Scopus®

AN IMPACT - BASED MODEL OF GREEN HUMAN RESOURCE MANAGEMENT: EVIDENCE FROM UAE

Vazeerjan Begum[1*], Tahseen Anwar Arshi[2]

American University of Ras Al Khaimah (AURAK), AURAK Road, PO Box 10021, Ras Al Khaimah, UAE

E-mails:[1] vazeerjan2000@yahoo.com; vazeerjan.begum@aurak.ac.ae (Corresponding author)*

Abstract. This study proposes and empirically validates an outcome-based model of green HRM applicable in HEIs in UAE. Drawing on Resource Conversion Theory (COR), the study argues that the conservation of existing resources and the pursuit of new sustainable resources need strategic persuasion through green HRM. The study adopts a quantitative approach to measure the constructs and establish the proposed model's reliability and validity. Non-probability sampling is applied to collect data employing a structured questionnaire from 250 employees working in five different UAE private HEIs. Data is analyzed through exploratory factor analysis to ascertain the factorial structure of the green HRM model. Further, the utilization of structural equation modeling tests helps to determine the causal relationships between HRM drivers and green outcomes. The result indicates several drivers of green HRM practices in an HEI impact green outcomes both at the employee and organizational levels. The hypothesis testing results suggest that HRM functions such as recruitment and selection, job design, performance management, rewards, and training and development with an underlying emphasis on green policies impacts green outcomes. When employees place central value on green resources, any threat of loss leads to protectionist green behavior or search for alternative sustainable resources. Green HRM is a facilitator of green values, culture, green organizational practices and outcomes. The study also contributes to academic research on green HRM by validating an impact-based model of green HRM specific to the higher education sector identifying green drivers and outcomes. The study contributes to the COR theory by extending its categorization to green resources.

Keywords: Green HRM; UAE Higher Education; Green Drivers; Green Outcomes; SEM; Impact-based model.

1. Introduction

Green HRM has received considerable attention through works of Yong et al. (2019a); Yusliza et al. (2017); Dumont et al. (2018); Guerci and Carollo (2016); and Guerci et al. (2016), Mazzoni (2020). Green HRM was initially proposed by Renwick (2008) with an argument for integrating HRM policies and practices with the environmental strategy and reducing the carbon footprint of each employee in the organization. Marhatta and Adhikari (2013, p. 46) define green HRM as "the use of HRM policies to promote the sustainable use of resources within organizations and, more generally, promotes the causes of environmental sustainability." Some of the main merits of green HRM are green employee behavior, improved competence, lesser costs, increased employee retention rate, positive work environment, enhanced employee participation and engagement, better motivation rate, and a positive brand image (Renwick et al. 2018).

Green human resource management (HRM) is increasingly becoming popular across various industries, including the higher education sector (Mukherjee et al. 2020). Weissman (2012) pointed out that higher education institutions (HEIs) have started to take the lead in creating green movement by integrating sustainability into the

curriculum and spreading the mandate to develop socially and environmentally responsible graduates. Wu and Shin (2016), citing several UNESCO programs, showed an increasing need to create an environmentally sensitive workforce. A strategic shift in higher education with a sustainability agenda is essential for propagating green management initiatives to future employees to work in different industries (Sherren, 2008). Green management practices budding from HEIs can impact the environment, economy, and society. Higher Educational Institutions (HEIs) are centers of knowledge and research and play an essential role in promoting green HRM practices. Findler et al. (2019) argued that HEIs share an inherent responsibility to make societies more sustainable, and HEIs teach, research, and practice green management. Aboramadan (2020) explained that human resource departments could promote green work management practices and trigger green innovative work behavior. Some of the environmentally friendly solutions for higher education institutions include online training, green curriculum, green research, green educational brand, and green intellectual capital (Sharma, 2016). The HR functions can integrate green elements into its practices such as green recruitment, green performance appraisal, green training and development, green employee relations, and green rewards (Mukherjee et al. 2020).

