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Evaluating the impact of Green Human Resource Management on the environmental performance of the higher education institutes: Mediating effect of organisational behaviour of the Academic Staff of Saudi Arabian universities

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Abstract

This research delves into the realm of Green Human Resource Management (GHRM) within Saudi Arabian universities, focusing on its influence on Organisational Citizenship Behaviour for the Environment (OCBE) among employees in Higher Education Institutions (HEIs) in Saudi Arabia. The study explores the Ability Motivation-Opportunity (AMO) theory in the context of GHRM and its applicability to academic staff. The study, employing both qualitative and quantitative methodologies, gathered data from 171 academics. The findings underscore the potential of GHRM in enhancing environmental performance within universities. Notably, the research highlights the mediating role of OCBE between GHRM and environmental performance, emphasising the pivotal role of academic staff in championing environmental initiatives. Furthermore, the study emphasises the importance of green training, advocating for the integration of eco-centric curricula crafted by environmental experts. Such curricula not only foster sustainability goals among students but also elevate the institution's environmental stature.

Keywords: *Green Human Resource Management, Academic Staff, Higher Education Institutes, Saudi Arabia.*

JEL Classification: M12, M54. O15

Introduction

GHRM is a novel concept that emerged in the early 2000s, and its definition has evolved dramatically over the last decade. It was characterised as strategically aligning the employee's involvement, participation with organisation's green objectives from holistic perspective (Renwick et al. 2013, Roscoe et al., 2019, Shaban, 2019, Shafaei et al., 2020. It was recognised that success of GHRM is dependent on employee's pro-environmental behaviours and actions which include green conduct, green performance and green talent (Ali et al., 2020). Pro-environmental behaviour is defined as individual knowledge and awareness of environment and environmental protection Uddin et al. 2015). Every individual has a distinct socio-cultural perspective and set of beliefs that influence their working style. As a result, pro-environmental attitudes, and behaviour manifest in both personal and professional situations (Usman et al., 2023). Especially in organizations such as higher education institutes (HEIs) where substantial HRM implementation is not only for the sustainability of the education industry but also for the development of a skilled workforce that can drive growth and innovation in other sectors

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(Wikham, 2019, Albort-Morant et al., 2016).

Establishing campus sustainability is a complex process that necessitates a concerted effort of a systematic and integrated strategy (Alshuwaikhat, et al.,2008). GHRM has been proposed by several universities and many institutions have targeted its implementation in part by defining a sustainability strategy and carrying out some relevant activities without a formal framework to ensure successful planning, execution, and monitoring of their efforts (Aragao et al.,2017). To cope with the sustainability difficulties during campus operations, university systems in Saudi Arabia, particularly their campus operations and programs, require the participation of the management systems, academic staff, and students (Ansari et al., 2021, Anwar et al. 2020). This necessitates the successful integration of sustainability development concepts through a strong institutional structure. Combining teaching, research, campus activities, and community service in Saudi public institutions is critical for developing clear perceptions and behaviour among all stakeholders involved in sustainability, including students, senior staff, project management staff, and committees. Saudi Arabia's education system and courses are increasingly aligned with the principles of sustainable development, despite this being a slow process (Aldiab et al. 2017). Steps have been taken over the years to develop and improve curricula at all levels to create a pool of sustainable development believers and practitioners and focus has been creating the resources of green academics and curriculum development (Battal, 2016, Khan et al., 2020, Onsman, 2010)

Much research has shown that including sustainable capabilities in university, curricula can help senior employees develop green competencies and allied behaviour (Sulphey et al., 2018, Anwar et al. 2020). Educators will need to learn and adapt to new abilities to put a transformative education vision into action. Future educators should be made aware that obtaining these competencies is required for their professional development, and that the effects of green teaching extend beyond classroom learning to contribute to a more sustainable society (Castro-Lpez et al., 2022, Kovalenko et al., 2023). Furthermore, green abilities must be recognised and prioritised in personnel selection. Although there is broad agreement on the introduction of green practices in higher education, significant funding for green projects is lacking (Onsman, 2010). Collaboration is required to include sustainability in educational techniques and plans. Formal acknowledgement is an excellent incentive for educators to seek green behaviours, and prizes, whether monetary or non-monetary, can further entice instructors to adopt green behaviours. This research delves into the realm of Green Human Resource Management (GHRM) within Saudi Arabian universities, focusing on its influence on Organisational Citizenship Behaviour for the Environment (OCBE) of the academic staff and how can this be mediated to environmental performance of the higher education institutes.

Literature Review

AMO Theory-Based Implementation of GHRM for Academic Staff

The Ability-Motivation-Opportunity theory (AMO) is the most influential in understanding the impact of HRM practices on organisational performance, according to empirical studies (Appelbaum, 2000; Boselie et al. 2005; Bos-Nehles, et al. 2023; Salvador-Gómez, et al. 2023). According to AMO theory, High-Performance Work Practices (HPWS) is a collection of distinct but interconnected HR practices structured around three core aspects: ability, incentive, and opportunity (Appelbaum, 2000; Mehralian, et al. 2023). A collection of activities, including hiring and selection, as well as training and development programs, ensures that staff have the knowledge and skills necessary to execute defined jobs. Similarly, motivation is based on

methods such as performance reviews and financial and non-financial incentives designed to motivate employees to work harder to meet performance targets. Opportunity is a set of behaviours that stimulate employee participation in activities such as participation, information exchange, and autonomy-enhancing practices (Marin-Garcia and Tomas, 2016). According to Appelbaum's (2000) AMO paradigm, HRM practices that improve employees' abilities, excitement for work, and involvement in available opportunities result in employees' organisational citizenship behaviour, which adds to organisational performance; these behaviours serve as a conduit between the latter and HPWS (Appelbaum, 2000; Marin-Garcia and Tomas, 2016).

Researchers have investigated GHRM in a variety of disciplines using AMO theory as a lens (i.e., Cheema and Javed, 2017; Fawehinmi et al. 2020; Pham et al. 2019; Pinzone et al. 2016; Singh et al. 2017; Yu et al. 2020). Fawehinmi et al. (2020) investigated the role of green behaviour, environmental knowledge, and GHRM among professors at public research universities. Cheema and Javed (2017) looked at the impact of corporate social responsibility, GHRM, and sustainability on the textile industry. Pinzone et al. (2016) examined GHRM practices in the healthcare sector, as well as collective affective commitment to environmental management change and collective organisational citizenship behaviour. Pham et al. (2019) investigated the relationship between green training, green employee involvement, green performance management, and OCBE in the hotel industry. Yu et al. (2020) did research on GHRM, internal green supply chain management, and environmental engagement with automobile consumers and suppliers. Ragas et al. (2017) studied the relationship between GHRM practices, a green lifestyle, and job performance in a variety of private enterprises. More recently, Singh et al. (2020) explored how green transformational leadership, green innovation, and environmental performance interact in small and medium-sized manufacturing enterprises. In this study, three ways for AMO-theory-based GHRM application on academic employees is investigated.

i. Relationship between AMO-based GHRM constructs - green competence building, green motivation, and green involvement to realise OCBE.

ii. Relationship between OCBE and the environmental performance of employees

iii. The mediating role of academic staff's OCBE to set GHRM practices and environmental performance of the university.

The Relationship Between Green Competence Building Practices and OCBE

Green competence-building practices include green recruitment and selection, as well as green training and development programs, for increasing employees' environmental awareness and skills (Teixeira et al. 2012; Usman, et al. 2023), so that they can identify environmental issues and take appropriate actions to ameliorate negative environmental impacts. According to Renwick et al. (2013), job seekers prefer to work for companies that have a strong reputation for environmental stewardship. Similarly, recruiters prefer applicants who are environmentally conscious and have a positive attitude about the environment because they are more inclined to participate in eco-initiatives (Jabbour et al. 2010). Furthermore, environmental training and development programs are critical for improving employees' environmental management skills and attitudes (Teixeira et al. 2012). Green training raises an employee's awareness of the importance of environmental protection, increases his or her ability to adapt to change, and teaches him or her basic ways for conserving energy and reducing waste at work (Jabbour, 2015).

Green training fosters the capacity to solve environmental concerns by adding knowledge management that facilitates the relationship between environmental knowledge and environmental behaviour. The following hypothesis is posited based on the above argument:

H1: Green competence building techniques are associated with OCBE.

