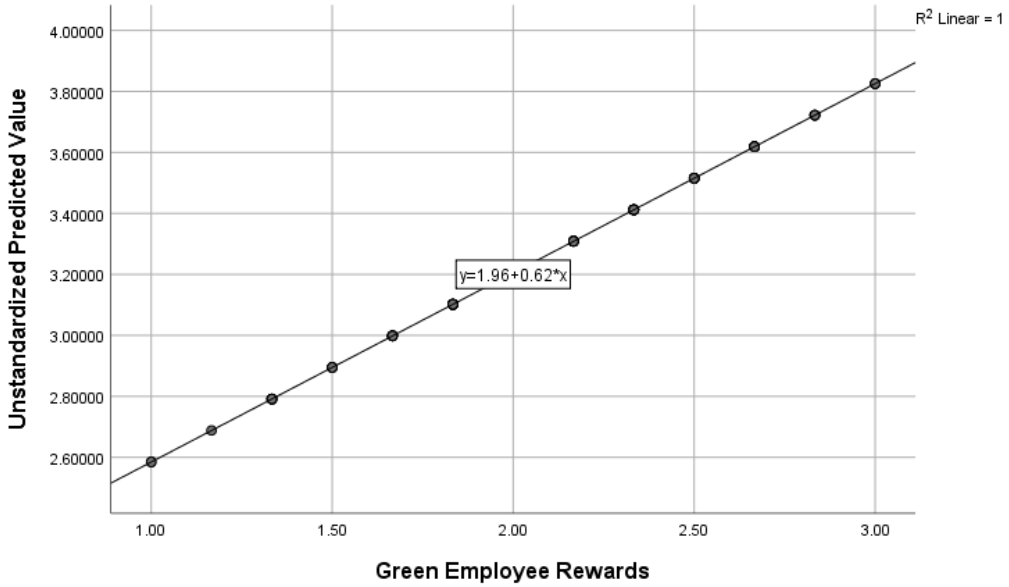

Figure 4.15: Scatterplot of EPEB (Y) and GRE (X)

Hence the fitted model:

EPEB = 1.96+0.62*GRE + *e* ……..…….. ***Equation 4***

In light of these findings, H_{04} is rejected, and the alternative hypothesis (H_{a4}) is accepted, confirming that *Green Employee Rewards exert a significant and positive influence on Employee Pro-Environmental Behaviour in Public Universities in Kenya*. This underscores the key role of rewards in shaping environmentally conscious behaviours among university employees and offers valuable insights for the implementation of effective sustainability practices in academic institutions.

4.7.2.5 ANOVA between Employee Pro-Environmental Behaviour and Green Employee Involvement Practices

Seeking to evaluate the effect of green employee involvement on employee pro-environmental behaviour in public universities in Kenya, the study hypothesized that:

Ho_5: *Green employee involvement has no significant influence on employee pro-environmental behaviour in Public Universities in Kenya.*

It utilized the following model to estimate this relationship:

OLS Model: $y = \beta_0+\beta_5X_5 + e$

A regression analysis was conducted to assess the influence of green employee involvement (GEI) on employee pro-environmental behaviour (EPEB). GEI, the predictor variable, was found to account for a significant proportion of the variance in EPEB ($R^2 = .363$). Results in Table 4.45 indicate that GEI explains approximately 36.3% of variation in EPEB.

Table 4.45: Model Summary for Green Employee Involvement

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.602[a]	.363	.356	.43286

a. Predictors: (Constant), Green Employee Involvement

The ANOVA results in Table 4.46 confirm the statistical significance of the relationship, with the regression model being significant ($F (1, 88) = 50.097$, $p<.001$). The Regression sum of squares was 9.387, indicating the amount of variance explained by the predictor variable, while the Residual sum of squares was 16.488, representing the unexplained variance.

Table 4.46: ANOVA between EPEB and GEI

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.387	1	9.387	50.097	.000[b]
	Residual	16.488	88	.187		
	Total	25.875	89			

a. Dependent Variable: Employee Pro-Environmental Behaviour

b. Predictors: (Constant), Green Employee Involvement

In Table 4.47, green employee involvement shows a statistically significant, positive coefficient (B = .364, t = 7.078, p < .001), indicating that it made a significant unique contribution to the prediction of Employee Pro-Environmental Behaviour. Thus, for every additional unit of GEI, the expected EPEB increases by .364 units on average, holding all other variables constant.

Table 4.47: Regression Coefficients for Green Employee Involvement and Employee Pro- Environmental Behaviour

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.051	.175		11.697	.000
	Green Employee Involvement	.364	.051	.602	7.078	.000

a. Dependent Variable: Employee Pro-Environmental Behaviour

Ultimately, from the results displayed in Table 4.47 and Figure 4.16, the rejection of H_{05} and the acceptance of the alternative hypothesis (Ha_5) strongly supports the assertion that *Green Employee Involvement has a significant and positive influence on Employee Pro-Environmental Behaviour in Public Universities in Kenya*. This underscores the importance of involving employees in green initiatives to foster pro-environmental behaviour and highlights the potential impact of such involvement in academic institutions.

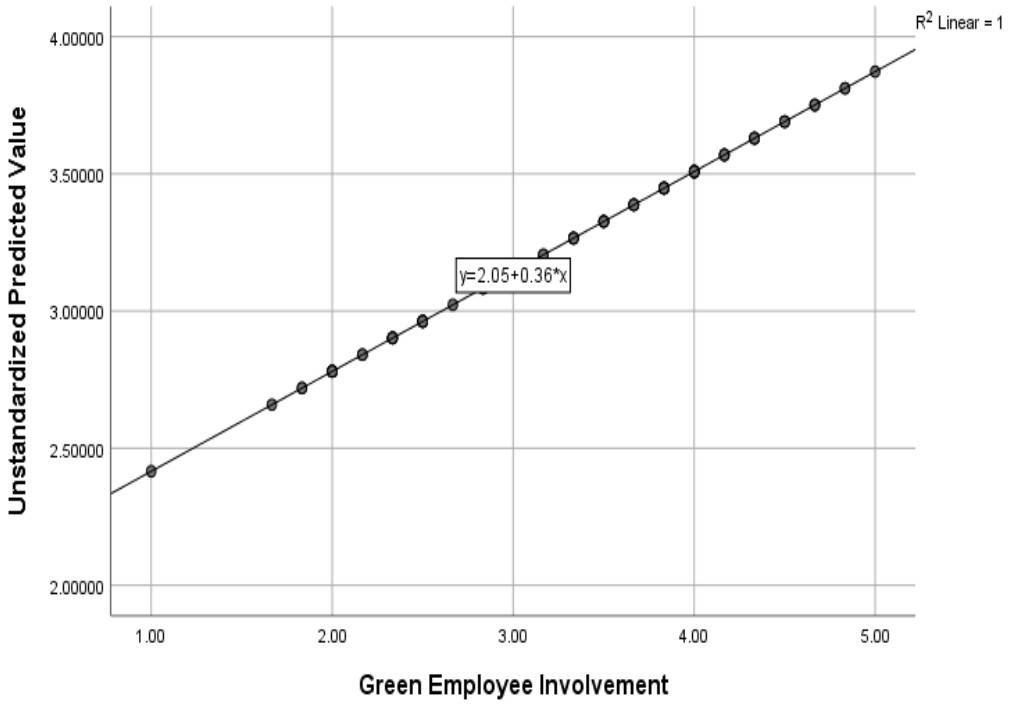

Figure 4.16: Scatterplot of EPEB (Y) and GEI (X)

Hence the fitted model:

EPEB = 2.05+0.36*GEI+ *e* ……. ***Equation 5***

4.7.3 Multiple Regression Analysis

4.7.3.1 Unmoderated Multiple Linear Regression Model

A multiple regression analysis was conducted to evaluate the collective impact of the independent variables (GER, GET, GPM, GRE, and GEI) on predicting the variation in the dependent variable (EPEB). This analysis utilized the following multiple regression model:

$$y = \beta 0+\beta_1 X_1+\beta_2 X_2+\beta_3 X_3+\beta_4 X_4+\beta_5 X_5+ e$$

The stepwise regression analysis in Table 4.48 provides valuable insights into the determinants of employee pro-environmental behaviour. Progressively, additional predictors, namely "Green Employee Training," "Green Performance Management," "Green Employee Rewards," and "Green Employee Involvement," were

systematically added to the initial variable, "Green Employee Resourcing." These models demonstrated a clear progression in terms of their explanatory power.

Table 4.48 Model Summary for GHRM Practices

				Std. Error of		Change Statistics			
Model	R	R Square	Adjusted R Square	the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.577[a]	.333	.326	.44277	.333	43.985	1	88	.000
2	.726[b]	.527	.516	.37523	.193	35.530	1	87	.000
3	.760[c]	.577	.562	.35675	.050	10.246	1	86	.002
4	.786[d]	.618	.600	.34105	.041	9.101	1	85	.003
5	.823[e]	.678	.658	.31515	.060	15.547	1	84	.000

a. Predictors: (Constant), Green Employee Resourcing
b. Predictors: (Constant), Green Employee Resourcing, Green Employee Training
c. Predictors: (Constant), Green Employee Resourcing, Green Employee Training, Green Performance Management
d. Predictors: (Constant), Green Employee Resourcing, Green Employee Training, Green Performance Management, Green Employee Rewards
e. Predictors: (Constant), Green Employee Resourcing, Green Employee Training, Green Performance Management, Green Employee Rewards, Green Employee Involvement

The stepwise progression through different models reveals the cumulative impact of Green GHRM practices on the variance in Employee Pro-Environmental Behaviour (EPEB) in Kenyan public universities. In the foundational model with only GER, the R Square stands at 33.3%, indicating that this variable alone explains a third of the variance in EPEB. The Adjusted R Square, considering model complexity, is 32.6%, suggesting a well-balanced improvement. Introduction of GET in Model 2, increases the R Square significantly to 52.7%, signifying a more substantial explanation of variance. The Adjusted R Square reinforces this improvement, reaching 51.6%. The inclusion of GPM in Model 3 leads to a rise in R Square to 57.7%, indicating an enhanced ability to explain EPEB variance. The Adjusted R Square continues to improve, reaching 56.2%. Model 4, integrating GRE, elevates the R Square to 61.8%, denoting increased explanatory power. The Adjusted R Square supports this enhancement, reaching 60.0%. The final model (Model 5), GEI, achieves the highest R Square of 67.8%, providing the most comprehensive explanation of variance. The Adjusted R Square, at 65.8%, affirms this model's improved balance between

complexity and explanatory power. In summary, the iterative building of models underscores the collective influence of various GHRM components on explaining the variance in EPEB in the institutions under focus. Each model contributes to a deeper understanding of how these practices collectively shape sustainable workplace behaviours.

The analysis clearly demonstrates that Green HRM practices have a collective and positive impact on promoting pro-environmental behaviour among employees. As these factors were added to the model, they enhanced its ability to explain employee behaviour in the context of environmental responsibility. This suggests that the model is not only statistically significant but also practically meaningful for explaining the variation in EPEB, underscoring its relevance and utility in enhancing the pro-environmental behaviour of public university employees. These findings align with the research conducted by Zibarras and Coan (2015), who investigated the prevalence of HRM practices aimed at fostering pro-environmental behaviour in UK organizations. Their primary discovery was that these practices could be further utilized to enhance employee engagement in pro-environmental activities and support Environmental Management System initiatives.