Through a systematic literature review, Findler et al. (2019) reported that most of the studies focus on project-based green practices, while impact-based studies of green practices in HEIs have not received adequate attention in the literature. A meta-analysis by Yong et al. (2019a) revealed that 20 out of 70 articles reviewed were focused on drivers of green HRM, while another 20 investigated green outcomes. Some of these papers studied the employee-level effects, while others investigated organizational-level results. However, only a few articles presented a completed model exploring the relationship between green HRM drivers and employee and organizational level outcomes, mainly through a complete structural equation model. Further, there is a shortage of empirical data on green HRM in the UAE Higher Education sector, and this relationship needs further investigation. Renwick et al. (2016), in his study, found that green management programs and policies are lagging because of a lack of employee motivation and weak alignment of organizational goals with green outcomes. The study contributes to the academic research on green management outcomes in HEIs in several ways(Hanif, Rakhman, Nurkholis, and Pirzada, 2019). It posits that Green HRM functions are a significant predictor of green employee outcomes and, subsequently, green organizational results. The study develops and tests an impact-based model of green HRM in HEIs. It contributes to the COR theory by highlighting the value of green resources and garnering support to reduce the threat to green resources.

1.1 Theoretical Background

The study draws on the Conservation of Resources Theory (COR) to explain and develop a green HRM model in HEIs. COR theory is a widely cited theory used to describe the relationship between a resource and human behavior. It is primarily a motivational theory that explains human behavior based on their evolutionary need to acquire and conserve resources (Hobfall, 2018). The study builds a case to extend the resource categories to include green resources and improve the perceptual worth of green resources. Individuals value several critical resources to their and society's well-being, including social, physical, relational, financial, and psychological resources (Kellermanns et al. 2016; Jensen, 2012). When they start to value green resources, they strive to protect it or pursue alternative sustainable resources. Stephan (2018) argued that considering the human tendency to undervalue resource gain over resource loss, there is a need to invest in new resources and understand their value. Green GRM can play a central role in positioning the green resources as a valuable resource. Mamun (2019) supported the view that Green HRM's success depends on its ability to raise awareness and enhance green resources' perception and value among employees Rudyanto and Pirzada (2020). According to Suryani, and Pirzada, (2018) Human resource departments promote green practices and build a passion and green values among its workforce (Gilal et al. 2019).

2. Literature Review

There is a broad consensus in the literature on HRM's role in supporting the adoption and implementation of the environmental strategy (Haden et al. 2009) and (Wati, Primiana, Pirzada and Sudarsono, 2019). The human resource department plays a critical role in impregnating the organization with green HRM practices as the hu-

man resource department, particularly in HEIs, deal with its essential assets the human resource and preserves its knowledge capital (Ahmed, 2015; Mandip, 2012). Tang et al. (2018) studied the green human resource management practices and developed a theoretically grounded and empirically validated instrument to measure green HRM. They posited that green HRM includes five dimensions: green recruitment and selection, green training, green performance management, green rewards, and green employee relations. They recommended that these five dimensions and items identified in their study can help firms create GHRM policy.

2.1 Green Recruitment and Selection

Developing a green organization begins with the recruitment of the workforce that is sensitive to the green cause. Nurturing a green employer's brand image enables firms to attract talented employees and emphasize green management's importance across the firm (Guerci et al. 2016 and Stringer, 2009). The application of green criteria in selecting employees ensures the candidates with the right attitude towards green management have been selected (Pham et al. 2019). The choice of employees with a lively green attitude implies that the institution places central importance on green values and expects potential employees in the future to adopt green management practices (Opatha, 2014; Bombiak, 2019). Based on the literature evidence that green recruitment and selection lead to positive outcomes, the study developed the following hypothesis for testing.

H1: Green recruitment and selection positively and significantly impact the desired green outcomes at the individual and organizational levels.

2.2 Green Job Design

Job design is a critical determinant of the implementation of green practices in the organization. Many firms adopt green initiatives without an appropriate change in job design (Arniati, Puspita, Amin, and Pirzada, 2019).

Green job design should include environmental protection related tasks, duties, and responsibilities (Renwick et al. 2013). Identification of green competencies related to the sector may also lead to the creation of new job positions. Opatha (2014) recommended using clear communication to employees on green practices through the job description and including green competencies as a job satisfaction component. Job design empowers employees to make an environmentally friendly decision and align their expectations with job expectations (Jabbour et al. 2010). Employee empowerment and participation in decision-making facilitate the promotion of sustainability agendas and green behavior (Daily et al. 2012). Based on the evidence in the literature, the study developed the following hypothesis for testing.