The Relationship Between Green Motivation-Enhancing Practices and OCBE

The goal of green motivation enhancement strategies such as performance evaluation and awarding prizes is to inspire employees to align their actions with the environmental goals of a firm (Harvey et al. 2013). Incorporating environmental responsibilities into a performance management system clarifies what an employee is required to do about environmental issues. The growth of an employee's environmental management knowledge, skills, and talents is aided by regular feedback on his or her performance (Harvey, et al., 2013). Furthermore, rewarding an employee for good environmental actions improves his or her environmental organisational citizenship behaviour and sense of responsibility (Daily and Huang, 2001; Govindarajulu and Daily, 2004). Green incentives can include both financial and non-financial benefits such as recycling incentives, flexible work schedules telecommuting to save money on transportation, adding free bicycles or pollution-free automobiles, or associating promotion opportunities with environmental performance (Anwar et al., 2020). Additionally, a mix of monetary and nonmonetary rewards is thought to be more effective in motivating employees' participation in environmental activities (Renwick et al. 2013). Yet, for employees whose performance does not meet an organisation's expectations regarding green objectives, using disincentives as a type of negative reinforcement can motivate them to become more accountable (Tang et al. 2017). As a result, the following hypothesis is advanced:

H2: Green motivation-boosting techniques are associated with OCBE.

The Relationship Between Green Employee Involvement Practices and OCBE

Green employee participation practices relate to the provision of opportunities for employees to have a voice in environmental management and to contribute solutions to such concerns inside the workplace (Dumont et al., 2017). Empowering employees to participate in environmental management decision-making increases their self-efficacy and problem-solving ability, according to research (Govindarajulu and Daily, 2004; Renwick et al. 2008). Through open debate, the interchange of ideas, and the sharing of varied perspectives on environmental concerns, participation opportunities contribute to the establishment of a pro-environmental culture. Defining a clear environmental vision and spreading information through multiple formal and informal communication channels, according to Tang et al. (2017), motivates employees to participate in environmental initiatives. Furthermore, using green teams is critical for organisations looking to improve their environmental management methods and overall credibility. Teamwork allows employees to interact, share skills, and provide novel solutions to complex problems (Daily et al. 2009). As a result, the following hypothesis is put forward:

H3: Green employee involvement practices are associated with OCBE.

The Relationship Between OCBE and Environmental Performance

OCBE is critical to the successful implementation of environmental management systems and the incorporation of environmental requirements into workplace practices, according to Roy et al. (2001). Eco-helping, eco-civic participation, and eco-initiatives are the three categories of pro-environmental actions identified by Boiral and Paillé (2012). To begin, eco-initiatives are

employee-led activities that aim to reduce or remove environmental wastage at work, such as recycling paper, properly disposing of trash, and avoiding resource misuse. Second, eco-civic engagement comprises organisational employee activities such as participation in green events and projects, promotion of the organisation's green reputation, and voluntary participation in environmentally friendly operations. Finally, encouraging employees to be environmentally responsible is part of eco-helping. Among other things, this type of behaviour is distinguished by the voluntary interchange of ideas and talents, as well as teamwork for the detection of pollution sources and the development of preventative measures.

Researchers investigated the OCBE of individuals in a variety of businesses. For example, Boiral et al. (2015) explored the impact of managers' OCBE in industrial organisations and discovered a significant association between a manager's engagement in OCBE and his/her business's environmental management practices. Similarly, Paillé et al. (2014) looked at the pro-environmental behaviours of frontline workers in a Chinese manufacturing enterprise and empirically showed that OCBE improves its environmental performance. Although the OCBE Environmental performance relationship has been studied in the context of manufacturing organisations, it has not been studied in the context of academic staff OCBE and a university's environmental performance. According to Rayner and Morgan (2017), it is unknown if university staff are environmentally more conscientious than industrial employees. Based on the above discussion, the following hypothesis is proposed for this enquiry:

H4: OCBE is associated with improved environmental performance.

Past research has claimed that an organisation's performance is not directly linked to the implementation of HR rules, but rather to employees' discretionary efforts. The purpose of HR practices is to develop employees' organisational citizenship so that when individuals go above and beyond their roles or responsibilities to put in extra effort, assist coworkers, and support workplace activities, organisational performance should be high (Mousa et al.,2020). OCBE is hypothesised to be a linking mechanism between HR and environmental performance, like the role of OCB in the relationship between HR and performance (Paillé et al. 2014). Paillé et al. (2014) investigated the relationship between strategic human resource management, organisational citizenship, and environmental performance. The association between strategic HRM and environmental performance was shown to be moderated by OCBE. The study discovered that strategic HRM contributes to an organisation's environmental performance.

Furthermore, Obeidat et al. (2020) collected data from environmental managers in 170 cross-industry organisations and discovered that high-performance HR practices, such as employee participation skills, translate into higher environmental performance through employee manifestation of OCBE. In their work, Pinzone et al. (2016) claimed that GHRM practices increased OCBE, but Daily et al. (2009) asserted that OCBE leads to improved environmental performance. As a result, OCBE is offered as a vehicle for transforming GHRM practices into improved environmental performance. The studies support OCBE's role as a mediator. Nevertheless, Paillé et al. (2014) investigated the role of OCBE in the mediation of strategic HRM and environmental performance rather than GHRM and environmental performance. Similarly,Anwar et al., (2020) did not include any additional HR initiatives in their employee engagement research. OCBE is yet to be properly investigated concerning GHRM and environmental performance, especially in a university setting. As a result, the following hypotheses are proposed:

H5: OCBE acts as a go-between for green construction techniques and environmental

performance.

H6: OCBE acts as a go-between for green motivation-boosting methods and environmental performance.

H7: OCBE acts as a go-between for green employee involvement methods and environmental performance.

The conceptual model for this study is illustrated in Figure.1 below and is guided by the AMO framework, the theoretical debate, the empirical results of prior investigations, and the proposed hypotheses indicated above.

Data and Methodology

Survey for Academic Staff

Data availability: 10.6084/m9.figshare.28836179

Sustainability Assessment Questionnaire (SAQ) has been used by numerous institutions in the developing world, particularly those in the Middle East and North Africa (MENA) region, to conduct campus sustainability evaluations. However, most learning institutions in the Middle East and Saudi Arabia are not making the necessary restructuring and adjustments to incorporate sustainability. To advance sustainability goals in universities around the world, numerous treaties and cooperative initiatives have been signed, including the Tallories Declaration, The Association of University Leaders for Sustainable Future, Second Nature, The Australasian Campuses Towards Sustainability, and others. The implementation of GHRM in the university system, which is recognised as a critical step to achieving sustainable development goals in the higher education system around the world, has been vigorously pushed by education leaders.

There are still gaps in our knowledge concerning GHRM in Saudi Arabia, and its effective implementation remains problematic, despite the importance of the SAQ, declarations on higher education, and specific policies for advancing universities' environmental sustainability. In recent years, some universities have launched ad hoc green initiatives, but due to a lack of understanding of sustainability and a shortage of sustainability experts, these initiatives have had trouble being implemented and followed up. Campus sustainability is a key element of the King Fahd University of Petroleum and Mines' (KFUPM's) 2012 strategic plan, while King Abdulaziz University (KAU) aimed to bring about significant change by integrating sustainability educational programs, research, and practice by 2020 (Tayeb, Ritzen, and Zahed, 2016). A "university of world-class excellence with a dedication to sustainability and community participation" is the unique mission of KAU. King Abdullah University of Science and Technology (KAUST) is committed to sustainable growth, and in 2010 the campus was awarded a Platinum certification on the Leadership in Energy and Environmental Design (LEED) scale. This is because of the innovative and environmentally friendly design on campus. The effective implementation of GHRM in Saudi universities requires integration of all levels of operation in the institution, starting from the top level, i.e., the management committee, the middle level the academic staff and then the third level which is the student body. Imploring green behaviours in the academic staff through effective implementation of GHRM can significantly improve the environmental performance of the university.

A closed-ended questionnaire was used to conduct in-depth interviews with academic staff from several Saudi Arabian universities, including Shaqra University, King Khalid University, Saudi Electronic University, King Abdulaziz University, Al Jeddah University, and more. The

interviews focused on the five GHRM components and how they affected the academic staff's ability, motivation, and opportunities to be more environmentally friendly. The poll also inquired about how the institution's environmental performance was shaped by the green behaviour of its teaching staff. Convenience sampling was used to carry out a cross-sectional survey. Academic professionals from various faculties who were easily accessible and eager to participate in this study made up the sample.