Table 4.49: ANOVA for Overall Unmoderated Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.532	5	3.506	35.306	.000[b]
	Residual	8.343	84	.099		
	Total	25.875	89			

a. Dependent Variable: Employee Pro-Environmental Behaviour
b. Predictors: (Constant), Green Employee Involvement, Green Performance Management, Green Employee Resourcing, Green Employee Rewards, Green Employee Training

The overall unmoderated regression model in Table 4.49 is statistically significant ($p < 0.05$). The positive coefficients for each predictor suggest that an increase in Green Employee Resourcing, Green Employee Training, Green Performance Management, Green Employee Rewards, and Green Employee Involvement is associated with higher levels of pro-environmental behaviour among employees. The F-statistic ($F (5, 84) =$

35.306, p < .001) indicates that the combined effect of the predictors significantly contributes to explaining the variability in Employee Pro-Environmental Behaviour. However, Green Employee Involvement stands out as the most influential factor impacting Employee Pro-Environmental Behaviour, with a notable standardized coefficient (Beta = 0.286) – see Table 4.50. Following closely are Green Employee Training (Beta = 0.268) and Green Employee Resourcing (Beta = 0.218). This implies that focusing on these areas can significantly benefit organizations aiming to boost their environmental sustainability efforts.

Table 4.50: Regression Coefficients for the Overall Unmoderated Model

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.759	.197		3.852	.000
	Green Employee Resourcing	.192	.065	.218	2.971	.004
	Green Employee Training	.175	.052	.268	3.366	.001
	Green Performance Management	.146	.062	.171	2.370	.020
	Green Employee Rewards	.238	.082	.209	2.900	.005
	Green Employee Involvement	.173	.044	.286	3.943	.000

a. Dependent Variable: Employee Pro-Environmental Behaviour

Hence the fitted model:

$$EPEB=0.759+0.192*GER+0.175*GET+0.146*GPM+0.238*GRE+0.173*GEI+e$$ ***Equation 6***

The results thus suggest that the specified model is statistically significant and effective in predicting EPEB. These findings support the integration of green HRM practices into organizational processes, as they positively influence employees' pro-environmental behaviour.

4.7.4 Testing the Moderating Effect of Socio-Demographic Factors on the Relationship between Green HRM Practices and Employee PEB

The present study developed a conceptual framework depicting the link between GHRM practices (GHRMP) and Employee Pro-Environmental Behaviour (EPEB) through the moderating role of Socio-Demographic factors. Before conducting the analysis, the categorical variables (gender, age and education) were coded into dummy variables (0, 1) to allow for modelling interaction effects between categories. The mean of individual predictor variables (GER, GET, GPM, GRE and GEI) was also computed to obtain a composite score designated "Green HRM Practices" (GHRMP). Interaction terms (Gender*GHRMP; Age*GHRMP; Education*GHRMP) were thereafter computed and included in regression analysis as moderator variables.

4.7.4.1 Testing the Moderating Effect of Gender

The study sought to assess the moderating effect of gender on the relationship between Green HRM practices (GHRMP) and Employee Pro-Environmental Behaviour (EPEB) in public universities in Kenya. It tested the moderating effect of gender, specifically focusing on the interaction between GHRMP and Gender = Male (GHRMP*Gender=Male). This moderating effect was tested using the following model:

OLS Model: $y = \beta_0+\beta_1X+\beta_2W_{gender} +\beta_3(X\times W_{gender}) +e$

In this model, 'Gender = Female' serves as the reference category against which we compare the impact of gender-related variables. Understanding how gender influences the relationship between GHRMP and EPEB is a key aspect of the research. Gender-based differences in response to sustainability initiatives and HRM strategies can have profound implications for organizational sustainability efforts. By examining this moderating effect, the study aimed to uncover valuable insights into how gender dynamics intersect with environmentally conscious workplace practices, offering a deeper understanding of how public universities can foster sustainable behaviours among their employees.

Table 4.51: Model Summary for GHRMP*Gender

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.397[a]	.158	.138	.50054

a. Predictors: (Constant), GHRMP*Gender=Male, Gender=Male

From Table 4.51, the R-value (.397) suggests a positive but weak linear relationship between the predictors ("GHRMP*Gender=Male" and "Gender=Male") and the dependent variable EPEB. The R Square value (.158) suggests that 15.8% of the variance in EPEB may be explained by the predictors in the Model. While this indicates a statistically significant relationship, it suggests that other unaccounted factors also contribute to the variation in this behaviour.

Table 4.52: ANOVA Results for Effect of Gender on GHRMP and EPEB

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.078	2	2.039	8.138	.001[b]
	Residual	21.797	87	.251		
	Total	25.875	89			

a. Dependent Variable: Employee Pro-Environmental Behaviour

b. Predictors: (Constant), GHRMP * Gender=Male, Gender=Male

As can be seen in Table 4.52, the F Change statistic (F (2, 87) = 8.138) and its associated low p-value (.001) suggest that this model significantly improves upon a null model, providing evidence that the predictors are statistically significant in explaining the variation in Employee Pro-Environmental Behaviour. Results of the analysis underscore the importance of gender and the interaction between gender and Green HRM practices in influencing pro-environmental behaviour. They emphasize the significance of implementing eco-friendly HR practices and considering gender-specific approaches to enhance sustainability efforts.

Table 4.53: Regression Coefficients for GHRMP*Gender

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.207	.071		45.312	.000
	Gender=Male	-1.911	.521	-1.771	-3.667	.000
	GHRMP * Gender=Male	.723	.184	1.899	3.933	.000

a. Dependent Variable: Employee Pro-Environmental Behaviour

Results in Table 4.53 show that the coefficient for "Gender=Male" (-1.911) is statistically significant, although negative, suggesting that being male is associated with lower pro-environmental behaviour. Previous empirical literature has indicated that women are more pro-environmental than male (Li et al., 2022; Gökmen, 2021). However, the coefficient for the interaction term "GHRMP*Gender=Male" (.723) which is also statistically significant, highlights a positive impact of Green HRM Practices on pro-environmental behaviour, particularly for male employees. The positive coefficient suggests that GHRMP has a stronger positive impact on pro-environmental behaviour among males compared to females. It further suggests that GHRMP plays a significant role in improving pro-environmental behaviour among male employees, possibly mitigating some of the gender-related differences that could exist. Hence the fitted model:

$$EPEB = 3.207 - 1.911 \times Gender{=}Male + 0.723 \times (GHRMP * Gender{=}Male) \quad \textbf{\textit{Equation 7}}$$

Overall, the results imply that there is indeed a significant moderating effect of gender on the relationship between GHRMP and Employee Pro-Environmental Behaviour. These findings contradict those of Katz et al. (2022) who found no significant association between green employee behaviours and gender. The results however align with those of Edumadze et al. (2013) who report gender as a strong predictor of Environmental Behaviour and Sustainability (EBS). They found that males scored higher on EBS issues compared to females. These findings highlight the importance of considering gender-specific approaches when implementing green HRM practices to enhance sustainability efforts within organizations.

4.7.4.2 Testing the Moderating Effect of Age

The study aimed to examine the moderating effect of age on the relationship between Green HRM practices and Employee Pro-Environmental Behaviour in public universities in Kenya. The study tested the moderating effect of age, focusing on the interaction between GHRMP and Age (GHRMP*Age=30-39 years; GHRMP*Age= Age=40-49 years), while GHRMP*Age = >50 years served as the reference category. The following model was utilized to test the moderating effect:

OLS Model: $y = \beta_0+\beta_1X+\beta_2W_{age} +\beta_3(X\times W_{age}) +e$

The model summary in Table 4.54, with an overall multiple correlation coefficient (R = .677), suggests a strong positive relationship between the predictors and the dependent variable, implying that they collectively contribute to explaining the variation in pro-environmental behaviour. The predictors account for a substantial portion of the variance in pro-environmental behaviour (R^2 = .459) implying that approximately 45.9% of the variance in Employee Pro-Environmental behaviour is explained by the included predictors. Even after considering model complexity, around 43.3% of the variance remains explained, highlighting the model's robustness.

Table 4.54: Model Summary for GHRMP*Age

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.677[a]	.459	.433	.40583

a. Predictors: (Constant), Age=40-49 years*GHRMP, Age=30-39 years*GHRMP, Age=30-39 years, Age=40-49 years

The ANOVA results in Table 4.55 indicate that the regression model is statistically significant (F (4, 85) = 18.026, p < .001). The model, including Age=40-49 years * GHRMP, Age=30-39 years * GHRMP, Age=30-39 years, and Age=40-49 years, is highly significant, suggesting that the predictors included in the model collectively contribute significantly to explaining the variance in EPEB. The findings agree with those of Amoah and Addoah (2021) who found a statistically significant relationship between age and pro-environmental behaviour in Ghana, albeit small, where each

additional year of age corresponds to a 0.07% increase in positive environmental practices. The mean square value for regression (2.969) is substantially higher than that for the residual (.165), further supporting the model's significance. These results underline the importance of the selected predictors in understanding and predicting pro-environmental behaviour among employees. Mtembu's (2017) study of three South African universities comparing green behaviour between different age groups however contradicts the current findings, as all obtained values were greater than the significance threshold ($p > 0.05$).

Table 4.55: ANOVA Results for GHRMP*Age

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.875	4	2.969	18.026	.000[b]
	Residual	14.000	85	.165		
	Total	25.875	89			

a. Dependent Variable: Employee Pro-Environmental Behaviour
b. Predictors: (Constant), Age=40-49 years * GHRMP, Age=30-39 years * GHRMP, Age=30-39 years, Age=40-49 years

In Table 4.56, the constant (3.337) represents the baseline level of pro-environmental behaviour, while the negative coefficients associated with the "Age=30-39 years" (-2.839) and "Age=40-49 years" (-2.062) categories indicate that individuals in these age groups exhibit lower pro-environmental behaviour compared to those aged 50 years and above. The positive coefficients (.966 and .704) for interactions between these age groups and Green HRM Practices respectively, suggest that the impact of GHRMP is amplified for employees in the 30-39 and 40-49 age groups.

Table 4.56: Regression Coefficients for GHRMP*Age

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.337	.062		53.922	.000
	Age=30-39 years	-2.839	.393	-2.275	-7.221	.000
	Age=40-49 years	-2.062	.449	-1.723	-4.592	.000
	Age=30-39 years * GHRMP	.966	.138	2.195	7.000	.000
	Age=40-49 years * GHRMP	.704	.161	1.638	4.379	.000

a. Dependent Variable: Employee Pro-Environmental Behaviour

Hence the fitted model:

EPEB = 3.337 - 2.839 × Age = 30-39 years - 2.062 × Age = 40-49 years + 0.966 × (Age = 30 -39 years × GHRMP) + 0.704 × (Age = 40-49 years × GHRMP + *e* ……...…… ***Equation 8***

These findings resonate with those of Patel et al. (2017) who found an association between pro-environmental behaviour and age, where the more mature adults were believed to display green behaviours more than the younger adults. Teixeira et al. (2023) also found a significant association between age and "recycling" behaviour in both genders. Sargisson et al. (2020) however did not find any clear-cut variations in PEB amongst respondents on the basis of age. Similarly, Ifegbesan et al. (2022) found no significant association between age and eco-behaviours thereby concluding that age may not substantially affect employee PEB. Results of the present study however imply that implementing GHRMP strategies can be particularly effective in enhancing pro-environmental behaviour, especially among the younger workforce.