H2: Green job design positively and significantly impacts the desired green outcomes at the individual and organizational levels.

2.3 Green Training and Orientation

According to Zoogah (2011, p. 117), green training and development is a practice that focuses on the development of employees' skills, knowledge, and attitudes, prevent deterioration of EM-related knowledge, skills, and attitudes. Green training and orientation educate employees on green management's value and train them on the conservation of sustainable energy and reducing waste. Govindarajulu and Daily (2004) and Daily et al. (2012) suggested that green training promotes green behavior and creates a sustainable organizational culture. Green orientation programs for newly hired employees are an integral part of the training and development process (Opatha, 2014). The institutions run periodic refresher training to employees and leaders about the green procedures and policies, including its vision/mission statement and the sustainability-oriented benefits and outcomes (Liebowitz 2010). Based on the evidence in the literature, the study developed the following hypothesis for testing.

H3: Green training and development positively and significantly impact the desired green outcomes at the individual and organizational levels.

2.4 Performance Appraisal

Green human resource management ensures the organizations' environmental targets' achievement and continuous improvements in a firm's ecological outcomes (Jackson et al. 2011). Using performance management in green management presents the challenges of measuring environmental performance standards across different firms' units. Renwick et al. (2008) suggest incorporating firm-wide ecological performance standards. Similarly, Renwick et al. (2018) recommended to add green criteria for performance evaluation and provide regular feedback. According to Liebowitz (2010), the HR department should include technical and green behavior competencies rating criteria as per the job design (Solikhah, Della Firmansyah and Pirzada, 2017). Based on the evidence in the literature, the study developed the following hypothesis for testing.

H4: Green performance appraisal positively and significantly impacts the desired green outcomes at the individual and organizational levels.

2.5 Green Rewards and Recognition:

Compensation and reward management should recognize contributions in green management (Jackson et al. 2011). Compensation packages should be customized to reward green skills acquisition and achievements by employees. Monetary-based, non-monetary based, and recognition-based rewards for employees' green achievements can trigger green behavior (Govindarajulu and Daily, 2004). There is a range of green HRM activities related to employee rewards and compensation that contribute to the achievement of green goals positively (Kolk and Perego, 2013). In particular, the institutions need to: reward employees for making suggestions for environmental improvements, monetarily reward managers for meeting Environment Management (EM) based Key Performance Indicators (KPI's), and recognize employee efforts with monetary and non-monetary awards (Berrone and Gomez-Mejia, 2009). Based on the evidence in the literature, the study developed the following hypothesis for testing.

H5: Green rewards and recognition positively and significantly impact the desired green outcomes at the individual and organizational levels.

2.6 Employee Relations:

Employee participation in Green initiatives increases the chances of better green management as it aligns employees' goals, capabilities, motivations, and perceptions with green management practices and systems (Casler et al. 2010). Renwick et al. (2013) reported that democratic green management decision-making improves the desired environmental outcomes. Decisions related to green systems such as efficient resource usage, reducing waste, and reducing pollution from workplaces with employee participation improves psychological acceptance and improved outcomes (Daily et al. 2012; Vidal-Salazar et al. 2012). Green ideas and initiatives from all employees, especially those who specialize in green management, make the green goals practical Pirzada (2016), realistic, and achievable (Casler et al. 2010). Based on the evidence in the literature, the study developed the following hypothesis for testing.

H6: Green employee relations positively and significantly impact the green outcomes at the individual and organizational levels.

2.7 Green Outcomes

Green HRM enables the organization to achieve its desired sustainable outcomes (Yong et al. 2019a). A close alignment between green HRM practices and desired outcomes is difficult to accomplish without employee commitment (Kim et al. 2019; Pham et al. 2019 and Renwick et al. 2018). Several results are desirable, primary among them at the employee level are placing value on green resources (Dumont et al. 2018). Once employees give due credence to green values, employee motivation, and commitment to conserve green resources im-

prove. As a result, employees demonstrate green behavior(Husaini; Pirzada and Saiful, 2020)., leading to green organizational outcomes (Shen et al. 2018; Daily et al. 2012). At the corporate level, the firm benefits from cost advantages (Leonidou et al. 2017) and improved financial performance (Zaid and Bon, 2018). The firms also enjoy a positive brand image of a green employer, attract talented staff, create a green culture, and achieve their sustainability goals (Opatha, 2014). An essential green outcome at the organizational level for HEIs is green intellectual capital development as the employees conduct research and develop green knowledge and competencies (Yong et al. 2019b). Based on the evidence in the literature, the study produced the following hypothesis for testing.