Between August and November of 2022, data were gathered for this study. The PLS-SEM literature's most popular method for choosing sample sizes for structural equation modelling is power analysis (Hair et al. 2017). The statistical power of PLS-enhanced SEM is quite useful for exploratory studies that examine less-formed or still-evolving ideas (Wold, 1985). According to Hair et al. (2016), a power analysis based on the constructs in a model with the most predictors should be used to estimate the smallest sample size. A sample size of at least 103 was required for the PLS path model in this investigation to identify a minimum R2 value of 0.13 at the suggested statistical power of 80% and a importance level of 5%. 300 surveys were physically delivered to the offices of academic staff, and 171 viable responses were gathered. 40.6% of respondents answered (122 usable responses). According to Cohen (1992), who used power analysis to determine the minimum threshold of 103, the 171 total responses in this study satisfy the smallest sample size criterion for PLS-SEM analysis.

Measures

The scientific literature served as the source of the measuring items for each construct. The individual was the unit of analysis because the goal of this study is to ascertain the relationship between GHRM practices, OCBE, and environmental performance based on the judgements of academic staff. Units of measurement are listed in the supplementary section. Green recruitment and green training are the two parts that make up the structure of green competence-building strategies. Like this, the idea of motivation-boosting green activities consists of two components: green performance and green rewards. Tang et al. (2017) provided the basis for all the metrics used to measure green employee participation, green training, green performance, and green awards. A 10-point Likert scale with the following ranges was used: 1–3 (very unlikely), 4–6 (maybe to likely), and 7–10 (very likely). A total of 17 items were given by Tang et al. (2017), for instance, "My university offers environmental awareness activities and workshops to boost my environmental understanding". The ten-item scale developed by Boiral and Paillé (2012) was selected to assess organisational environmental citizenship practices. The three components of OCBE that these 10 items cover are eco-initiatives, eco-civic involvement, and eco-helping. The word "organisation" has been replaced throughout the document with "university." This kind of remark might be, "I actively participate in university-sponsored environmental events." Responses were graded on a Likert scale of 1 to 10, with 1 being very unlikely, 10 being very likely, and 10 being maybe likely (highly likely). Larrán Jorge et al. (2016) provided 16 items that were chosen to measure environmental performance on college campuses. Environmental performance was measured in terms of things like management and policy, waste management, pollution reduction, standard compliance, biodiversity, environmental awareness, and research. Items like "Energy conservation practices are encouraged on my campus" are one of these. Once more, replies were rated on a 10-point Likert scale: 1–3 (very unlikely), 4–6 (maybe to very likely), and 7–10 (very likely) (extremely likely).

PLS-SEM emphasises prediction when estimating statistical models whose structures are meant to offer causal explanations. PLS-SEM is a causal-predictive approach to SEM (Sarstedt et al.

2017a). Structural equation modelling (SEM) is a powerful and popular multivariate analysis tool in the social sciences. Applications range from straightforward to in-depth analyses of measurement equivalence for lower- and higher-order constructs. The key aspects of PLS- SEM are described in Figure 1.

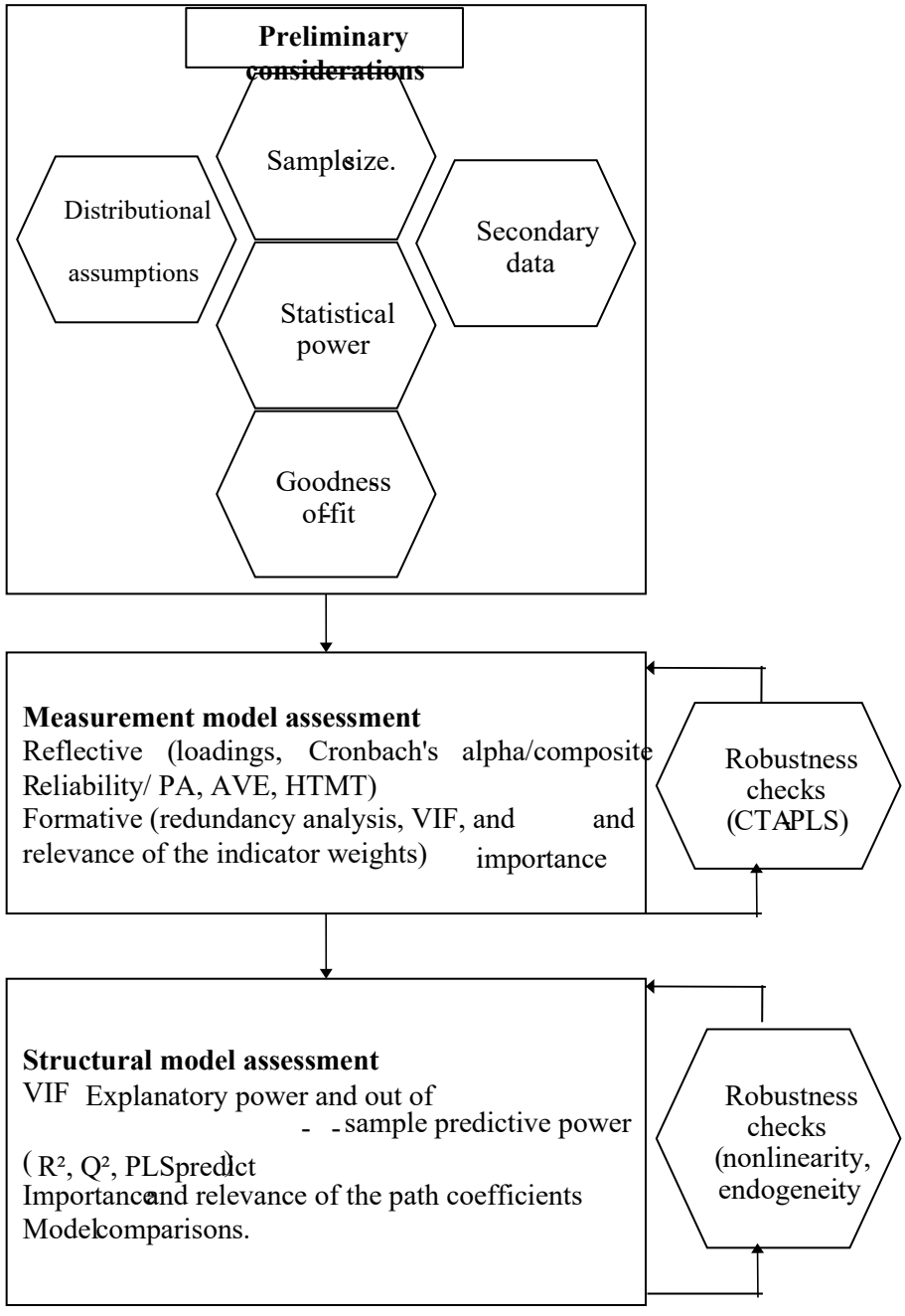

Figure 1: Aspects and Statistics to Consider in PLS-SEM Analysis.

Analysing PLS-SEM data starts with looking at measurement models. Constructions that are reflecting or formative must meet different standards. Researchers must assess the structural model if the measurement models meet all the requirements (Hair et al. 2017a). PLS-SEM provides criteria for assessing model findings. Rules of thumb are general instructions that explain how to interpret the findings and are frequently reliant on the situation. For instance, research that relies on known measurements should have a reliability of 0.70 or higher, whereas exploratory research should have a minimum reliability of 0.60. So, performing one or more robustness checks to confirm the consistency of the results is the last stage in interpreting PLS-SEM data. The usefulness of these robustness checks depends on the circumstances of the study, including the goal of the analysis and the data's accessibility.