4.7.4.3 Testing the Moderating Effect of Education

The study sought to assess the moderating effect of education on the relationship between Green HRM practices and Employee Pro-Environmental Behaviour in public universities in Kenya. It tested the moderating effect of education, focusing on the interaction between GHRMP and Education (GHRMP*Education = Diploma;

GHRMP*Education = Bachelors and GHRMP*Education = Masters), GHRMP*PhD served as the reference category. The following model was used to test the effect:

OLS Model: $y = \beta_0+\beta_1X+\beta_2W_{education}+\beta_3(X\times W_{education}) + e$

In Table 4.57, the statistical summary of the regression model, which encompasses various predictors related to education and their interactions with Green HRM Practices, discloses valuable insights. The multiple correlation coefficient (R=.763) indicates a strong positive relationship between the predictors and Employee Pro-Environmental Behaviour, suggesting that the predictors collectively influence this behaviour. The results align with the research conducted by Estrada-Araoz et al. (2023), whose study verified a clear and significant association between education and pro-environmental behaviour. In their investigation aimed at assessing the connection between education and pro-environmental behaviour, they found similar outcomes to those reported in this study. Additionally, the R-square value of .583 signifies that 58.3% of the variance in Employee Pro-Environmental Behaviour can be accounted for by the predictors. Adjusted R Square, at 0.553, acknowledges the model's complexity and indicates that 55.3% of the variance is explained.

Table 4.57: Model Summary for GHRMP*Education

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.763[a]	.583	.553	.36060

a. Predictors: (Constant), Education=Masters * GHRMP, Education=Diploma* GHRMP, Education=Bachelors * GHRMP, Education=Masters, Education=Diploma, Education=Bachelors

The ANOVA results in Table 4.58 reveal the statistical significance of the regression model ($F = 19.332$, $p<.001$), suggesting that the included predictors significantly impact employee pro-environmental behaviour. The model includes multiple predictors related to different education levels and their interactions with Green HRM. This suggests that individual employees with varying education levels are likely to respond differently to GHRMP, implying a need to tailor approaches to encourage pro-environmental behaviour based on employees' educational backgrounds.

Table 4.58: ANOVA Results for GHRMP*Education

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.083	6	2.514	19.332	.000[b]
	Residual	10.792	83	.130		
	Total	25.875	89			

a. Dependent Variable: Employee Pro-Environmental Behaviour
b. Predictors: (Constant), Education=Masters * GHRMP, Education=Diploma * GHRMP, Education=Bachelors * GHRMP, Education=Masters, Education=Diploma, Education=Bachelors

An analysis of the regression coefficients in Table 4.59 reveals important findings regarding the influence of education levels and Green HRM Practices on Employee Pro-Environmental Behaviour. Individuals with lower education levels, such as Diploma (B = -3.979, p<.001), Bachelors (B = -2.231, p<.001), and Masters (B = -2.514, p<.001), tend to exhibit lower pro-environmental behaviour compared to those with a PhD.

Table 4.59: Regression Coefficients for GHRMP*Education

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.332	.075		44.308	.000
	Education=Diploma	-3.979	.805	-1.851	-4.942	.000
	Education=Bachelors	-2.231	.574	-1.508	-3.888	.000
	Education=Masters	-2.514	.296	-2.342	-8.499	.000
	Education=Diploma*GHRMP	1.437	.316	1.699	4.550	.000
	Education=Bachelors*GHRMP	.753	.192	1.509	3.914	.000
	Education=Masters*GHRMP	.901	.105	2.335	8.603	.000

a. Dependent Variable: Employee Pro-Environmental Behaviour

Introduction of the interaction terms ("Education = Diploma * GHRMP", "Education = Bachelors * GHRMP" and "Education = Masters * GHRMP") modify the effect of GHRMP on EPEB for the different education levels compared to having a PhD. From the analysis, Education = Diploma * GHRMP" has a coefficient of 1.437, suggesting that pro-environmental behaviour of Diploma holders will have a 1.437-unit increase

in Employee Pro-Environmental Behaviour associated with GHRMP compared to individuals with a PhD. Similarly, pro-environmental behaviour for "Education = Bachelors * GHRMP" and "Education = Masters * GHRMP" will experience a .753 and .901-unit increase respectively, compared to the PhD holder. The findings align to those of Hoffmann and Muttarak (2020) who confirm the crucial role of education in environmental sustainability. The duo found education to positively influence environmental behaviour where an additional year of schooling seemingly increased the likelihood to engage in environmentally friendly actions by a significant 3.3%.

Hence the fitted model:

EPEB = 3.332−3.979 × Education = Diploma − 2.231 × Education = Bachelors − 2.514 × Education = Masters +1.437× (Education=Diploma × GHRMP) +0.753× (Education=Bachelors × GHRMP) +0.901 × (Education = Masters × GHRMP) $+e$.....***Equation 9***

Overall, the findings underscore the significant role that education levels play in shaping Employee Pro-Environmental Behaviour. They underscore the importance of tailored environmental initiatives within organizations to effectively engage individuals across different educational spectrums. The statistical significance of all coefficients adds strength to these conclusions, highlighting the relevance of education and GHRMP in promoting pro-environmental behaviour.

4.7.5 Goodness of Fit of the Overall Model

In this analysis, the relationship between Pro-Environmental Behaviour (EPEB) and Green HRM Practices (GHRMP) was examined, with consideration of gender, age, and education as moderating variables. The analysis unveiled a sequence of model improvements as variables were progressively introduced. Table 4.60 displays results of a stepwise regression analysis in which predictors were added incrementally to the model.

The sequential introduction of the different socio-demographic predictors significantly enhances the overall model fit, as demonstrated by the increasing adjusted R-square and F-statistic values across successive models. In Model 1 for instance, the R-square of 0.158 (F (2, 87) = 8.138, p = .001) indicates that the model, incorporating the

interaction between Green HRM Practices and Gender, explains 15.8% of the variance in Employee Pro-Environmental Behaviour. This highlights the importance of considering gender-specific effects on the relationship between Green HRM Practices and employee pro-environmental behaviour.

Moving on to Model 2, the R-square significantly increases to 0.485 ($F(4, 83) = 13.194$, $p < .001$), suggesting that inclusion of age-related variables, alongside the existing GHRMP*Gender interaction, further enhances the understanding of the variation in EPEB. Additionally, the F-statistic also significantly improves, reinforcing the model's overall explanatory power. Ultimately, further improvement is noted in Model 3, upon introduction of education-related predictors. The R-square surges upwards to 0.616 ($F(6, 77) = 4.384$, $p = .001$), indicating that education-related factors, in addition to GHRMP*Age and the GHRMP*Gender interactions, significantly contribute to explaining EPEB. The F-statistic remains significant across the successive models, reinforcing the cumulative impact of these socio-demographic factors.

As earlier established in the analysis of individual socio-demographic factors (refer to Tables 4.53, 4.56 and 4.59), gender, age, and education play distinct roles in shaping the relationship between Green HRM Practices and employee green behaviour. Based on the results obtained, it is evident that the inclusion of socio-demographic predictors, especially the interaction terms, significantly enhances the explanatory power of the model. The results thus affirm the importance of considering the interplay between Green HRM Practices and socio-demographic factors in understanding and promoting pro-environmental behaviour in public universities. The null hypothesis of no significant moderating effect of socio-demographic factors, is therefore rejected in favour of the alternative. The study thus concludes that indeed, *socio-demographic factors (gender, age and education) do significantly moderate the relationship between Green HRM Practices and Employee Pro-Environmental Behaviour in Public Universities in Kenya.*

Table 4.60: Model Summary for GHRMP*Socio-Demographic Factors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.397[a]	.158	.138	.50054	.158	8.138	2	87	.001
2	.696[b]	.485	.448	.40067	.327	13.194	4	83	.000
3	.785[c]	.616	.556	.35915	.131	4.384	6	77	.001

a. Predictors: (Constant), GHRMP * Gender=Male, Gender=Male
b. Predictors: (Constant), GHRMP * Gender=Male, Gender=Male, Age=40-49 years, Age=30-39 years, Age=30-39 years * GHRMP, Age=40-49 years * GHRMP
c. Predictors: (Constant), GHRMP * Gender=Male, Gender=Male, Age=40-49 years, Age=30-39 years, Age=30-39 years * GHRMP, Age=40-49 years * GHRMP, Education=Masters * GHRMP, Education=Diploma * GHRMP, Education=Bachelors, Education=Masters, Education=Diploma, Education=Bachelors * GHRMP

4.8 Summary of Findings for Hypothesis Tests

The study investigated the influence of Green HRM Practices on Employee Pro-environmental Behaviour in public universities in Kenya. The study tested several hypotheses and analysed the results. Findings revealed that each of the GHRM practice examined had a significant influence on employee pro-environmental behaviour in the context of the institutions under focus. The results indicated that green employee resourcing, green employee training, green performance management, green employee rewards, and green employee involvement all had significant positive effects on employee pro-environmental behaviour. In summary, the study revealed that Green HRM Practices significantly predict Employee Pro-Environmental Behaviour in public universities in Kenya,

The study further examined the potential moderating effect of socio-demographic factors on the relationship between GHRM practices and EPEB. Findings revealed that socio-demographic factors play a crucial role in influencing this relationship. Based on the obtained results therefore, all null hypotheses (H_{01}- H_{06}) were rejected, suggesting that Green HRM Practices have a significant and positive influence on employee pro-environmental behaviour in public universities in Kenya. Moreover, the results indicate that socio-demographic factors (gender, age and education) moderate this relationship. These findings imply that implementing and emphasizing GHRM

practices can effectively promote pro-environmental behaviour among employees in public universities in Kenya. Furthermore, they highlight the need for a strategic approach in implementing sustainable HRM practices in these institutions, recognizing the diverse impact of GHRM practices across different socio-demographic groups. While providing actionable insights for HR practitioners, they also contribute to the evolving understanding of the intersection between HRM practices, individual characteristics and environmental sustainability in public universities.

Table 4.61: Summary of Hypothesis Tests

Hypothesis		**Results**	**Conclusion**
Ho_1:	Green employee resourcing has no significant influence on employee pro-environmental behaviour in public universities in Kenya.	Significant coefficient estimate (β = .510, t = 6.632, p<.001).	Reject Ho_1; Accept Ha_1
Ho_2:	Green employee training has no significant influence on employee pro-environmental behaviour in public universities in Kenya.	Significant coefficient estimate (β = .431, t = 8.245, p<.001).	Reject Ho_2; Accept Ha_2
Ho_3:	Green performance management has no significant influence on employee pro-environmental behaviour in public universities in Kenya.	Significant coefficient estimate. (β = .444, t = 5.716, p<.001)	Reject Ho_3; Accept Ha_3
Ho_4:	Green employee rewards have no significant influence on employee pro-environmental behaviour in public universities in Kenya.	Significant coefficient estimate. (B= 0.620, t = 6.093, p < .001)	Reject Ho_4; Accept Ha_4
Ho_5:	Green employee involvement has no significant influence on employee pro-environmental behaviour in public universities in Kenya.	Significant coefficient estimate. (B = .364, t = 7.078, p < .001)	Reject Ho_5; Accept Ha_4
Ho_6:	Socio-demographic factors have no significant moderating effect on the relationship between green human resource practices and employee pro-environmental behaviour in public universities in Kenya	Significant coefficient estimates Gender: (B = .723, t = 3.933, p < .001); Age: (B = .966, t = 7.000, p < .001); (β = .704, t = 4.379, p < .001); Education: (B = 1.437, t = 4.550, p < .001); (B = .753, t = 3.914, p < .001); (B = .901, t = 8.603, p < .001)	Reject H_{06}; Accept Ha_6

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This Chapter discusses the summary of major findings of the study as reported by the respondents, conclusions based on these findings, recommendations and suggestions for future studies.