H7: Green employee outcomes positively and significantly impacts green organizational outcomes.

The conceptual model (figure 1) diagrammatically represents a formative and causal relationship between Green HRM drivers and green employee and green organizational outcomes.

3. Research Methodology

Epistemologically, a realist research approach guided this study since the primary objective is to measure the hypothesized relationships (Fisher, 2004). These relationships are not accessible without investigation, and quantitative analysis was deemed fit. In line with the research philosophy, the study adopted a quantitative approach due to the need to objectively measure the proposed model and establish its reliability and validity (Bryman and Bell, 2015). The main research tool used to collect primary data was a well-structured-undisguised self-reporting questionnaire with 5-point Likert scale questions. The objective was to collect data from a substantial number of respondents so that the results could be generalized.

3.1 Measures

The study adapted 25 green HRM measures and 8 measures of employee and organization green outcomes from previous green HRM research. Primary among these studies are Shah (2018), who measured Green HRM with 28 items (alpha >.75). Some other prominent research that informed the measures of the study were by Ahmad (2015), Mandip (2012), Masri and Jaroon (2017), and Renwick et al. (2013).

3.2 Data Collection and analysis

A total of 350 online questionnaires were sent out to employees in five different private sectors HEIs in the UAE. Two hundred fifty-five responses were received, out which 251 were found fit for analysis. The study's mainstay data analysis technique was structural equation modeling (SEM). Firstly, it conducted an exploratory factor analysis to test the constructs' factorial structure and check convergent validity (Saunders et al. 2016). The study performed an SEM-based confirmatory analysis by developing a measurement model. Reliability checks were performed through Cronbach alpha scores, while the research utilized average variance extracted (AVE) scores to test discriminant validity (Tabachnik and Fidel, 2007).

4. Results

The first level of the test was the investigation of descriptive data Table 1. The study tested the mean and standard deviations, followed by correlations tests between the constructs. Table 1 shows that job description is positively correlated with training and development and green employee outcomes. Similarly, training and development are positively correlated with performance appraisal and rewards and recognition. Performance appraisal is positively correlated with green employee outcomes. Rewards and recognition are positively correlated with both green employee and green organizational outcomes. Finally, a green employee is positively correlated with green organizational outcomes.

Table 1: Correlations Matrix

Variable	Mean	Std Dev	JD	TD	PA	RR	ER	GOE	GOO
RS	3.918	0.721							
JD	4.095	0.692	—						
TD	4.015	0.701	0.183**	—					
PA	3.978	0.802	0.032	0.249**	—				
RR	3.914	0.804	0.031	0.254**	0.142	—			
ER	4.037	0.717	0.059	-0.022	0.021	0.097	—		
GOE	4.038	0.742	0.158**	-0.022	0.195**	0.241**	0.014	—	
GOO	4.039	0.759	0.071	0.140	0.187	0178**	0.018	0314**	—

The study checked the Cronbach alpha scores and AVE scores. The results showed the right internal consistency of measures with alpha scores >.07 and Average Variance Extracted (AVE) scores >.05, indicating discriminant validity. Similarly, the multicollinearity test was satisfactory as the VIF scores (<.2) suggested no correlational inflation of data. The final test of the robustness of data was through the examination of homogeneity of variance. The mean significance value >.05 on the Leven test did not indicate any heteroscedasticity issues. The results are presented in Table 2. A measurement model was developed and tested to confirm the green HRM and green employee and organization outcomes' factorial structure. The results supported the EFA structures and established convergent validity as the items loaded satisfactorily on to their factors (Table 2). The covariance between factors was < 0.04 supporting the presence of discriminant validity.