Results and Discussions

Approximately 201 academic staff from Saudi Arabian universities participated in interviews, with 171 responses deemed usable. The sampling was done via convenience sampling. Notably, males represented 75% of the respondents, potentially due to socio-economic and cultural factors in Saudi Arabia that historically favoured males in academia. While efforts to increase female participation exist, the gender disparity remains a reflection of entrenched norms. Male dominance in survey participation might suggest a higher propensity for engagement in such studies. The data additionally reveals a youthful academic community, with 62% of respondents aged between 25-35 years. Most respondents (approximately 68%) hold doctoral degrees, indicating a high qualification threshold for academic roles within Saudi Arabian universities. In terms of years of employment, 20 percent had worked for one year, 27 percent for two years, and 49 percent had four years of experience

Constructs Based on AMO Theory

Researchers have explored Green Human Resource Management (GHRM) across various domains using AMO theory. This theory integrates ability, motivation, and opportunity to explain the contributions of GHRM to environmental sustainability. Studies, such as those by Fawehinmi et al. (2020), highlight the impact of GHRM, emphasizing the need for training and development to enhance green competence. Training alone, however, is insufficient. It must be coupled with opportunities and motivation to maximize employee contributions toward environmental goals. Green competence-building practices, like recruitment, training, and development programs, improve employee awareness and skills, enabling them to address environmental issues effectively. Strategies to enhance green motivation—such as performance reviews and rewards—encourage behaviours aligned with environmental objectives. Integrating environmental criteria into performance management systems clarifies responsibilities and fosters expertise in environmental management. Rewards for exemplary environmental performance strengthen commitment and encourage positive organizational citizenship behaviour.. In Saudi Arabian universities, the adoption of GHRM was assessed, with 46 questions exploring its components' impact on green behaviours. Results revealed that about 50% of staff doubted the national and international recognition of their green initiatives. Around 80% perceived the university's support for green research and projects as unlikely. While 36% did not understand GHRM, 40% did.

Promoting a green orientation among employees is crucial for encouraging participation in environment-related projects. Training enhances knowledge and skills for analysing environmental issues. However, without motivation and opportunities, these gains may not be utilized. Green performance incentives are vital for motivation, yet most staff perceived these as

lacking. Approximately 63% doubted financial benefits for green behaviours, and 76% felt the university did not support green education. The opportunity to engage is a key factor for motivated, trained employees. Employee involvement fosters continuous improvement. Academic staff, closely linked to students, can significantly influence their attitudes toward green practices. 57% reported a mutual learning environment for green behaviours, yet students' interest in green subjects was low, attributed to limited green job prospects.

Green Competence Building (GC)

The analysis of the questions designed to investigate the development of green competence (GC) in Saudi Arabian universities has revealed that academic staff have demonstrated a lack of competence in green education. As a result, there is a need for green training programs to enhance the abilities of the staff and build their green competence.

Green Competence Factors	N	Mean
GS1	171	3.9240
GS2	171	2.18
GS3	171	2.3626
GT1	171	2.1345
GT2	171	2.0585
GT3	171	1.9766
GT4	171	1.7485

Table 1: Descriptive Statistics of Ability

As can be seen from Table 1 above, on average the academic respondents were unlikely to know about HRM and their university's sustainability initiatives. This means that there is a poor understanding amongst the respondents of green issues. They were almost extremely unlikely to be encouraged to study green topics or publish peer-reviewed articles on green or environmental issues.

Likert scale data is ordinal data where arithmetical operation cannot be applied. So, to find the relationships between the variables such as correlation, we used Kendall's Tau as it is used when data is ordinal. As depicted in Table 2 the analysis's findings point to a strong correlation between several factors about green education and selecting academic staff who are knowledgeable about the environment. There is a connection between the possibility of employing these types of academic staff, the faculty's research agenda for environmental issues, and encouragement to study these issues. The opportunity to hire faculty with green skills, support for green teaching and research, and the inclusion of professors with green expertise are all positively correlated with institutions that offer environmental awareness training and seminars.

		GS1	GS2	GS3	GT1	GT2	GT3
GS1	*Correlation Coefficient*	1.000	.024	.194**	.116	.010	.057
	Sig. (2-tailed)	-	.704	.003	.071	.874	.395

	N	171	171	171	171	171	171
GS2	*Correlation Coefficient*	.024	1.000	.304**	.149*	.441**	.086
	Sig. (2-tailed)	.704	-	.000	.029	.000	.220
	N	171	171	171	171	171	171
GS3	*Correlation Coefficient*	.194**	.304**	1.000	.459**	.306**	.070
	Sig. (2-tailed)	.003	.000	-	.000	.000	.322
	N	171	171	171	171	171	171
GT1	*Correlation Coefficient*	.116	.149*	.459**	1.000	.179**	.095
	Sig. (2-tailed)	.071	.029	.000	-	.009	.178
	N	171	171	171	171	171	171
GT2	*Correlation Coefficient*	.010	.441**	.306**	.179**	1.000	-.009
	Sig. (2-tailed)	.874	.000	.000	.009	-	.904
	N	171	171	171	171	171	171
GT3	*Correlation Coefficient*	.057	.086	.070	.095	-.009	1.000
	Sig. (2-tailed)	.395	.220	.322	.178	.904	-
	N	171	171	171	171	171	171

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

**. Correlation is significant at the 0.05 level (2-tailed).*

Table 2: Kendall's Tau Correlations Among Green Competence Factors.

Green Motivation (GM)

Green motivation refers to the use of financial or non-financial rewards to encourage academic staff to pursue their institution's green ambitions. In this context, green motivation is measured by two constructs: green rewards (GR) and green performance (GP). The first construct, green rewards (GR), captures the use of incentives to motivate academic staff to engage in environmentally friendly practices. This may include bonuses, promotions, or other forms of recognition for their contributions to the institution's green goals. The second construct, green performance (GP), refers to the extent to which an academic staff member's performance appraisal is linked to their environmental practices and contributions. This construct measures the degree to which green behaviours and outcomes are valued and rewarded within the institution. Table 3 below summarises the average response by the academic staff at the chosen

Variable	Observations	Obs. with missing data	Obs. without missing data	Min.	Max.	Mean	Std. deviation
GR1	171	0	171	1.000	3.000	1.526	0.738
GR2	171	0	171	1.000	3.000	2.228	0.805
GR3	171	0	171	1.000	3.000	1.807	0.762
GP1	171	0	171	1.000	3.000	1.801	0.802
GP2	171	0	171	1.000	3.000	1.526	0.738
GP3	171	0	171	1.000	3.000	1.749	0.827
GP4	171	0	171	1.000	3.000	2.117	0.810

Table 3: Descriptive Statistics of GM

As can be seen from Table 3 above, the average score of all the motivation factors is 'extremely unlikely'. This means that it is extremely unlikely for the academic staff to have green performance indicators for their work, collaborating on green projects with other universities, encouragement from the university to teach green subjects and any kind of financial or non-financial benefit that will lead to green behaviour. This indicates there is very little motivation for them to adopt such behaviour and does not bode well for implementing green education in Saudi universities. During our previous discussion, we talked about the importance of motivating staff to adopt sustainable behaviours, which is crucial for the successful implementation of Green Human Resource Management (GHRM) practices at universities. As a result, the academic staff probably reported being motivated by the seven factors we discussed.

The next task is to assess the correlation between motivation factors (Table 4). It can be seen from Table 4, that there is a significant correlation between GR1, GR2, GR3, GP1, GP2, GP3, and GP4. This means rewards given to faculty staff constitute a highly motivating factor and increase the chances of academics collaborating with other universities when green projects arise, faculty taking environmental responsibilities and faculty being inspired to teach green related subjects.

		GR1	GR2	GR3	GP1	GP2	GP3	GP4
GR1	*Correlation Coefficient*	1.000	.134	.321**	.053	.992**	.342**	.143*
	Sig. (2-tailed)	-	.054	.000	.447	.000	.000	.040
	N	171	171	171	171	171	171	171
GR2	*Correlation Coefficient*	.134	1.000	.354**	.223**	.128	.311**	.013

	Sig. (2-tailed)	.054	-	.000	.001	.066	.000	.850
	N	171	171	171	171	171	171	171
GR3	*Correlation Coefficient*	.321**	.354**	1.000	.274**	.321**	.263**	.074
	Sig. (2-tailed)	.000	.000	-	.000	.000	.000	.280
	N	171	171	171	171	171	171	171
GP1	*Correlation Coefficient*	.053	.223**	.274**	1.000	.053	.256**	.059
	Sig. (2-tailed)	.447	.001	.000	-	.447	.000	.390
	N	171	171	171	171	171	171	171
GP2	*Correlation Coefficient*	.992**	.128	.321**	.053	1.000	.347**	.143*
	Sig. (2-tailed)	.000	.066	.000	.447		.000	.040
	N	171	171	171	171	171	171	171
GP3	*Correlation Coefficient*	.342**	.311**	.263**	.256**	.347**	1.000	.029
	Sig. (2-tailed)	.000	.000	.000	.000	.000	-	.669
	N	171	171	171	171	171	171	171
GP4	*Correlation Coefficient*	.143*	.013	.074	.059	.143*	.029	1.000
	Sig. (2-tailed)	.040	.850	.280	.390	.040	.669	-
	N	171	171	171	171	171	171	171

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

**. Correlation is significant at the 0.05 level (2-tailed).*

Table 4: Kendall's Tau Correlation Between Motivation Factors

Green Involvement (GI)

Measured here is whether the university has resources and opportunities for the academic staff to pursue green projects to implement GHRM. Table 5 shows whether a university provides a mutual learning environment in which employees can develop green awareness. Nearly 52% of respondents reported that this was highly likely. This is a positive indication that a university can provide such platforms for academic staff to share their ideas. The next thing is to test whether sharing takes the form of casual meetings or specifically to discuss and promote green behaviours among the faculty teaching staff (see Table 5).