5.2 Summary of Findings

The general objective of the study was to investigate the influence of Green Human Resource Management practices on Employee Pro-environmental Behaviour in public universities in Kenya. It specifically examined the influence of green employee resourcing, green employee training, green performance management, green employee rewards and green employee involvement on employee pro-environmental behaviour in public universities in Kenya. It also assessed the moderating effecting of socio-demographic factors (gender, age and education) on the relationship between Green HRM practices and employee pro-environmental behaviour in public universities in Kenya. Primary and secondary sources were utilized for data collection to measure this relationship and gain insight on the influence of Green HRM practices and Employee Pro-Environmental Behaviour of public university employees

5.2.1 Green Employee Resourcing and Employee Pro-Environmental Behaviour

Study findings uncovered certain deficiencies in the green recruitment practices of the studied institutions. Aspects of employer branding, such as effective communication of environmental policies, a robust social media presence for recruitment purposes, and green job descriptions in advertised jobs could not be confirmed. Additionally, the recruitment process lacked complete digitalization, as virtual receipt of applications could not be ascertained. Environmental awareness was also not considered during candidate selection. Despite these shortcomings, a moderate positive correlation was observed between Green Employee Resourcing (GER) and Employee Pro-

Environmental Behaviour (EPEB). Regression analysis results also indicated that GER significantly predicts EPEB, aligning with the broader literature emphasizing the positive relationship between green recruitment practices and sustainability. H_{01} was thus rejected and the alternative (H_{a1}), suggesting that green employee resourcing significantly influences employee pro-environmental behaviour in Public Universities in Kenya, accepted. Based on these findings, the study concluded that increasing the level of GER will be associated with higher levels of pro-environmental behaviour among employees in public universities in Kenya.

5.2.2 Green Employee Training and Employee Pro-Environmental Behaviour

The study revealed insufficiencies in training practices within the institutions under focus. While these institutions exhibit a proactive approach toward environmental training and embrace modern digital trends through digital learning platforms, notable gaps were identified. Specifically, the study found deficiencies in conducting training needs analysis, integrating environmental awareness into induction programs, and incorporating environmental principles into the design of training programs. Consideration of key environmental aspects such as efficient use of resources, pollution prevention, waste management and recycling could not be confirmed. Respondents suggested valuable approaches like green simulation, role-modelling, visual imagery, and robust training evaluation to enhance training effectiveness. The study also established a strong positive correlation between Green Employee Training (GET) and Employee Pro-Environmental Behaviour (EPEB). Results of regression analysis indicate that GET significantly and positively influences EPEB in Public Universities in Kenya, explaining a significant portion of the variability in this behaviour. Based on these findings, the null hypothesis was rejected, as the study's results confirmed that Green Employee Training significantly influences Employee Pro-Environmental Behaviour in Public Universities in Kenya.

5.2.3 Green Performance Management and Employee Pro-Environmental Behaviour

The study assessed the effect of Green Performance Management (GPM) on Employee Pro-Environmental Behaviour (EPEB) in public universities in Kenya. It investigated the inclusion of environmental performance targets, resource utilization and waste minimization into employees' performance contracts in public universities in Kenya. Findings revealed a limited occurrence of such integration. Overall, the findings indicated that green performance management, as part of Green HRM practices, is not firmly established in these institutions as a means of addressing their carbon footprint. Respondents suggested various initiatives to enhance green performance management, including the introduction of green gifts, adoption of a paperless office, regular green campaigns, and clear green performance targets. Correlation analysis revealed a moderate, positive linear relationship between the GPM and EPEB. The study further found that GPM significantly predicts employee pro-environmental behaviour, implying that a unit increase in GPM will lead to an increase in EPEB. The results thus provided no evidence to maintain H_{03}. Consequently, the null hypothesis, which assumed no significant influence of GPM on EPEB, was rejected and the alternative (H_{a3}) accepted, concluding that Green Performance Management has a significant influence on Employee Pro-Environmental Behaviour in Public Universities in Kenya.

5.2.4 Green Employee Rewards and Employee Pro-Environmental Behaviour

In seeking to evaluate the influence of Green Employee Rewards (GRE) on Employee Pro-Environmental Behaviour (EPEB) in public universities in Kenya, the study uncovered the absence of explicit rewards for environmental management skills and successful innovations. Bonuses and recognition for exemplary environmental behaviour was also found to be uncommon. Similarly, no penalties were prescribed for actions that negatively impacted the environment. Findings revealed diverse preferences among employees for green rewards. Cash incentives topped the list, followed by other forms of recognition like annual awards, eco-sponsorships, social influence and branded gifts. Through correlation analysis, the study established a positive and significant correlation between the predictor and response variables. The

relationship between green rewards and employee pro-environmental behaviour was found to be positive and significant, implying that GRE explains a significant proportion of the variance in EPEB. The regression coefficients also confirmed that green employee rewards significantly predict employee pro-environmental behaviour, hence the basis for rejecting H_{04}. The study accepted H_{a4}, concluding that Green Employee Rewards exert a significant and positive influence on Employee Pro-Environmental Behaviour in Public Universities in Kenya.

5.2.5 Green Involvement and Employee Pro-Environmental Behaviour

Results showed that communication of environmental vision to all employees was seldomly done. Sensitization on environmental policy objectives during meetings or through email reminders was also rare. The findings further exposed a deficiency in mechanisms for encouraging employees to make suggestions on environmental issues. Evidence that environmental teams were used to identify environmental opportunities for exploitation, possible environmental problems and their appropriate solutions was also not found. Additional involvement strategies such as Continual Green Engagement, Green Corporate Social Responsibility (CSR) and Green Champions were suggested by respondents as being key in enhancing GEI. Analysis of the relationship between GEI and EPEB through regression revealed that GEI explains a considerable proportion of the variance in EPEB. ANOVA results confirmed the statistical significance of the relationship, with the regression model being significant. The positive and statistically significant coefficient for GEI emphasized its significant and unique contribution to predicting EPEB. On average, each additional unit of GEI is associated with an expected increase in EPEB. Based on these findings, H_{05} was rejected and H_{a5} accepted, confirming that Green Employee Involvement has a significant and positive influence on Employee Pro-Environmental Behaviour in Public Universities in Kenya.

5.2.6 Moderating effect of Socio-Demographic Factors on the relationship between Green HRM Practices and Employee Pro-Environmental Behaviour

The study investigated the complex interplay between socio-demographic factors, Green HRM practices and Employee Pro-Environmental Behaviour, challenging the null hypothesis of their having no moderating impact. Contrary to the null hypothesis, findings provided compelling evidence that socio-demographic variables (gender, age, and education) act as influential moderators in shaping green behaviour. Gender, traditionally viewed as non-modifiable, exhibited a significant interaction with Green HRM practices, fostering greater environmental awareness, particularly among male employees. Additionally, age, another socio-demographic factor, not only independently influenced pro-environmental behaviour but also interacted with Green HRM practices, notably benefiting younger age groups. An examination of the regression coefficients revealed that higher education levels, often associated with pro-environmental behaviour, experienced a positive boost from Green HRM practices, particularly among individuals with Master's degrees. Overall, findings provided sufficient evidence to support the rejection of the null hypothesis and emphasize the crucial role of socio-demographic factors in moderating the relationship between Green HRM practices and Employee Pro-Environmental Behaviour in public universities in Kenya.

5.3 Conclusions

The study established a positive correlation between Green Employee Resourcing and Employee Pro-Environmental Behaviour, with regression analysis confirming GER's significant predictive role in influencing EPEB. The rejection of the null hypothesis and acceptance of the alternative underscored the substantial influence of green employee resourcing on pro-environmental behaviour. The study concludes that enhancing the level of GER is associated with elevated levels of pro-environmental behaviour among employees in public universities in Kenya.

The research also identified a strong positive correlation between Green Employee Training and Employee Pro-Environmental Behaviour. Regression analysis results

confirmed GET as a significant predictor of EPEB, explaining a noteworthy portion of the behaviour's variability. Rejecting the null hypothesis, the study concludes that green employee training significantly and positively predicts employee pro-environmental behaviour in Public Universities in Kenya.

Further, correlation analysis uncovered a moderate, positive linear relationship between GPM and EPEB. Additionally, the study demonstrated that GPM significantly predicts employee pro-environmental behaviour, implying that an increase in GPM will correspond to an increase in EPEB. Consequently, the study rejected the null hypothesis and accepted the alternative, concluding that Green Performance Management exerts a significant influence on Employee Pro-Environmental Behaviour in Public Universities in Kenya.

The study also established a positive and significant correlation between green rewards and employee pro-environmental behaviour. The relationship was found to be both positive and significant, indicating that GRE explains a significant portion of the variance in EPEB. Further support was provided by regression coefficients, confirming that green employee rewards significantly predict employee pro-environmental behaviour. Consequently, the study rejected H_{04} and accepted Ha4, concluding that Green Employee Rewards exert a significant and positive influence on Employee Pro-Environmental Behaviour in Public Universities in Kenya.

Green employee involvement was found to have a statistically significant and positive coefficient. Regression analysis revealed that it explains a substantial proportion of the variance in Employee Pro-Environmental Behaviour. ANOVA results confirmed the statistical significance of this relationship, with the regression model being significant. Overall, the results implied that each additional unit of GEI is associated with an expected increase in EPEB. Based on these results, the study concluded that green employee involvement made a significant and unique contribution to the prediction of employee pro-environmental behaviour in public universities in Kenya.

The relationship between Green HRM practices and EPEB was found to be significantly influenced by the Socio-Demographic factors of gender, age and education. The study thus concludes that considering gender-specific interventions in

implementing Green HRM practices is likely to enhance sustainability efforts within the institutions. From the age-based findings, the study concludes that implementing GHRMP strategies tailored on the basis of the varied age groups could be beneficial, and more so, among the younger workforce. The study also concludes that Green HRM practices could also act to increase the pro-environmental behaviour of employees, even those with higher levels of education, hence the need to design targeted strategies.

In summary, the study findings reveal positive correlations and significant predictive relationships between GHRM components (Green Employee Resourcing, Green Employee Training, Green Performance Management, Green Employee Rewards, and Green Employee Involvement) and EPEB. The findings emphasize the collective influence of these practices in shaping sustainable workplace behaviours. Additionally, the research unveiled the moderating effects of gender, age, and education on the relationship between GHRM practices and EPEB, providing valuable insights for tailored interventions. The identified gaps in training practices, performance management, and reward systems suggest areas for improvement in fostering environmental awareness and sustainable practices within these institutions. Overall, the study underscores the importance of integrating environmental considerations into HRM strategies to promote pro-environmental behaviour among employees in the academic sector.

5.4 Recommendations

The study comprehensively analysed Green HRM constructs, yielding a set of strategic recommendations that encompass various aspects of human resource management. These recommendations align with relevant theories namely; the AMO theory, signalling theory bundling theory, ISO 14001 model and protection motivation theory.