Table 2 Factor Loadings, Alpha Scores, and Average Variance Extracted Values

Variables and Their Scale Items	Factor Score	Alpha (KMO)	AVE
Recruitment and Selection (RS)		.81 (.79)	0.5312
1. Transparent communication on green preference in recruitment messages	.69		
2. Inclusion of green selection criteria in recruitment and job interviews	.64		
3. Selection of employees who show sensitivity towards green agenda	.65		
Job Description (JD)		.84 (.81)	0.5851
1. Inclusion of environment-protection tasks, duties, and responsibilities in JD	.81		
2. Design of cross-functional teams to manages environmental issues	.78		
3. Inclusion of green competencies in the job specification	.77		
4. Inclusion of green reporting lines	.79		
5. Assigning green outcomes accountability	.74		
Training and Development (TD)		.87 (.82)	0.5237
1. Providing environmental awareness training	.69		
2. Provide training to enhance the value of green resources and their protection	.68		
3. On-job green training through job rotation for managers	.72		
4. Training for innovative green initiatives specific to HEIs	.73		
Performance Appraisal (PA)		.85 (.80)	0.5339
1. Development and inclusion of company-wide performance standards	.74		
2. Incorporating green objectives and targets in performance evaluation	.68		
3. Including green criteria in appraisal and assign appropriate weighting	.69		
4. Provide regular feedback to employees on environmental performance	.72		
Rewards and Recognition (RR)		.84 (.87)	0.6227
1. Introducing rewards for innovative green work behavior and performance	.87		
2. Providing incentives on the achievement of green targets	.88		
3. Rewards on green skills acquisition	.88		
4. Rewarding development and implementation of the green curriculum	.81		
5. Funding green research projects	.78		
Employee Relations (ER)		.79 (.77)	0.5158
1. Inviting suggestions and involving employees in green decision-making	.78		
2. Introducing green-whistle-blowing and help-lines	.75		
3. Joint consultation with employees to solve environmental challenges	.71		
4. Green health and safety regulations	.72		

Green Employee Outcomes (GEO)		.90 (.91)	0.6987
1. Employee placing a high value on green management	.89		
2. Employee commitment to green causes and show of green behavior	.87		
3. Improved green performance and green productivity	.84		
Green Organizational Outcomes (GOO)		.86 (.85)	0.5618
1. Organizational brand image of the green employer	.77		
2. Creation of a green organizational culture	.78		
3. Reduced costs and improve profit margins	.77		
4. Improved green efficiency	.79		
5. Development of improved green intellectual capital	.78		
Figures within the parentheses are Kaiser-Meyer-Olkin (KMO) test scores.			

4.1 Default Model

The study tested the temporal relationship between green employee and green organizational outcomes in the default structural model. It utilized a covariance-based SEM (CBSEM) to confirm the hypothesized relationships, as Hair et al. (2010) suggested. CBSEM allows testing of several indicator variables simultaneously, accounting for measurement errors, which supports validity-related conclusions at the construct level (Tabachnik and Fidell, 2007). SEM tests were performed using the IBM SPSS (AMOS version 22). The coefficient values on all factors showed scores >0. 61, with the highest coefficient value on green rewards (coefficient value 0.81). Green employee outcomes impacted green organizational outcomes (coefficient value 0.76). Figure 2 shows the complete SEM model, which is representative of the green HRM impact-based model.

4.2 Alternative Model

The study tested an alternative model to confirm the temporal relationship between green employee outcomes and green organizational outcomes. The alternative model tested the green organizational outcomes as a direct causal effect of green drivers. Green employee outcomes were not part of this SEM model. The objective was to find if green HRM drivers can directly influence the organizational level of green outcomes. The fit indices on the alternative model was ($\chi 2$ (147) = 209.02, p < 0.01; GFI = 0.951; AGFI = 0.912; CFI = 0.914; TLI = 0.917; RMSEA = 0.057). The study found the default model to be a better fitting model. In the default model, the factor loadings for the indicator variables on their hypothesized paths to unobserved variables showed coefficient values >.60 (p < .001). The structural model showed a good fit to the data ($\chi 2$ (265) = 349.03, p < 0.01; GFI = 0.981; AGFI = 0.947; CFI = 0.972; TLI = 0.964; RMSEA = 0.041). According to Hu and Bentler (1999), these fit indices scores meet the established benchmarks. Based on Preacher and Merkle's (2016) suggestions and comparative analysis, the study accepted the default model.