Frequency	Percent	Valid Percent	Cumulative Percent
5	2.9	2.9	2.9
1	.6	.6	3.5
2	1.2	1.2	4.7
7	4.1	4.1	8.8
4	2.3	2.3	11.1
16	9.4	9.4	20.5
12	7.0	7.0	27.5
26	15.2	15.2	42.7
17.5	17.5	60.2	17.5
20.5	20.5	80.7	20.5
19.3	19.3	100.0	19.3

Table 5: Frequency Distribution for O1

Opportunity Factors	N	Mean
GI1	171	7.3743
GI2	171	1.8012
GI3	171	2.3567
GI4	171	2.2281
GI5	171	1.5380
GI6	171	1.6725
GI7	171	1.8538

Table 6: Average Score for Opportunity Factors

It can be seen from Table 6 that the average scores for other opportunity factors related to GHRM implementation at universities are not very high. For instance, factors such as having clear guidelines for environmental management, adding funding for green projects, creating opportunities for Saudi green specialists at national and international levels, and offering opportunities for students to acquire green jobs are unlikely to be viewed as highly important by the participants who completed the survey. This again points to the fact that there are not enough opportunities for academic staff to pursue green ambitions. If such opportunities for academic staff to engage in sustainable practices are lacking, their willingness to adopt green behaviours will remain muted, and it will be challenging to implement GHRM effectively in Saudi Arabian

universities. To assess the relationship between the opportunities for green involvement and the willingness of academic staff to engage in green behaviours, we will now examine Kendall's Tau correlation, which is presented in Table 7.

		GI1	GI2	GI3	GI4	GI5	GI6	GI7
GI1	*Correlation Coefficient*	1.000	.325**	.305**	.251**	-.016	.104	.120
	Sig. (2-tailed)	-	.000	.000	.000	.803	.105	.058
	N	171	171	171	171	171	171	171
GI2	*Correlation Coefficient*	.325**	1.000	.278**	.237**	.053	.218**	.282**
	Sig. (2-tailed)	.000	-	.000	.001	.447	.002	.000
	N	171	171	171	171	171	171	171
GI3	*Correlation Coefficient*	.305**	.278**	1.000	.430**	.144*	.275**	.286**
	Sig. (2-tailed)	.000	.000	-	.000	.039	.000	.000
	N	171	171	171	171	171	171	171
GI4	*Correlation Coefficient*	.251**	.237**	.430**	1.000	.131	.170*	.306**
	Sig. (2-tailed)	.000	.001	.000	-	.059	.014	.000
	N	171	171	171	171	171	171	171
GI5	*Correlation Coefficient*	-.016	.053	.144*	.131	1.000	.543**	.327**
	Sig. (2-tailed)	.803	.447	.039	.059	-	.000	.000
	N	171	171	171	171	171	171	171
GI6	*Correlation Coefficient*	.104	.218**	.275**	.170*	.543**	1.000	.375**
	Sig. (2-tailed)	.105	.002	.000	.014	.000	-	.000
	N	171	171	171	171	171	171	171
GI7	*Correlation Coefficient*	.120	.282**	.286**	.306**	.327**	.375**	1.000
	Sig. (2-tailed)	.058	.000	.000	.000	.000	.000	-
	N	171	171	171	171	171	171	171

Table 7: Kendall's Tau Correlation Between Opportunity Factors

***. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).*

From Table 7 above students when they do encounter green job opportunities will want to pursue courses that reflect them, and this provides more encouragement for lecturing staff to teach green subjects and in this way reflect the green ambitions of their universities. With universities allocating more funds to green projects and encouraging the faculty to collaborate with other universities, this will significantly improve the motivation of academic staff to embrace green behaviour which is a good sign for GHRM in the universities.

Measurement Model

Reflecting indicator loadings, internal consistency reliability, convergent validity, and discriminant validity are the four evaluations proposed by Hair et al. (2019) for the PLS-SEM measurement model. Since PLS-SEM relies on variations to determine the ideal solution, CB measures SEMs of goodness-of-fit cannot be applied to the PLS-SEM context. Using goodness of-fit to assess the difference between the observed or estimated values of the dependent variables is disputed, and in the context of PLS-SEM, using goodness-of-fit to determine model fit is not recommended (Henseler et al. 2013). PLS-SEM frequently utilises SRMR, NFI, and RMS theta to evaluate the model's overall appropriateness. The range of SRMR values lies between 0 and 1. When SRMR is below 0.08 the model is regarded to be well-fitting (Hu et al. 1998). The NFI value's range is between 0 and 1. The higher this value then the better its performance. If the NFI is more than 0.9, the model fits the data well. The RMS theta value can only be used to assess reflecting measurement methods. An RMS theta value less than 0.12 indicates that the model fits the data effectively. In this work, the model evaluation verification SRMR score is 0.071. Although 0.87 is less than 0.9 the difference is not statistically significant. The RMS theta value is 0.132. Even if it reaches 0.12, this is permissible, and this study's model is typically well-fitted. The examination of collinearity analysis and model fit is summarised in Table 8.

Type of Measures	Values
SRMR	0.071
NFI	0.87
RMS _ theta	0.132

Table 8: Collinearity Analysis and Model Fit.

Common Factor Test

Harman's single-factor test detects CMB in research projects. CMB arises when participants' replies are impacted by a common source, such as question format, rather than the variables under examination. All variables in the research are factored to perform the single-factor test. If a single component accounts for most of the data variation, CMB may be present. A single factor may imply that answers are impacted by a common source rather than the underlying factors. Nevertheless, the inclusion of a single element does not indicate CMB, as alternative explanations may be possible. Instead of using the single component test, researchers should employ various ways to measure CMB potential in their investigations. from the same data

source. No common method bias appeared for any construct (Table 9).

Green competence	Green performance and rewards	Green involvement	OCB E	Environment al performance
35.36%	39.41%	39.49%	34.12 %	30.40%

Table 9: Harman's Single Factor Test For CMB

Exploratory Factor Analysis

Using exploratory component analysis, the dimensions of the GHRM scale were investigated to ensure that all items were loaded into their proper dimensions. We performed exploratory factor analysis_with varimax rotation based on the assumption that any identified GHRM related variables should be intercorrelated. This was done using dimension reduction on SPSS and 13 factors were extracted, which generated a cumulative variance of 85.74%. The components were eliminated based on eigen value of less than 1.

Confirmatory Factor Analysis/ Average Variance Extracted (AVE) and Composite Reliability (CR)

For the measurement model, loadings, AVE, and CR were assessed. The values of loadings should be ≥.50, the AVE should be ≥.50 and CR should be ≥.7. All the loadings are above .5, all AVE are above .5 and CR greater than 0.7. The first-order construct analysis clearer the relationships between the observed variables and their corresponding latent factors. These factors epitomize the underlying dimensions responsible for the variance and covariance observed among the variables. The factor loadings for each construct have been meticulously computed. Factor loadings are pivotal, indicating the strength of the association between an observed variable and its corresponding latent construct. Higher loadings suggest a more substantial indication of the latent construct by the observed variable.

The component loadings for the first-order constructs all surpass the recommended threshold of 0.50. Take, for instance, the 'Green Selection' construct with items GS1 and GS2, which boast loadings of 0.822 and 0.872, respectively. Such figures denote a significant correlation between the items and their associated constructs. Additionally, constructs such as 'Green Rewards,' 'Green Training,' and 'Green Performance' also exhibit notable loadings, underscoring their importance in the model.