5.4.1 Managerial Recommendations to Public Universities

The study recommends that university managements adopt a holistic approach to recruitment, emphasizing environmentally conscious practices. This should involve the expansion of e-recruitment strategies, including online job postings, electronic

applications, and initial screenings, to streamline the process while also signalling the institutions' commitment to environmental responsibility. The study further suggests the integration of green-focused elements into the interview process, encouraging candidates to share their ideas for promoting sustainability within their potential roles to assess their alignment with the university's sustainability values. Strengthening green onboarding by providing comprehensive information about the university's environmental policies, initiatives, and expectations to new employees, along with introducing them to existing sustainability teams, is advised to foster a culture of environmental responsibility among new hires. Additionally, the study recommends incorporating green reference checks into the recruitment process to seek feedback from previous employers regarding a candidate's past contributions to sustainability efforts, providing valuable insights into their alignment with the university's sustainability goals and confirming their commitment to environmental causes. These recommendations collectively aim to enhance the university's recruitment efforts and cultivate a culture of sustainability.

The study also proposes a targeted approach to green employee training in public universities, emphasizing the identification of specific areas where such training is needed. The content should be customized to address the unique challenges and requirements of each institution. Introduction of green simulation training programs is advised. These programs would immerse employees in realistic environmental scenarios, allowing them to practice environmentally-conscious decision-making and problem-solving skills within a risk-free environment to prepare them to effectively respond to real environmental challenges. The study also recommends promoting green role-modelling by encouraging line managers and leaders to exemplify environmentally-friendly behaviours. Implementing mentoring programs where experienced employees demonstrate these behaviours to new hires can be particularly effective. The study further suggests enhancing training materials and communication with visually engaging green imagery to emphasize the significance of environmental conservation while illustrating the direct impact of individual actions on the environment. Additionally, green training evaluation processes should be implemented to assess the effectiveness of environmental training programs, using key

performance indicators (KPIs) to measure changes in employees' pro-environmental behaviours and knowledge is advised.

University management may also consider integrating environmental targets and green indicators into the performance management system to ensure alignment of performance goals with sustainability objectives. The study further proposes implementing a system of green gifts such as re-usable water bottles or coffee mugs to recognize and reward employees who achieve or surpass green performance targets. Furthermore, the study recommends transitioning to a paperless office environment by developing a comprehensive strategy including employee training and resource provision to facilitate the adoption of paperless practices. Moreover, the study recommends that the institutions establish regular green campaigns and engagement initiatives to actively involve employees in environmental programs, promoting participation, idea sharing, and the tracking of environmental contributions. Management should also set clear and measurable green performance targets aligned with their institutions' sustainability goals. Effective communication of these targets and their integration into the performance management process is also crucial. This not only signals the organization's dedication to sustainability but also motivates employees to align their performance with these environmentally focused objectives.

Implementing a cash incentive program that rewards employees for consistently demonstrating environmentally friendly behaviours should be considered. Similarly, the introduction of an annual eco awards ceremony is proposed to celebrate employees who display exceptional commitment to environmental preservation, emphasizing the institution's dedication to sustainability. The study further recommends establishing eco-sponsorship opportunities, allowing employees to support eco-friendly initiatives in their communities. This would showcase the universities' commitment to green practices while engaging employees in environmental causes. Additionally, creating a 'recognition board' featuring employees who consistently engage in pro-environmental actions can serve as a form of social influence to motivate others. Management may also consider offering branded corporate gifts made from sustainable materials to employees as tokens of appreciation. These strategies

collectively aim to nurture a workplace culture of environmental responsibility while recognizing and incentivizing employees for their sustainability efforts.

Finally, the study suggests implementing a comprehensive green engagement program that encompasses continuous communication, feedback mechanisms, and active participation in environmental initiatives. This approach combines various practices, such as regular reminders and the formation of environmental teams, creating a holistic approach to encourage long-term employee engagement with sustainability efforts. The study also advises promoting the institutions' commitment to green corporate social responsibility (Green CSR) by encouraging employee participation in CSR activities related to environmental causes such as tree planting or community clean-ups. This not only demonstrates the universities' dedication to environmental sustainability but also motivates employees to engage in CSR activities that contribute to environmental protection. Lastly, the study recommends identifying and empowering "green champions" among employees who exhibit a strong commitment to pro-environmental behaviours and initiatives, providing them with training and resources to lead and inspire their colleagues. This approach will enhance employees' abilities through training, and by motivating and empowering them as champions, ultimately fostering a culture of environmental responsibility within the institution. The foregoing recommendations should also consider the significant role of socio-demographic factors, specifically, gender, age and education.

5.4.2 Policy Recommendations

In order to promote a culture of environmental responsibility within higher education institutions and support broader sustainability goals, especially the Kenya Government's Green Economy Strategy, the study proposes the following policy recommendations to ensure that universities remain accountable for their environmental actions:

i) **Environmental Training Mandate**: Enforce a policy mandating universities to provide comprehensive environmental training and awareness programs for all staff and students. These programs should cover sustainability principles, carbon reduction strategies, and the importance of environmental

responsibility. The training should be a recurring requirement to keep everyone informed and updated on sustainability practices.

ii) **Green Campus Certification**: Develop a certification program for universities to achieve a "Green Campus" designation. To obtain certification, universities must meet specific sustainability criteria related to carbon reduction, energy efficiency, waste management, and eco-friendly practices on campus. Certified campuses should receive recognition and incentives, such as tax benefits or grants, to encourage ongoing sustainability efforts.

iii) **Environmental Reporting Requirements**: Implement a policy that mandates universities to report their environmental performance regularly. Reports should include emissions data, waste reduction progress, energy efficiency measures, and any sustainability initiatives undertaken. The reporting should be transparent and accessible to the public to encourage accountability and information sharing.

5.5 Areas for Further Research

Findings of the present study have highlighted the importance of GHRM practices in promoting EPEB and suggest that organizations can achieve greater sustainability by incorporating environmental considerations into HRM strategies to foster a culture of environmental responsibility among employees. The study was, however, not devoid of limitations, for instance, the current study considered only three public universities based on a certain criterion. In this regard the study proposes a replication of this research incorporating a bigger sample size to determine whether there would be any variation in the outcome. Similarly, the study's focus on green HRM practices and socio-demographic factors may have overlooked other important variables that could influence employee pro-environmental behaviour. It therefore proposes future studies that may explore other variables likely to influence employee pro-environmental behaviour. Also, in terms of methodology, it is worth noting that while valuable insights were gained through this study, the complexities of EPEB may not have been comprehensively covered. Future research may therefore consider incorporating observational analysis to facilitate a more nuanced assessment of pro-environmental

behaviour in their natural setting. Finally, the study considered the state of employee pro-environmental behaviour in public universities. Future researchers may consider a comparative study focusing on private universities.

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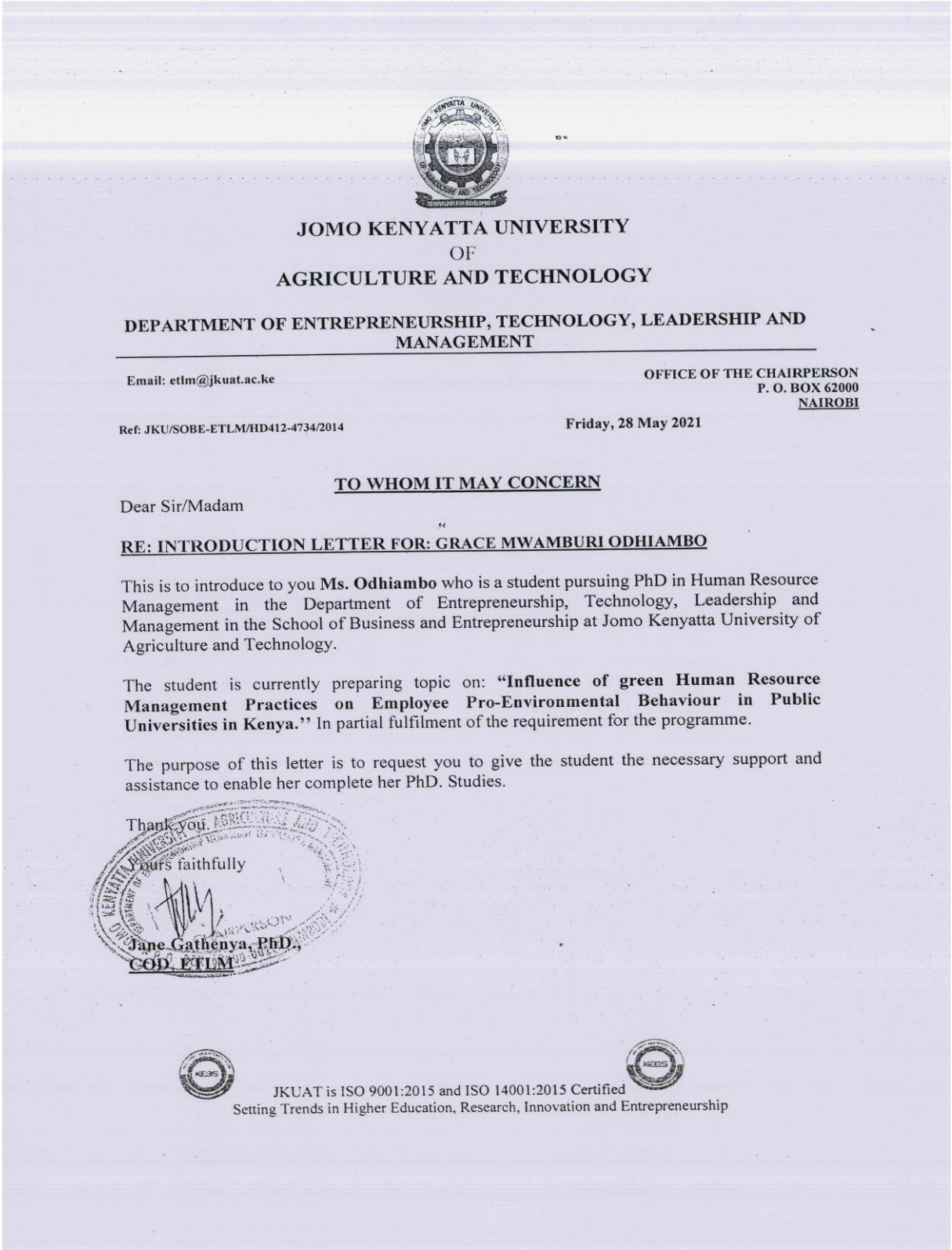
APPENDICES

Appendix I: Introduction Letters & Approvals to Collect Data



JOMO KENYATTA UNIVERSITY
OF
AGRICULTURE AND TECHNOLOGY

DEPARTMENT OF ENTREPRENEURSHIP, TECHNOLOGY, LEADERSHIP AND MANAGEMENT

Email: etlm@jkuat.ac.ke

OFFICE OF THE CHAIRPERSON
P. O. BOX 62000
NAIROBI

Ref: JKU/SOBE-ETLM/HD412-4734/2014

Friday, 28 May 2021

TO WHOM IT MAY CONCERN

Dear Sir/Madam

RE: INTRODUCTION LETTER FOR: GRACE MWAMBURI ODHIAMBO

This is to introduce to you **Ms. Odhiambo** who is a student pursuing PhD in Human Resource Management in the Department of Entrepreneurship, Technology, Leadership and Management in the School of Business and Entrepreneurship at Jomo Kenyatta University of Agriculture and Technology.