Table 3: Results of Hypothesis testing

	Hypotheses	Path coefficient	Significance	Status
H1	Green recruitment and selection positively and significantly impact the desired green outcomes at the individual and organizational levels.	0.61	P <0.001	Accepted
H2	Green job design positively and significantly impact the desired green outcomes at the individual and organizational levels.	0.79	P <0.001	Accepted
H3	Green training and development positively and significantly impact the desired green outcomes at the individual and organizational levels.	0.67	P <0.001	Accepted
H4	Green performance appraisal positively and significantly impact the desired green outcomes at the individual and organizational levels.	0.75	P <0.001	Accepted
H5	Green rewards and recognition positively and significantly impact the desired green outcomes at the individual and organizational levels.	0.81	P <0.001	Accepted
H6	Green employee relations positively and significantly impact the green outcomes at the individual and organizational levels.	0.63	P <0.001	Accepted
H7	Green employee outcomes positively and significantly impact green organizational outcomes.	0.76	P <0.001	Accepted

5. Discussion of Results and Implications

The research on Green HRM has received considerable attention, and the current state of knowledge has been able to identify green HRM drivers, green HRM practices, and green outcomes (Jabbour and Renwick, 2018). However, a complete model testing the effect of several green HRM drivers on various individual and organizational results helps present the full picture. Specifically, it enhances the understanding that soft and challenging approaches to the implementation of green HRM practices, which are essential for its effectiveness. Higher Education institutions are change agents and leaders in knowledge and research (Findler et al. 2019). They develop green intellectual capital, implement green initiatives in their organizations, and, most importantly, influence future employees about green management (Weissman, 2012). Therefore, an impact-based green HRM model can guide academic and managerial decision making in HEIs. The green HRM has the competence to facilitate the use of sustainable resources across the organization. Green HRM functions such as green recruitment and selection, green job design, performance management, green rewards, green training and orientation, and green employee relations significantly influencing both green employee and organizational outcomes (Mukherjee et al. 2020). A critical finding of the impact-based model was that the green employee outcomes are first influenced, impacting organizational outcomes. A direct consequence of green HRM on green organizational outcomes may remain restricted to green employer image, green productivity, and costs savings. An organization will find it challenging to achieve its green objectives without appropriately influencing, motivating, and mobilizing green behavior among its employees (Pham et al. 2019).

Green recruitment and selection help select the right candidate with green aptitude and competencies and sends a signal to the employment market about the central importance a firm places on its green agenda (Guerci et al. 2016). Recruitment of eco-sensitive employees is just the beginning; the green job design ensures that the tasks are designed to take into consideration green elements and duties, and responsibilities are assigned and accounted for through the performance appraisal (Renwick et al. 2013). It becomes essential for the green firm to train its employees on green techniques and develop green competencies and gain green skills (Lasrado and Pereira, 2018; Daily et al. 2012). It becomes particularly critical in a higher education environment as employees are expected to show and practice green behavior and underpinning the curriculum with green emphasis and lead by example. Training and appraising employees based on green criteria also help develop and protect green intellectual capital (Yong et al. 2019b). HEIs should link employees' duties to promoting the green agenda, conducting green research, developing a green curriculum, and patenting green technologies.

5.1 Contributions to Theory

In a meta-analysis, Young et al. (2019a) found that the most widely used theories to study green HRM has been the resource-based theory, followed by social exchange and stakeholder theory. The study has nested the green HRM into COR theory as conservation resources and placing 'value' on green resources is the key to unlocking employee commitment, triggering green behavior, and achieving green organizational goals. The study supports the view that there should be an alignment between green employee and green organizational outcomes. The study extends the resource categorization of COR theory to green energy resources, which is logical considering the value and scarcity of green resources. The research builds a case for enhancing the value of green resources and link it to desired outcomes. Halbesleben (2014) states that when organizations link resources to expected performance and outcomes, employee commitment and motivation increases. Any threat to these valuable resources may lead to a 'resource-loss' feeling, leading to green resource conservation behavior or search for alternative sustainable resources (Wiklund et al. 2018). The green action towards the conservation of green resources enables individuals and firms to build a reservoir of resources to meet future needs and solve future challenges (Hobfall, 2018). The study also contributes to the green HRM literature by presenting a complete-impact-based green HRM model. It can guide future theoretical models for green HRM, guide application of green HRM in HEIs, and lead to a more nuanced- green HRM models applicable in different sectors.