Second-Order Construct Model

For measuring the model for the second-order construct, this model consists of five second order constructs, the validity and reliability of which were evaluated in Table10. Given that AVE is .5 and CR is .7, the second-order measures were also valid and dependable.

Second Order Constructs	Indicators	Loadings	AVE	CR
Green Competence Building (Gcb)	GS	0.8470	0.7478	0.7478
	GT	0.8822	-	-
Green Motivation (Gm)	GR	0.9106	0.7397	0.7397
	GP	0.8064	-	-
Organisation Citizenship Behaviour Towards Environment (Ocbe)	ECM	0.8926	0.7412	0.7412
	EH	0.8250	-	-
	EI	0.8639	-	-
Environmental Performance	EAR	0.7979	0.7029	0.7306
(Ep)	EGB	0.8155	-	-
	EPM	0.7538	-	-
	GRG	0.9033	-	-
	RES	0.8871	-	-
	WM	0.8190	-	-
	BIO	0.8845	-	-
Green Involvement (Gi)	GI	0.8351	0.6973	0.6973

Table 10: Measurement Model for Second-Order Constructs

As detailed in Table 10, the loadings for the second-order constructs are well above the established threshold, demonstrating strong relationships between the first-order constructs and their overarching second-order counterparts. For example, the Green Competence Building construct, with indicators GS and GT, has loadings of 0.8470 and 0.8822, respectively. Similarly, the constructs for Organisational Citizenship Behaviour towards the Environment and Environmental Performance also display significant loadings, indicating robust hierarchical relationships between the two levels.

The factor loadings for both the first and second-order constructs are critical in affirming the validity of the measurement model. The values reported in this thesis consistently exceed the

established benchmarks, offering a robust and reliable framework. Nonetheless, for a more intuitive and visual presentation of these loadings, integrating them directly into Figures 3 and 4 could enhance readers' comprehension of the data. Additionally, subsequent research might benefit from including more recent literature that could provide insights into evolving standards and best practices for factor loadings in environmental science. In summary, the factor loadings for both first and second-order constructs in this thesis strongly support the theorized relationships between the observed variables and their latent constructs. This concordance with the research goals and objectives not only affirms the validity of the study but also sets the stage for future research and practical applications in the field of environmental management.

Discriminant Validity Assessment

As recommended by Henseler et al. (2015) the discriminant validity of the HTMT was evaluated. The HTMT scores must be less than 0.85 (the stricter criterion) or less than 0.90 (the more lenient criterion). Based on what is reported in Table 11, the HTMT values were all below the stricter criterion of 0.85. Subsequently, it may be concluded that respondents knew that the nine conceptions were unique as shown in Table 11. Second-order constructs, or latent variables, in turn, explain the variance in the first-order constructs. These essentially represent factor aggregations, signifying a higher level of abstraction in the data.

	1	2	3	4	5
1. Green Competence	-	-	-	-	-
2. Environmental Performance	0.621	-	-	-	-
3. Green Employee Involvement	0.83	0.76	-	-	-
4. Green Motivation	0.66	0.58	0.563	-	-
5. OCBE	0.455	0.52	0.68	0.59	-

Table 11: Discriminant Validity (HTMT)

Structural Model

The structural model is comprised of the system's elements and the static relationships between them. Object groups can be divided into packages or subsystems. Diagrams of object models define the structural model. The coefficients, standard errors, t-values, and p-values for the structure model are provided below. The model was executed using PLS regression on xlstat (1000 bootstrapping). Some significant outcomes are listed below.

Evaluating the model's ability to forecast was a component of the structural model's evaluation. Before presenting the structural model, however, the collinearity value should be acknowledged by reporting the variance inflation factor (VIF) values. It is important to note that the sets of predictors were examined for their capacity to interact. Less than three should be the VIF reading. Those with a value greater than three are commonly believed to have multicollinearity concerns. According to the analysis of the data, all VIFs are less than 3 and the results are displayed in Table 12.

Factor	GHRM
Green competence	1.476
Green motivation	1.533
Green involvement	2.12
Factor	GHRM
Environmental performance	1.89
OCBE	2.16

Table 12: Variance Inflation Factor

Direct Effect of Competence (GC), Green Motivation (GM) and Green Involvement (GI) On OCBE

First, the effect of the first three predictors, GC, GM, and GI were tested on OCBE using PLS regression. The model quality denoted by Q^2 was established as 0.719. This model comprising 4 components explained 74.3% variation in Y for OCBE and 99.7% variation in X, that is, GC, GM, and GI (Figure 6.4). The academic staff who are likely to be motivated are also likely to be involved in green initiatives and activities. While green competence building is positively correlated with motivation, non-financial or financial rewards help to build their skills and increase their chances of being recruited or promoted with significant salary increases and better career prospects. Competence is the most important variable followed by involvement and then motivation as can be seen in Fig. 2 below.

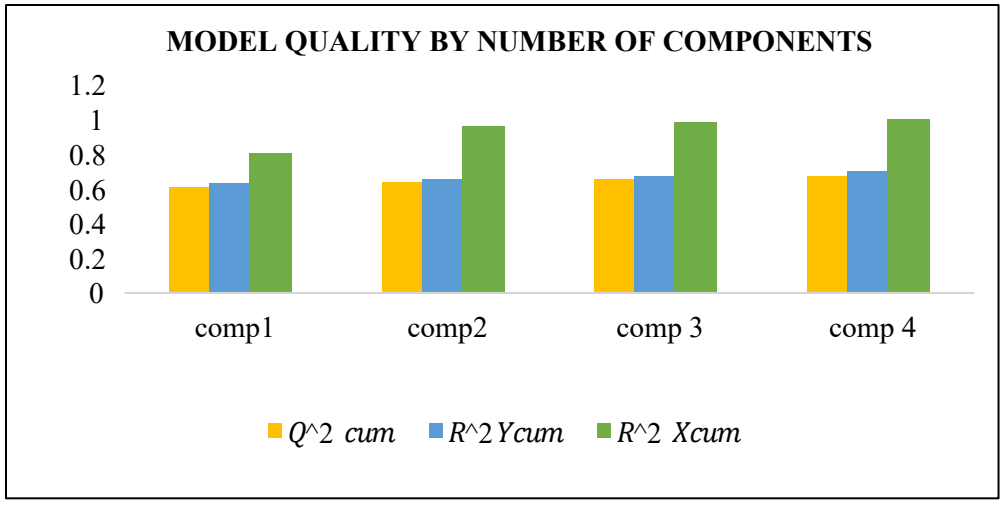

Figure 2: Variation in GC and OCBE

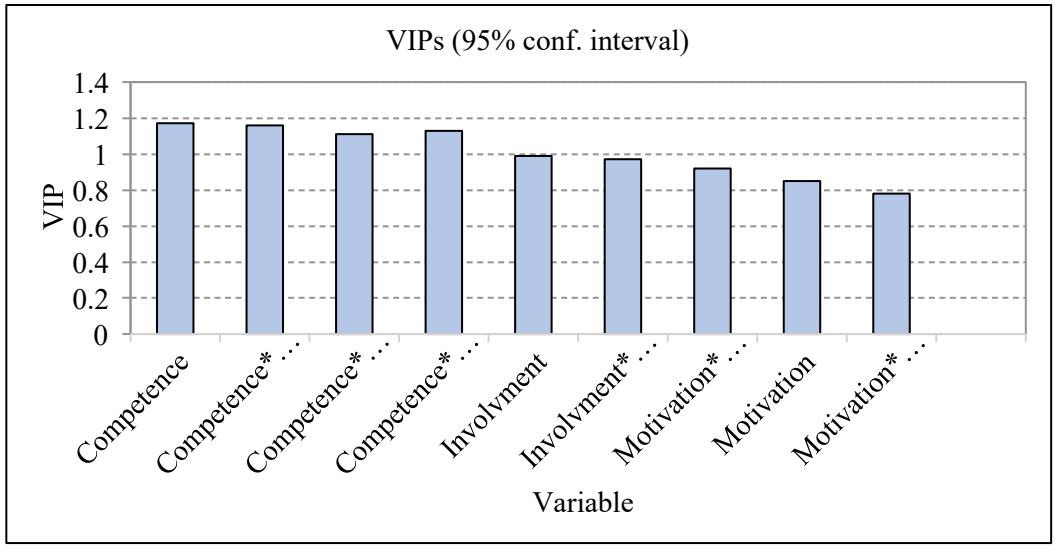

Figure 3: Variable Importance in Projection at 95%.