The student is currently preparing topic on: **"Influence of green Human Resource Management Practices on Employee Pro-Environmental Behaviour in Public Universities in Kenya."** In partial fulfilment of the requirement for the programme.

The purpose of this letter is to request you to give the student the necessary support and assistance to enable her complete her PhD. Studies.

Thank you.

Yours faithfully

Jane Gathenya, PhD.,
COD, ETLM

JKUAT is ISO 9001:2015 and ISO 14001:2015 Certified
Setting Trends in Higher Education, Research, Innovation and Entrepreneurship

Grace Mwamburi Odhiambo
JKUAT, Main Campus
P.O. Box 62000-00200
NAIROBI

June 21, 2021

The Deputy Vice-Chancellor (Administration)
Jomo Kenyatta University of Agriculture & Technology
P.O. Box 62000 -00200
NAIROBI

Dear Sir,

RE: DOCTOR OF PHILOSOPHY IN HUMAN RESOURCE MANAGEMENT RESEARCH

I am a student pursuing a Doctor of Philosophy Degree in Human Resource Management at the Jomo Kenyatta University of Agriculture and Technology (JKUAT). In partial fulfilment of the requirements for the programme, I wish to conduct research titled: ***Influence of Green Human Resource Management Practices on Employee Pro-Environmental Behaviour in Public Universities in Kenya.***

I have selected your University to participate in the study. I am therefore, writing to humbly request you to allow me undertake this research by granting me access to various randomly selected employees to facilitate collection of relevant data to address the research objectives. This will purely be an academic research and data obtained therefrom will be used for academic purposes only, and will be kept confidential.

Your support and approval will be highly appreciated.

Yours faithfully,

G. M. Odhiambo
Reg. No. HD412-4734/2014
Cell-phone No.: 0721-28 38 65
Email: wawudagmwamburi@gmail.com

Grace Mwamburi Odhiambo
JKUAT, Main Campus
P.O. Box 62000-00200
NAIROBI

June 21, 2021

The Deputy Vice-Chancellor (Research, Innovation and Outreach)
Kenyatta University
P.O. Box 43844 -00100
NAIROBI

Dear Sir,

RE: DOCTOR OF PHILOSOPHY IN HUMAN RESOURCE MANAGEMENT RESEARCH

I am a student pursuing a Doctor of Philosophy Degree in Human Resource Management at the Jomo Kenyatta University of Agriculture and Technology (JKUAT). In partial fulfilment of the requirements for the programme, I wish to conduct research titled: ***Influence of Green Human Resource Management Practices on Employee Pro-Environmental Behaviour in Public Universities in Kenya.***

I have selected your University to participate in the study. I am therefore, writing to humbly request you to allow me undertake this research by granting me access to various randomly selected employees to facilitate collection of relevant data to address the research objectives. This will purely be an academic research and data obtained therefrom will be used for academic purposes only, and will be kept confidential.

Your support and approval will be highly appreciated.

Yours faithfully,

G. M. Odhiambo
Reg. No. HD412-4734/2014
Cell-phone No.: 0721-28 38 65
Email: wawudagmwamburi@gmail.com

Grace Mwamburi Odhiambo
JKUAT, Main Campus
P.O. Box 62000-00200
NAIROBI

July 27, 2021

The Vice Chancellor
Karatina University
P.O. Box 1957-10101
KARATINA

Dear Sir,

RE: DOCTOR OF PHILOSOPHY IN HUMAN RESOURCE MANAGEMENT RESEARCH

I am a student pursuing a Doctor of Philosophy Degree in Human Resource Management at the Jomo Kenyatta University of Agriculture and Technology (JKUAT). In partial fulfilment of the requirements for the programme, I wish to conduct research titled: ***Influence of Green Human Resource Management Practices on Employee Pro-Environmental Behaviour in Public Universities in Kenya.***

I have selected your University to participate in the study. I am therefore, writing to humbly request you to allow me undertake this research by granting me access to various randomly selected employees to facilitate collection of relevant data to address the research objectives. This will purely be an academic research and data obtained therefrom will be used for academic purposes only, and will be kept confidential.

Your support and approval will be highly appreciated.

Yours faithfully,

G. M. Odhiambo
Reg. No. HD412-4734/2014
Cell-phone No.: 0721-28 38 65
Email: wawudagmwamburi@gmail.com

JOMO KENYATTA UNIVERSITY
OF
AGRICULTURE AND TECHNOLOGY
P.O. Box 62000-00200 Nairobi Kenya, Tel: +254-067-5870001-4, +254-67-53-52711,
Office of the Registrar (Administration)

JKU/3245(153)

25TH JUNE, 2021

Ms. Grace M. Odhiambo
C/o Central Services
JKUAT

Dear Ms. Odhiambo

RE: PERMISSION TO COLLECT DATA

Reference is made to your letter dated 21st June, 2021 in which you sought permission to collect data for your PhD research project entitled **"Influence of Green Human Resource Management Practices on employee Pro-Environmental Behaviour in Public Universities in Kenya".**

Approval has been granted for you to collect data from the specified target group only on the understanding that all the data collected will be for academic purpose only and will be kept confidential throughout the project and after completion of the project. This is also on condition that the University Library will receive a copy of your final thesis for future reference.

Yours sincerely,

DR. ROSE M. GITHU, PhD
AG. REGISTRAR (ADMINISTRATION)
RG/mw

Copy to: Deputy Vice Chancellor (Admin)

KENYATTA UNIVERSITY
CENTER FOR RESEARCH ETHICS AND SAFETY

Fax: 8711242/8711575
Email: chairman.kuerc@ku.ac.ke
Nairobi, 00100

P. O. Box 43844,

Tel: 8710901/12

Website: www.ku.ac.ke
Our Ref: **KU/ERC/APPROVAL/VOL.1**

Date: 07/09/2021

Grace M. Odhiambo

P.O BOX 43844-00100

Nairobi.

Dear Madam,

RE: INFLUENCE OF GREEN HUMAN RESOURCE MANAGEMENT PRACTICES ON EMPLOYEE PRO-ENVIRONMENTAL BEHAVIOUR IN PUBLIC UNIVERSITIES IN KENYA

This is to inform you that ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** has reviewed and approved your above research proposal. Your application approval number is ***PKU/2308/E1447.*** The approval period is ***07/09/021 to 07/09/2022.***

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE***
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.

vii. Submission of an executive summary report within 90 days upon completion of the study to ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE***

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed.

To serve you better, researchers are kindly requested to access and complete a customer feedback form and sent it back online as you continue with research and upon completion of data collection found on the following website link; ;(https://docs.google.com/forms/d/1ytWefDwvyz5h1oz_VIn0xbxg3uGdlDzMXFWNDsMrRPQ/edit?usp=sharing

Yours sincerely

Prof. Judith Kimiywe

Director: Center for Research Ethics and Safety

KENYATTA UNIVERSITY

OFFICE OF DEPUTY VICE-CHANCELLOR, RESEARCH, INNOVATION AND OUTREACH

Ref: KU/DVCR/RCR/VOL.3/320

P. O. Box 43844 – 00100
Nairobi. Kenya
Tel. 254-20-810901 Ext. 026
E-mail: dvc-rio@ku.ac.ke

Ms. Grace Odhiambo,
School of Business & Entrepreneurship,
JKUAT,
NAIROBI

13th September, 2021

Dear Ms. Odhiambo,

RE: **REQUEST TO COLLECT RESEARCH DATA AT KENYATTA UNIVERSITY**

This is in reference to your letter dated 21st June, 2021 requesting for authorization to collect research data at Kenyatta University on the topic **"Influence of Green Human Resource Management Practices on Employee Pro-Environmental Behaviour in Public Universities in Kenya"** *towards the award of PhD in Human Resource Management degree of* Jomo Kenyatta University of Agriculture and Technology.

I am happy to inform you that the Vice-Chancellor has approved your request to collect data. It has been noted that your data will be collected from top and middle level Management as well as teaching and non-teaching staff.

The University requires that, upon completion of your research, you submit a hard copy of your thesis to the Deputy Vice-Chancellor, Research who shall forward it to the University Library. Kindly therefore download, complete and

sign Form RIO3 and return it to my office prior to the commencement of collection of data. This form can be accessed and downloaded from the research webpage.

Yours Sincerely,

Prof. F. Q. Gravenir
Deputy Vice-Chancellor
Research, Innovation & Outreach

cc. Vice-Chancellor
DVC, Administration

KARATINA UNIVERSITY
OFFICE OF THE REGISTRAR
(Planning &Administration)

Inspiring Innovation and Leadership

Tel: +254-(0)729721200/0202176713 P.O. Box 1957 – 10101 KARATINA
Email: registrarpa@karu.ac.ke Website: www.karu.ac.ke

OUR REF: KarU/REG/P&A **DATE:** 29th July, 2021

Ms. Grace Mwamburi Odhiambo
P.O. Box 62000-00200
Nairobi
0721283865
wawudagmwamburi@gmail.com

Dear Ms. Odhiambo,

REF: REQUEST TO COLLECT DATA FOR PHD RESEARCH

Reference is made to your letter addressed to the Vice Chancellor dated 27th July, 2021 in which you requested permission to collect data in the University. Approval has been granted for you to collect data titled "Influence of Green Human Resource Management Practices on Employee Pro- Environmental Behaviour in Public Universities in Kenya"

Please note that the University will expect to receive the outcome of the research.

I take this opportunity to wish you success in your studies.

Yours sincerely,

DR. HUMPHREY R. OMONDI
REGISTRAR (PLANNING &ADMINISTRATION

Copy to: Vice Chancellor
Deputy Vice Chancellor (PF&A)
Ag. Senior Assistant Registrar (HR)
Security Officer

Appendix II: Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 950750

Date of Issue: 11/June/2021

RESEARCH LICENSE

This is to Certify that Ms.. Grace Mwambori Odhiambo of Jomo Kenyatta University of Agriculture and Technology, has been licensed to conduct research in Kisumbo, Nairobi, Nyeri on the topic: Influence of Green Human Resource Management Practices on Employee Pro-Environmental Behaviour in Public Universities in Kenya for the period ending : 11/June/2022.

License No: NACOSTI/P/21/11206

950750

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is Guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014

CONDITIONS

1. The License is valid for the proposed research, location and specified period
2. The License any rights thereunder are non-transferable
3. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research
4. Excavation, filming and collection of specimens are subject to further necessary clearence from relevant Government Agencies
5. The License does not give authority to tranfer research materials
6. NACOSTI may monitor and evaluate the licensed research project
7. The Licensee shall submit one hard copy and upload a soft copy of their final report (thesis) within one year of completion of the research
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice

National Commission for Science, Technology and Innovation
off Waiyaki Way, Upper Kabete,
P. O. Box 30623, 00100 Nairobi, KENYA
Land line: 020 4007000, 020 2241349, 020 3310571, 020 8001077
Mobile: 0713 788 787 / 0735 404 245
E-mail: dg@nacosti.go.ke / registry@nacosti.go.ke
Website: www.nacosti.go.ke

Appendix III: Questionnaire

Green Human Resource Management Practices and Employee Pro-Environmental Behaviour in Public Universities in Kenya

INFORMED CONSENT

My name is Grace, a PhD student at the Jomo Kenyatta University of Agriculture and Technology (JKUAT). I am conducting a study titled "Green Human Resource Management Practices and Employee Pro-Environmental Behaviour in Public Universities in Kenya".