6. Conclusion

The research on green HRM has picked up at a rapid pace and rightly so. The drivers and outcomes of green HRM are becoming clearer to benefit various sectors. However, the research on its implementation and effectiveness, particularly in HEIs, is still emerging. This study concludes that a softer approach to engaging and motivating employees is essential for green HRM initiatives. The efficacy of green HRM is compromised under two conditions. Firstly, when the organization design does not support green HRM policies and initiatives. Secondly, when the organization's employees are not committed and do not believe in green management's value and green conservation of resources. Therefore, the organizational level green outcomes depend on the green employee behavior and the value they place on green resources. Both factors point towards the fact that there is a relationship between resources and their environment. A fertile ground will be more captive of green initiatives, and the value of green resources can be enhanced through nurturance and learned adaptations. Human resource departments can play a central role in creating this productive environment in organizations. An impact-based green resources model is the desired research output, enabling the firms and researchers to understand the interplay of environmental reciprocity created through green drivers, impacting green employee behavior, and green organizational outcomes. In such a resource-constrained environment, resource loss is disproportionately more intense than resource gain. Some of the resource loss is irreversible, and the value of these resources remains critical to humans and ecology, irrespective of their perceptual worth assigned by individuals and firms. Higher education institutions play a central role in creating, supporting, and disseminating green values in society. Through green research and green intellectual capital, they can enhance the value of green resources. Hence, green HRM research in HEIs remains a research priority. The study uses a small sample with a limited number of HEIs. Although the model's reliability and validity are established, its generalizability needs to be further ascertained with more significant a bigger sample and participation of HEIs in such green research projects. The model can be tested with more slight modifications, especially with identifying and testing moderators and mediators' role in these hypothesized relationships.

References

Aboramadan, M. (2020). The effect of green HRM on employee green behaviors in higher education: the mediating mechanism of green work engagement. International Journal of Organizational Analysis., https://doi.org/10.1108/IJOA-05-2020-2190

Ahmad, S. (2015). Green human resource management: Policies and practices. Cogent business & management, 2(1), 1030817. https://doi.org/10.1080/23311975.2015.1030817

Arniati, T.; Puspita, D.A.; Amin, A.; Pirzada, K. 2019. The implementation of good corporate governance model and auditor independence in earnings' quality improvement, *Entrepreneurship and Sustainability Issues* 7(1): 188-200. http://doi.org/10.9770/jesi.2019.7.1(15)

Berrone, P., & Gomez-Mejia, L. R. (2009). Environmental performance and executive compensation: An integrated agency-institutional perspective. Academy of Management Journal, 52(1), 103-126. https://doi.org/10.5465/amj.2009.36461950

Bell, E., Bryman, A., & Harley, B. (2018). Business research methods. Oxford university press.

Bombiak, E. (2019).

Green human resource management – the latest trend or strategic necessity? Entrepreneurship and Sustainability Issues 6(4): 1647-1662. http://doi.org/10.9770/jesi.2019.6.4(7)

Casler, A., Gundlach, M. J., Persons, B., & Zivnuska, S. (2010). Sierra Nevada Brewing Company's thirty-year journey toward sustainability. People and Strategy, 33(1), 44.

Daily, B. F., Bishop, J. W., & Massoud, J. A. (2012). The role of training and empowerment in environmental performance. International Journal of Operations & Production Management.

Dumont, J. Shen, J. Deng, X. (2018). Effects of green HRM practices on employee workplace green behavior: The role of psychological green climate and green employee values. Human Resource Management, 56 (4), 613-627. https://doi.org/10.1108/01443571211226524

Findler, F. Schönherr, N. Lozano, R. Stancher, B. (2019). Assessing the Impacts of Higher Education Institutions on Sustainable Development—an Analysis of Tools and Indicators. Sustainability, 11, (59), 2-19.