The R^2 from the regression model is 74.3% which means 74.3% variation in OCBE_can be explained by the predictors, GC, GM, and GI. The results are shown in Table 13 below.

Goodness-of-Fit Statistics (Variable OCBE):	
Observations	171.000
Sum of weights	171.000
DF	166.000
R^2	0.743
Std. deviation	0.575
MSE	0.321
RMSE	0.566

Table 13: Results for Variable OCBE

The standard beta of the regression result shows that green competence (GC) (β=0.813), green motivation (GM) (β=0.67) and green involvement (GI) (β=0.706) were all significant at 5 percent and were positively related to OCBE (Table 14). This means that the hypothesis claiming that GC, GM, and GI have a direct and positive effect on building OCBE in academic staff is accepted.

Variable	Coefficient		Std. deviation	Lower bound	Upper bound
				(95%)	(95%)

COMPETENCE	OCBE ← GC	0.813	0.686	-0.542	2.168
MOTIVATION	OCBE ←GM	0.670	0.631	-0.576	1.916
INVOLVEMENT	OCBE ← GI	0.706	0.994	-1.255	2.668

Table 14: Standardized Coefficients (Variable OCBE)

The Direct Effect of OCBE On EP

The next task is to model the direct effect of OCBE on EP, and here we ran the regression with OCBE as predictor and EP as the dependent variable. The R^2 was 24.4% and Q^2 was 0.234. This means OCBE explains a 24.4% variation in environmental performance. The standardised coefficient β= 0.493, which is positive and significant at 5 percent

Testing for mediating the effect of GHRM on OCBE and subsequently EP

Following the recommendations of Preacher and Hayes (2004), a study was done to test the hypothesis that GC, GM, and GI have an indirect mediating impact on OCBE, which in turn wields an influence on environmental performance. If the confidence interval does not include 0 then it may be concluded that substantial mediation occurs (SPSS AMOS program with 1000 bootstrap samples). As shown in Table 15, there is a mediation impact of OCBE generated from GC, GM, and GI on EP validating the theory that GHRM wields a beneficial influence on creating OCBE in academic staff, hence indirectly enhancing the environmental performance of Saudi tertiary education institutions.

	Estimate	S.E.	C.R.	P Label	Result
OCBE ←GC	44.73	59.72	.749	0.49	supported
OCBE ←GM	.384	.14	2.751	0.006	supported
OCBE ←GI	7.431	4.344	1.711	0.008	supported
EP ←OCBE	178	.052	3.438	***	supported

Table 15: Testing for Indirect Effects- Path, P-Values, and Results

Conclusion

GHRM is a new topic of study that aims to increase universities' green policies and education systems, but it has a very broad scope for application and outcomes. This study was based on the AMO theory of human resource management, which stipulates that successful HRM may be implemented by enhancing the competencies of employees, motivating them, and including them in organisational activities to achieve excellent job performance. This theory was used in the context of GHRM in Saudi universities, where the key components, namely green selection, green training, green performance, green rewards, and green involvement of the middle-level

academic staff, can lead to better environment-related outcomes for universities. Academic staff are situated between the senior management and students, and as such, they play a crucial role in GHRM from the top to the bottom, and vice versa.

In this research, it was demonstrated how the five primary components of GHRM, i.e., green selection, green training, green incentives, green performance, and green engagement, might contribute to the development of organisational civic behaviour in academic staff. Approximately 171 academic staff members from a sample of Saudi universities were questioned on their experiences and opinions about creating green competency, green motivation, and green participation. Harman's single-factor analysis was used to account for one source of response, common technique bias. No common technique bias was seen in the data collected. Two models were developed and examined for this purpose: the measurement model and the structural model. There were 16 first-order components and 5 second-order constructs in the model. AVE and CR were computed for both models to determine their reliability and validity. Validity was established for discriminant analysis via HTMT methods. The structural model for direct effect revealed a positive and statistically significant influence of competence, motivation, and participation on OCBE for the academic staff, as well as a positive and statistically significant effect of OCBE on the environmental performance of the institution. The mediation model tests the indirect relationship between GC, GM, and GI on OCBE and then on EP, and found it to be positive and significant, indicating that GHRM significantly shapes the OCBE in academic staff through environmental policies, training and procedures.

Human resource management is in its infancy regarding the adoption and promotion of green concepts and the ideology behind them. In Saudi Arabia, it has been a slow process for ecofriendly behaviours to come to the fore, as there have been attempts to reduce waste, as a result of an increasing awareness of environment and pollution concerns among businesses. The work and personal lives of employees contribute to a better social outlook triggered by the concept of sustainable development. Consequently, the organisation must recognise the most important environmental issues to address sustainability issues in Saudi Arabia. Increasing one's knowledge of GHRM practices is vital for attaining environmental sustainability. It is necessary to analyse its confusing definition since the research of GHRM will indicate how it helps to strengthen sustainability in Saudi Arabia. As well as the steps, the Saudi government should provide institutions with extra incentives to embrace green human resource policies and practices that would encourage staff to go green. This study suggests using a criterion-based approach so that management committees can identify and emphasise the advantages of going green: better salaries/compensation, promotion opportunities, collaborations with other universities, etc. Considering their increasing knowledge of their environmental obligations, institutions of higher education have realised that disregarding human or behavioural factors in their sustainability efforts will fail. Regrettably, research is scarce about the implementation of environmental solutions in universities. This study attempted to establish a connection between the nodes of the GHRM literature and the literature on greening university campuses, with a focus on academic staff members' OCBE. Being leaders in the production of information, universities should be assessed not just by the amount of environmental consciousness they create, but also by their practical commitment to encouraging environmental citizenship on campus. This study stressed the growing concept of "global human resource management" (GHRM) as a collection of practices that have the potential to improve employees' environmental citizenship behaviours. The outcomes demonstrate the positive benefits of GHRM practices and OCBE on environmental performance. The findings provide food for

thought for policymakers concerning the environmental citizenship behaviour of academic personnel and the variables that inspire such behaviour.

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References

Albort-Morant, G., Leal-Millán, A. and Cepeda-Carrión, G., (2016). The antecedents of green innovation performance: A model of learning and capabilities. Journal of Business Research, 69(11), pp.4912-4917.

Aldiab, A., Chowdhury, H., Kootsookos, A. and Alam, F., (2017). Prospect of eLearning in higher education sectors of Saudi Arabia: A review. Energy Procedia, 110(3), pp.574-580.

Ali, M.C., Anwarul Islam, K.M., Chung, S.-J., Zayed, N.M. and Afrin, M., (2020). A study of Green Human Resources Management (GHRM) and Green Creativity for Human Resources Professionals. International Journal of Business and Management Future, 4(2), pp.57-67.

Alshuwaikhat, H.M. and Abubakar, I., (2008). An integrated approach to achieving campus sustainability: assessment of the current campus environmental management practices. Journal of Cleaner Production, 16(16), pp.1777-1785.

Ansari, N.Y., Farrukh, M. and Raza, A., (2021). Green human resource management and employees' pro-environmental behaviours: examining the underlying mechanism. Corporate Social Responsibility and Environmental Management, 28(1), pp.229-238.

Anwar, N., Mahmood, N.H.N., Yusliza, M.Y., Ramayah, T., Faezah, J.N. and Khalid, W., (2020). Green human resource management for organisational citizenship behaviour towards the environment and environmental performance on a university campus. Journal of Cleaner Production, 256(5), pp.120401.

Appelbaum, E., (2000). Manufacturing advantage: Why high-performance work systems payoff. Ithaca, NY: Cornell University Press.

Aragão, C.G. and Jabbour, C.J., (2017). Green training for sustainable procurement? Insights from the Brazilian public sector. Industrial and Commercial Training, 49(1), pp.48-54.

Battal, Z.M.B., (2016). Special education in Saudi Arabia. International Journal of Technology and Inclusive Education, 5(2), pp.880-886.

Boiral, O. and Paillé, P., (2012). Organisational citizenship behaviour for the environment: Measurement and validation. Journal of Business Ethics, 109(9), pp.431-445.