Green Human Resource Management (Green HRM) refers to the integration of human resource practices with environmental management to encourage employees to embrace environmental protection. It may consider an applicant's environmental/green values during the recruitment and selection process; creating environmental/green awareness; developing environmental/green skills through training; considering employee environmental/green behaviours during performance appraisals for promotion purposes; rewarding employees for achieving environmental protection targets and involving employees in environmental decisions related to their work. Pro- environmental behaviour refers to individual employee behaviours contributing to environmental sustainability. This may include limiting energy consumption e.g., switching off lights when leaving the room or putting machines on "power save mode" when not in use; avoiding or minimizing waste by re-using resources such as used envelopes for internal mail; recycling; reading emails on screen instead of printing; printing on both sides of the paper when necessary; cycling to work instead of driving, etc. The purpose of the study is to make contributions to the existing body of knowledge and for practical applications in work settings to mitigate negative environmental impacts arising from an organization's operations thereby addressing climate change concerns.

Procedures to be followed

Participation in this study will require you to complete the online survey by clicking the "Next" button at the bottom of the page. The survey would take approximately 15-20 minutes to complete.

Voluntarism

Please remember that your participation in the study is voluntary. You are therefore free to withdraw your participation at any point before submission, without being disadvantaged in any way. You may ask questions related to the study at any time. However, by completing the survey and clicking "submit", you consent to participation and the use of your data in the study.

Discomforts and Risks

There are no potential risks involved in the study.

Benefits
If you participate in this study, you will help us create awareness on the importance of aligning HRM practices with the environmental objectives of the organization. This may guide policy formulation to ensure that organizations, through their employees, reduce the negative environmental impact arising from their operations and enhance sustainability. You will also help me fulfil the academic requirement of my programme.

Reward
There will be no reward or monetary gain for participating in the study.

Confidentiality
The survey will be conducted with utmost confidentiality. Your name and email will not be collected, only your responses will be submitted once you complete the survey. Codes will be used to identify each respondent. No personal identifying information will therefore appear in any part of the report that will be generated from the study. Everything will be kept private and only shared with the study team.

Contract Information
If you have questions or concerns, please contact: grace.mwamburi@students.jkuat.ac.ke; Dr. E. Waiganjo (ewaiganjo@jkuat.ac.ke) or Dr. A. Simiyu (asimiyu@apd.jkuat.ac.ke). However, if you have questions about your rights as a study participant: You may contact Kenyatta University Ethical Review Committee Secretariat on chairman.kuerc@ku.ac.ke.

Investigator's Statement
I have explained to the volunteer in a language s/he understands, the procedures to be followed in the study and the risks and benefits involved.

1: Do you wish to participate in the survey?

☐ Yes. I have read the above information, clearly understood it and agree to participate in the survey.

☐ No

Declined Participation

You have declined to participate in the survey. Thank you for your time. You may close the browser or click the submit button to exit.

Demographic Data

2: Please indicate the name of your university

(Select one)
▢ Jomo Kenyatta University of Agriculture & Technology (JKUAT)
▢ Kenyatta University
▢ Karatina University

3: Please indicate your position in the University
(Select one)

▢ Top Level Management (Vice-Chancellor; Deputy Vice-Chancellor, College/Campus Principal)
▢ Middle Level Management (Registrar, Dean, Director, Human Resource Manager, Finance Officer, Chief Procurement Officer, Chairperson/Head of Department)
▢ Other: Teaching Staff (Full Professor, Associate Professor)
▢ Other: Teaching Staff (Senior Lecturer, Lecturer)
▢ Other: Teaching Staff (Assistant Lecturer, Tutorial Fellow)
▢ Other: Non-teaching Staff (Grade 13)
▢ Other: Non-teaching Staff (Grade 12)
▢ Other: Non-teaching Staff (Grade 11)
▢ Other: Non-teaching Staff (Grade 9/10; E/F)
▢ Other: Non-teaching Staff (Grade 7/8; C/D)

4: Please indicate your gender

▢ Male
▢ Female

5: Please indicate your age

▢ 30 - 39 years
▢ 40 - 49 years
▢ 50 years and above

6: Please indicate the highest level of your education

▢ Diploma
▢ Bachelors
▢ Masters
▢ PhD

7: How long have you served in your university?

▢ 0 - 4 years
▢ 5 - 9 years
▢ 10 years and above

GREEN EMPLOYEE RESOURCING

Environment-friendly methods, tools and technologies used to attract and select suitable job candidates to fill available vacancies.

8: Please provide your opinion in relation to the statements provided below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
GER1: My university communicates its environmental policy on her website to attract environmentally friendly job applicants	◯	◯	◯	◯	◯
GER2: My university advertises job vacancies online	◯	◯	◯	◯	◯
GER3: My university uses social networking platforms to reach potential job applicants (twitter, Facebook, LinkedIn)	◯	◯	◯	◯	◯
GER4: My university receives job applications electronically	◯	◯	◯	◯	◯
GER5: In my university, candidates shortlisted for interview are invited through email, telephone, or SMS	◯	◯	◯	◯	◯
GER6: My university includes environmental protection as part of job description	◯	◯	◯	◯	◯
GER7: My university selects candidates with environmental awareness to fill job vacancies	◯	◯	◯	◯	◯

9: GER8: Kindly suggest other recruitment practices your university may employ to ensure its recruitment process is environmentally friendly.

_____

_____

GREEN EMPLOYEE TRAINING

A sequence of activities intended to impart environment-protection skills to employees in order to create pro-environmental awareness and knowledge

10: Please provide your opinion in relation to the statements provided below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
GET1: My university conducts training needs analysis to identify environmental-based knowledge gaps to guide in design of environmental training programs.	◯	◯	◯	◯	◯
GET2: My university provides us with environmental training to help us develop knowledge and skills we require to protect the environment	◯	◯	◯	◯	◯
GET3: My university incorporates environmental awareness in induction programs for new employees	◯	◯	◯	◯	◯
GET4: My university incorporates aspects of efficient use of resources, pollution prevention, waste management and recycling when designing training programs	◯	◯	◯	◯	◯
GET5: My university uses digital learning platforms when conducting environmental training	◯	◯	◯	◯	◯
GET6: In my university, induction and course training materials are availed in soft copy	◯	◯	◯	◯	◯

11: GET7: Kindly suggest how else training may be used to equip employees with work behaviours that protect the environment

_____

_____

GREEN PERFORMANCE MANAGEMENT

A system of evaluating activities of employees' performance with regard to environmental sustainability.

12: Please provide your opinion in relation to the statements provided below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
GPM1: My university develops environmental performance targets that employees are required to accomplish in the conduct of their duties.	◯	◯	◯	◯	◯
GPM2: My university considers efficient use of resources (e.g., paper) when evaluating the employees' performance,	◯	◯	◯	◯	◯
GPM3: My university incorporates waste minimization targets such as double-sided printing into the employees' performance appraisal system	◯	◯	◯	◯	◯
GPM4: My university incorporates green performance indicators into our performance management system	◯	◯	◯	◯	◯
GPM5: My university assesses how efficiently employees used resources at their disposal when evaluating the employees' job performance.	◯	◯	◯	◯	◯
GPM6: In my university, supervisors give feedback to their subordinates regarding the environmental impact of their work.	◯	◯	◯	◯	◯

3: GPM7: Kindly suggest how employee performance can be enhanced to promote behaviours that protect the environment in your university.

_____

_____

GREEN EMPLOYEE REWARDS

Monetary or non-monetary incentives aimed at motivating employees to engage in environmental protection activities.

14: Please provide your opinion in relation to the statements provided below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
GRE1: In my university, employees who acquire environmental management skills receive a salary increment	○	○	○	○	○
GRE2: In my university, employees who come up with successful innovations get a salary increment	○	○	○	○	○
GRE3: My university gives bonuses to employees with green competencies that enable them protect the environment as they work	○	○	○	○	○
GRE4: In my university, employees who protect the environment are publicly praised	○	○	○	○	○
GRE5: My university awards certificates of excellence to employees who protect the environment	○	○	○	○	○
GRE6: My university punishes employees who fail to meet environmental protection targets	○	○	○	○	○

15: GRE7: Kindly suggest other rewards that may be necessary to promote pro-environmental behaviours of employees in your university.

_____

_____

GREEN EMPLOYEE INVOLVEMENT

Engaging employees in environmental management practices through various channels such as suggestion schemes, problem solving groups and green action teams among others.

16: Please provide your opinion in relation to the statements provided below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
GEI1: My university clearly communicates her environmental vision to all employees	◯	◯	◯	◯	◯
GEI2: In my university, environmental policy objectives are communicated in every meeting	◯	◯	◯	◯	◯
GEI3: My university regularly sends us reminders on environmental policy objectives via email	◯	◯	◯	◯	◯
GEI4: In my university, employees are encouraged to make suggestions on environmental issues	◯	◯	◯	◯	◯
GEI5: My university uses environmental teams to identify environmental opportunities for exploitation	◯	◯	◯	◯	◯
GEI6: My university uses environmental teams to identify environmental problems and their appropriate solutions	◯	◯	◯	◯	◯

17: GEI7: Kindly suggest other approaches your university may use to ensure employees are more involved in safeguarding the environment while working.

_____

_____

EMPLOYEE PRO-ENVIRONMENTAL BEHAVIOUR

Voluntary or prescribed activities undertaken by individuals at work in order to protect the natural environment.

18: Please provide your opinion in relation to the statements provided below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
EPEB1: I proof-read, edit on screen and save my documents electronically	◯	◯	◯	◯	◯
EPEB2: Whenever I must print or photocopy, I use both sides of the paper (double-sided printing)	◯	◯	◯	◯	◯
EPEB3: Whenever I need to relay a information, I send emails instead of paper correspondence	◯	◯	◯	◯	◯
EPEB4: I participate in periodic clean-up drives organized for all employees to keep our environment clean	◯	◯	◯	◯	◯
EPEB5: I encourage my colleagues to adopt environmentally friendly behaviour when performing their duties to minimize pollution	◯	◯	◯	◯	◯
EPEB6: I encourage my colleagues to dispose waste responsibly	◯	◯	◯	◯	◯
EPEB7: I make suggestions on ways to protect the environment	◯	◯	◯	◯	◯
EPEB8: I volunteer for activities that address environmental issues in my university such as tree-planting	◯	◯	◯	◯	◯

19: Is your university a member of the Kenya Green University Network?