Boselie, P., Dietz, G. and Boon, C., (2005). Commonalities and contradictions in HRM and performance research. Human Resource Management Journal, 15(3), pp.67-94.

Bos-Nehles, A., Townsend, K., Cafferkey, K. and Trullen, J., (2023). Examining the Ability, Motivation and Opportunity (AMO) framework in HRM research: Conceptualization, measurement and interactions. International Journal of Management Reviews, 25(4), pp.725739.

Castro-Lopez, A., Cervero, A., Galve-González, C., Puente, J. and Bernardo, A.B., (2022). Evaluating critical success factors in the permanence in Higher Education using multi-criteria decision-making.

Higher Education Research & Development, 41(3), pp.628-646.
Cheema, S., Afsar, B. and Javed, F., (2020). Employees' corporate social responsibility perceptions and organisational citizenship behaviours for the environment: The mediating roles of organisational identification and environmental orientation fit. Corporate Social Responsibility and Environmental Management, 27(1), pp.9-21.
Daily, B.F., Bishop, J.W. and Govindarajulu, N., (2009). A conceptual model for organisational citizenship behaviour directed toward the environment. Business & Society, 48(2), pp.243-256.
Dumont, J., Shen, J. and Deng, X., (2017). Effects of green HRM practices on employee workplace green behaviour: The role of psychological green climate and employee green values. Human Resource Management, 56(4), pp.613-627.
Fawehinmi, O., Yusliza, M.Y., Kasim, W.Z., Mohamad, Z. and Halim, M.A., (2020). Exploring the interplay of green human resource management, employee green behaviour, and personal moral norms. SAGE Open, 10(4), pp.1-18.
Govindarajulu, N. and Daily, B.F., (2004). Motivating employees for environmental improvement. Industrial Management and Data Systems, 104(4), pp.364-372.
Hair Jr, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Danks, N.P. and Ray, S., (2021). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook (pp.197). Springer Nature.
Harvey, G., Williams, K. and Probert, J., (2013). Greening the airline pilot: HRM and the green performance of airlines in the UK. The International Journal of Human Resource Management, 24(1), pp.152-166.
Jabbour, C.J.C., (2015). Environmental training and environmental management maturity of Brazilian companies with ISO14001: empirical evidence. Journal of Cleaner Production, 96, pp.331-338.
Jabbour, C.J.C., Santos, F.C.A., and Nagano, M.S., (2010). Contributions of HRM throughout the stages of environmental management: methodological triangulation applied to companies in Brazil. The International Journal of Human Resource Management, 21(7), pp.1049-1089.
Khan, M.H. and Muktar, S.N., (2020). Mediating role of organisational attractiveness on the relationship between green recruitment and job pursuit intention among students of Universiti Teknologi Malaysia. Cogent Business and Management, 7(1), pp.1832811.
Kovalenko, A. and Richards, R., (2023). The Challenges of Facilitating Critical Thinking Among Culturally Diverse Student Populations. The Internationalization of Higher Education: Concepts, Cases, and Challenges, pp.237.
Marin-Garcia, J.A. and Martinez Tomas, J., (2016). Deconstructing AMO framework: A systematic review. Intangible Capital, 12(2), pp.1040.
Obeidat, S.M., Al Bakri, A.A. and Elbanna, S., (2020). Leveraging "green" human resource practices to enable environmental and organisational performance: Evidence from the Qatari oil and gas industry. Journal of Business Ethics, 164(2), pp.371-388.
Onsman, A., (2010). Dismantling the perceived barriers to the implementation of national higher education accreditation guidelines in the Kingdom of Saudi Arabia. Journal of Higher Education Policy and Management, 32(5), pp.511-519.
Paillé, P., Valéau, P. and Renwick, D.W., (2020). Leveraging green human resource practices to achieve environmental sustainability. Journal of Cleaner Production, 260(1), pp.121137.
Pham, N.T., Tučková, Z. and Jabbour, C.J., (2019). Greening the hospitality industry: How do green human resource management practices influence organisational citizenship behaviour in hotels? A mixed-methods study. Tourism Management, 72(4), pp.386-399.
Pinzone, M., Guerci, M., Lettieri, E. and Redman, T., (2016). Progressing in the change journey towards sustainability in healthcare: the role of 'Green' HRM. Journal of Cleaner Production, 122(5), pp.201-211.

Pinzone, M., Guerci, M., Lettieri, E. and Redman, T., (2016). Progressing in the change journey towards sustainability in healthcare: the role of 'Green' HRM. Journal of Cleaner Production, 122(5), pp.201-211.

Rayner, J. and Morgan, D., (2018). An empirical study of 'green' workplace behaviours: Ability, motivation, and opportunity. Asia Pacific Journal of Human Resources, 56(1), pp.56-78.

Ren, S., Tang, G. and Jackson, S.E., (2017). Green human resource management research in emergence: A review and future directions. Asia Pacific Journal of Management, 35(3), pp.769803.

Renwick, D.W., Redman, T. and Maguire, S., (2013). Green human resource management: A review and research agenda. International Journal of Management Reviews, 15(1), pp.1-14.

Roscoe, S., Subramanian, N., Jabbour, C.J. and Chong, T., (2019). Green human resource management and the enablers of green organisational culture: Enhancing a firm's environmental performance for sustainable development. Business Strategy and the Environment, 28(5), pp.737-749.

Roy, M.J. and Thérin, F., (2008). Knowledge acquisition and environmental commitment in SMEs. Corporate Social Responsibility and Environmental Management, 15(5), pp.249-259.

Salvador-Gómez, A., Bou-Llusar, J.C. and Beltrán-Martín, I., (2023). A multi-actor perspective on the effectiveness of human resource management implementation: an empirical analysis based on the ability-motivation-opportunity framework. The International Journal of Human Resource Management, 34(20), pp.3963-4002.

Sarstedt, M., Ringle, C.M. and Hair, J.F., (2021). Partial least squares structural equation modeling. In Handbook of market research (pp.587-632). Cham: Springer International Publishing.

Shaban, S., (2019). Reviewing the Concept of GHRM (Green Human Resource Management) and Its Application Practices (Green Staffing) with Suggested Research Agenda: A Review from Literature Background and Testing Construction Perspective. International Business Research, 12(5), pp.86-94.

Shafaei, A., Nejati, M. and Yusoff, Y.M., (2020). Green human resource management: A twostudy investigation of antecedents and outcomes. International Journal of Manpower, 41(7), pp.1041-1060.

Singh, R.L. and Singh, P.K., (2017). Global environmental problems. Principles and applications of environmental biotechnology for a sustainable future, 2(1), pp.13-41.

Sulphey, M.M. and Alkahtani, N.S., (2018). Academic excellences of business graduates through nudging: prospects in Saudi Arabia. International Journal of Innovation and Learning, 24(1), pp.98-114.

Tang, G., Chen, Y., Jiang, Y., Paillé, P. and Jia, J., (2018). Green human resource management practices: scale development and validity. Asia Pacific Journal of Human Resources, 56(1), pp.31-55.

Tayeb, O., Zahed, A. and Ritzen, J., (2016). Becoming a world-class university: The case of King Abdulaziz University. Springer Nature, pp.190.

Teixeira, A.A., Jabbour, C.J.C., de Sousa Jabbour, A.B.L., Latan, H. and De Oliveira, J.H.C., (2016). Green training and green supply chain management: evidence from Brazilian firms. Journal of Cleaner Production, 116(1), pp.170-176.

Uddin, M.M. and Islam, R., (2015). Green HRM: Goal attainment through environmental sustainability. Journal of Nepalese Business Studies, 9(1), pp.14-19.

Usman, M. and Makhdum, M.S.A., (2021). What abates ecological footprint in BRICS-T region? Exploring the influence of renewable energy, non-renewable energy, agriculture, forest area and financial development. Renewable Energy, 179(1), pp.12-28.

Usman, M., Rofcanin, Y., Ali, M., Ogbonnaya, C. and Babalola, M.T., (2023). Toward a more sustainable environment: Understanding why and when green training promotes employees' eco-friendly behaviours outside of work. Human Resource Management, 62(3), pp.355-371.

Wikhamn, W., (2019). Innovation, sustainable HRM and customer satisfaction. International Journal of Hospitality Management, 76(1), pp.102-110.