▢ Yes
▢ No
▢ I don't know

Appendix IV: Document Analysis Guide

S/No.	Attribute	Description	Indicate your Response
1.	Environmental Policy	Availability	
2.	a) Green Employee Resourcing	No. of job adverts posted electronically	Kindly indicate no. of adverts placed online over the years below: - Year — No. of Online Job Adverts 2016 …… 2017 …… 2018 …… 2019 …… 2020 ……
		No. of applications received electronically	For each year, please indicate trend in numbers of the applications received via the web after advertising: Year — No. of Online Job Adverts 2016 …… 2017 …… 2018 …… 2019 …… 2020 ……
	b) Green job descriptions	Availability	
3.	Environment-related training	No. of green trainings conducted	Please indicate number off environmental trainings conducted in the years shown below: Year — No. of Green Trainings 2016 …… 2017 …… 2018 …… 2019 …… 2020
4.	Green performance evaluation	Electronic performance evaluation	
5.	e-service delivery	Services delivered electronically	

Appendix V: List of Public Chartered Universities (CUE, 2017)

No	Name of University	Year of Establishment	Year of Award of Charter
1.	University of Nairobi	1970	2013
2.	Moi University	1984	2013
3.	Kenyatta University	1985	2013
4.	Egerton University	1987	2013
5.	Jomo Kenyatta University of	1994	2013
6.	Maseno University	2001	2013
7.	Chuka University	2007	2013
8.	Dedan Kimathi University of	2007	2012
9.	Kisii University	2007	2013
10.	Masinde Muliro University	2007	2013
11.	Pwani University	2007	2013
12.	Technical University of Kenya	2007	2013
13.	Technical University of	2007	2013
14.	Maasai Mara University	2008	2013
15.	Meru University of Science	2008	2013
16.	Multimedia University of	2008	2013
17.	South Eastern Kenya	2008	2013
18.	Jaramogi Oginga Odinga	2009	2013
19.	Laikipia University	2009	2013
20.	University of Kabianga	2009	2013
21.	Karatina University	2010	2013
22.	University of Eldoret	2010	2013
23.	Kibabii University	2011	2015
24.	Kirinyaga University	2011	2016
25.	Machakos University	2011	2016
26.	Murang'a University of	2011	2016
27.	Rongo University	2011	2016
28.	Taita Taveta University	2011	2016
29.	The Co-operative University	2011	2016
30.	University of Embu	2011	2016
31.	Garissa University	2011	2017
	TOTAL 31		

Appendix VI: Results of Factor Analysis

Table 4.62: Results for KMO and Bartlett's Test of Sphericity

Green Employee Resourcing	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.780
	Bartlett's Test of Sphericity	Approx. Chi-Square	327.668
		df	21
		Sig.	.000
Green Employee Training	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.840
	Bartlett's Test of Sphericity	Approx. Chi-Square	446.827
		df	15
		Sig.	.000
Green Performance Management	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.822
	Bartlett's Test of Sphericity	Approx. Chi-Square	256.129
		df	21
		Sig.	.000
Green Employee Rewards	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.741
	Bartlett's Test of Sphericity	Approx. Chi-Square	229.917
		df	15
		Sig.	.000
Green Employee Involvement	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.879
	Bartlett's Test of Sphericity	Approx. Chi-Square	352.459
		df	15
		Sig.	.000
Employee Pro-Environmental Behaviour	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.706
	Bartlett's Test of Sphericity	Approx. Chi-Square	368.997
		df	22
		Sig.	.000

Table 4.63: Factor Loadings and Communalities for Green Employee Resourcing

Construct	Factor Loading		Communalities
	1	2	
My university communicates its environmental policy on her website to attract environmentally friendly job applicants	.839		.765
My university advertises job vacancies online	.858		.845
In my university, candidates shortlisted for interview are invited through email, telephone, or SMS	.897		.861
My university includes environmental protection as part of job description		.896	.908
My university selects candidates with environmental awareness to fill job vacancies		.896	.767
My university receives job applications electronically		.737	.868
My university uses social networking platforms to reach potential job applicants (twitter, facebook, LinkedIn etc)		.831	.762

Extraction Method: Principal Component Analysis.
Rotation Method: VARIMAX with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Table 4.64: Total Variance Explained for Green Employee Resourcing

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.386	62.656	62.656	4.386	62.656	62.656
2	1.299	18.555	81.211	1.299	18.555	81.211
3	.586	8.369	89.580			
4	.441	6.303	95.883			
5	.168	2.403	98.286			
6	.067	.960	99.245			
7	.053	.755	100.000			

Extraction Method: Principal Component Analysis.

Table 4.65: Factor Loadings and Communalities for Green Employee Training

Construct	Factor Loadings	Communalities
My university conducts a training needs analysis to identify environmental-based knowledge gaps to guide in design of environmental training programs.	.616	.734
In my university, training all employees on the university's environmental policies and procedures is mandatory	.863	.745
My university incorporates environmental awareness in induction programs for new employees	.860	.740
My university incorporates aspects of efficient use of resources, pollution prevention, waste management and recycling when designing training programs	.914	.836
My university uses digital learning platforms when conducting environmental training	.749	.561
In my university, induction and course training materials are availed in soft copies	.913	.834

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Table 4.66: Total Variance Explained for Green Employee Training

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.094	68.240	68.240	4.094	68.240	68.240
2	.941	15.683	83.923			
3	.469	7.824	91.747			
4	.324	5.402	97.148			
5	.157	2.617	99.765			
6	.014	.235	100.000			

Extraction Method: Principal Component Analysis.

Table 4.67: Anti-image Correlation Matrix for Green Performance Management

		GPM1	GPM2	GPM3	GPM4	GPM5	GPM6	GPM7
Anti-image Correlation	GPM1	.912[a]	-.099	-.328	-.283	-.006	-.163	-.229
	GPM2	-.099	.660[a]	-.372	.338	.204	-.327	-.696
	GPM3	-.328	-.372	.674[a]	.070	-.620	-.261	.684
	GPM4	-.283	.338	.070	.821[a]	-.353	-.405	-.109
	GPM5	-.006	.204	-.620	-.353	.773[a]	.082	-.482
	GPM6	-.163	-.327	-.261	-.405	.082	.875[a]	.092
	GPM7	-.229	-.696	.684	-.109	-.482	.092	.413[a]

a. Measures of Sampling Adequacy (MSA)

Table 4.68: Factor Loadings and Communalities for Green Performance Management

Construct	Factor Loadings	Communalities
My university develops environmental performance targets that employees are required to accomplish in the conduct of their duties.	.916	.840
My university incorporates efficient use of resource such as paper into the employees' performance contracts	.662	.439
My university incorporates waste minimization targets such as double-sided printing into the employees' performance contracts	.875	.766
My university Uses green performance indicators in our performance management system	.840	.705
My university assesses how efficiently employees used resources at their disposal when evaluating job performance of the employees.	.893	.797
My university requires supervisors to give appropriate feedback to their subordinates regarding the environmental impact of their work.	.904	.816

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Table 4.69: Total Variance Explained for Green Performance Management

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.362	72.701	72.701	4.362	72.701	72.701
2	.710	11.832	84.533			
3	.336	5.600	90.132			
4	.278	4.636	94.768			
5	.197	3.282	98.051			
6	.117	1.949	100.000			

Extraction Method: Principal Component Analysis.

Table 4.70: Factor Loadings and Communalities for Green Employee Rewards

Construct	Factor Loadings	Communalities
My university rewards employees who acquire environmental management skills that enable them protect the environment as they work.	.926	.858
In my university, employees who come up with successful environmental innovations are rewarded with a salary increase	.865	.749
My university gives competence-based rewards to employee who acquire skills that enable them to protect the environment as they work	.781	.610
In my university, employees who protect the environment are publicly praised	.800	.640
My university awards certificates of excellence to employees who protect the environment	.872	.761
My university prescribes punishments for employees who fail to meet environmental protection objectives.	.722	.522

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Table 4.71: Total Variance Explained for Green Employee Rewards

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.140	69.000	69.000	4.140	69.000	69.000
2	.861	14.351	83.351			
3	.462	7.702	91.052			
4	.346	5.770	96.823			
5	.166	2.770	99.593			
6	.024	.407	100.000			

Extraction Method: Principal Component Analysis.

Table 4.72: Factor Loadings and Communalities for Green Employee Involvement

Construct	Factor Loadings	Communalities
My university clearly communicates her environmental vision to all employees	.728	.530
In my university, environmental policy objectives are communicated in every meeting	.954	.910
My university regularly sends us reminders on environmental policy objectives via email	.943	.889
In my university, employees are encouraged to make suggestions on environmental issues	.887	.787
My university uses environmental teams to identify environmental opportunities for exploitation	.918	.842
My university uses environmental teams to identify environmental problems and their appropriate solutions	.903	.816

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Table 4.73: Total Variance Explained for Green Employee Involvement

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.773	79.552	79.552	4.773	79.552	79.552
2	.670	11.162	90.714			
3	.282	4.708	95.422			
4	.176	2.935	98.357			
5	.070	1.168	99.525			
6	.029	.475	100.000			

Extraction Method: Principal Component Analysis.

Table 4.74: Communalities for Employee Pro-Environmental Behaviour

	Communalities	
	Initial	**Extraction**
In my university we use an online portal for our performance reviews	1.000	.173
In my university, we use an online system to apply for leave	1.000	.104
I proof-read, edit on screen and save my documents electronically	1.000	.818
We receive our payslips electronically	1.000	.016
We have an online suggestion scheme	1.000	.495
Whenever I must print or photocopy, I use both sides of the paper (double-sided)	1.000	.519
I print my work only when it is necessary to do so	1.000	.155
Whenever I need to relay a message, I send emails instead of paper correspondence	1.000	.708
I print every document I receive (r)	1.000	.050
I turn off my computer monitor when away from my desks for more than 30 minutes	1.000	.001
I switch off my computer when leaving the office at the end of the day	1.000	.009
1 switch off office lights when there is sufficient day light	1.000	.002
Whenever I need to relay a message, I send emails instead of hard copy memos	1.000	.114
When it is necessary to send a printed document, I re-use old envelopes for internal communication	1.000	.119
In my university, we hold virtual rather than in-person meetings	1.000	.264
I participate in periodic clean-up drives organized for all employees to keep our environment clean	1.000	.766
I dispose waste (paper, plastic and food) without separation (r)	1.000	.050
I opt for public transport to commute rather than drive to work	1.000	.355
I opt for carpooling to commute rather than drive to work	1.000	.232
In my university, management encourages vehicle-owning employees to use public transport rather than drive to work in order to minimize carbon emissions in to the environment.	1.000	.306
I encourage my colleagues to dispose waste responsibly	1.000	.589
I encourage my colleagues to adopt environmentally friendly behaviour when performing their duties to minimize pollution	1.000	.709
I make suggestions on ways to protect the environment	1.000	.639
My university organizes periodic clean-up drives for all employees to keep her environment and the neighbouring community clean	1.000	.435
I volunteer for activities that address environmental issues in my university such as tree-planting	1.000	.550

Extraction Method: Principal Component Analysis.

Table 4.75: Communalities for Employee Pro-environmental Behaviour for the Respecified Factor Model

Construct	Factor Loadings	Communalities
I proof-read, edit on screen and save my documents electronically	.728	.810
Whenever I must print or photocopy, I use both sides of the paper (double-sided)	.954	.568
Whenever I need to relay a message, I send emails instead of paper correspondence	.943	.743
I participate in periodic clean-up drives organized for all employees to keep our environment clean	.887	.575
I encourage my colleagues to dispose waste responsibly		.759
I encourage my colleagues to adopt environmentally friendly behaviour when performing their duties to minimize pollution	.918	.809
I make suggestions on ways to protect the environment		.538
I volunteer for activities that address environmental issues in my university such as tree-planting	.903	.614

Extraction Method: Principal Component Analysis.
a. 1 component extracted.

Table 4.76: Total Variance Explained for Employee Pro-environmental Behaviour

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.415	67.692	67.692	5.415	67.692	67.692
2	.850	10.630	78.322			
3	.787	9.835	88.158			
4	.364	4.546	92.704			
5	.309	3.868	96.572			
6	.134	1.679	98.250			
7	.089	1.118	99.368			
8	.051	.632	100.000			

Extraction Method: Principal Component Analysis.