Fisher, C. (2004). Writing research dissertations for business students.

Govindarajulu, N., & Daily, B. F. (2004). Motivating employees for environmental improvement. Industrial management & data systems. https://doi.org/10.1108/02635570410530775

Gilal, F. G., Ashraf, Z., Gilal, N. G., Gilal, R. G., & Channa, N. A. (2019). Promoting environmental performance through green human resource management practices in higher education institutions: A moderated mediation model. Corporate Social Responsibility and Environmental Management, 26(6), 1579-1590. https://doi.org/10.1002/csr.1835

Guerci, M., & Carollo, L. (2016). A paradox view on green human resource management: Insights from the Italian context. The International Journal of Human Resource Management, 27(2), 212-238. https://doi.org/10.1080/09585192.2015.1033641

Guerci, M., Longoni, A., & Luzzini, D. (2016). Translating stakeholder pressures into environmental performance–the mediating role of green HRM practices. The International Journal of Human Resource Management, 27(2), 262-289. https://doi.org/10.1080/09585192.2015.1065431

Hanif, H., Rakhman, A., Nurkholis, M., & Pirzada, K. (2019). Intellectual capital: extended VAIC model and building of a new HCE concept: the case of Padang Restaurant Indonesia. African Journal of Hospitality, Tourism and Leisure, 8 (S), pp.1-15. https://www.ajhtl.com/2019.html

Haden, S. S. P., Oyler, J. D., & Humphreys, J. H. (2009). Historical, practical, and theoretical perspectives on green management: An exploratory analysis. Management Decision, 47(7), 1041-1055. https://doi.org/10.1108/00251740910978287

Halbesleben, J. R., Neveu, J. P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the "COR" understanding the role of resources in conservation of resources theory. Journal of management, 40(5), 1334-1364.

Hair, J.F. Black, W.C. Babin, B.J. Anderson, and RE (2010) Multivariate Data Analysis: A Global Perspective, Pearson Education, New Jersey: NJ. https://journals.sagepub.com/doi/abs/10.1177/0149206314527130

Hobfoll, S. E., Halbesleben, J., Neveu, J. P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. Annual Review of Organizational Psychology and Organizational Behavior, 5, 103-128. https://doi.org/10.1146/annurev-orgpsych-032117-104640

Husaini; Pirzada, K., Saiful, 2020. Risk Management, Sustainable Governance Impact on Corporate Performance. Journal of Security and Sustainability Issues, 9(3), 993-1004. https://doi.org/10.9770/jssi.2020.9.3(23)

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural equation modeling: a multidisciplinary journal, 6(1), 1-55. https://doi.org/10.1080/10705519909540118

Jabbour, C. J. C., & Renwick, D. W. S. (2018). The soft side of environmentally sustainable organizations. RAUSP Management Journal. https://doi.org/10.1108/RAUSP-07-2018-0044

Jabbour, C. J. C., Santos, F. C. A., & 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), 1049-1089. https://doi.org/10.1080/09585191003783512

Jackson, S. E., Renwick, D. W., Jabbour, C. J., & Muller-Camen, M. (2011). State-of-the-art and future directions for green human resource management: Introduction to the special issue. German Journal of Human Resource Management, 25(2), 99-116. https://doi.org/10.1177/239700221102500203

Jensen, S. M. (2012). Psycap: Understanding Entrepreneurial Stress. Economics & Business Journal Inquiries & Perspectives, 4 (1), 79-86.

Kellermanns, F., Walter, J., Crook, T. R., Kemmerer, B., & Narayanan, V. (2016). The resource-based view in entrepreneurship: A content-analytical comparison of researchers' and entrepreneurs' views. Journal of Small Business Management, 54(1), 26-48. https://www.tandfonline.com/doi/abs/10.1111/jsbm.12126

Kolk, A. Perego, P. (2013). Sustainable bonuses: Sign of corporate responsibility or window dressing? Journal of Business Ethics, 119 (1), 1-15. Kolk, A., & Perego, P. (2014). Sustainable bonuses: Sign of corporate responsibility or window dressing?. Journal of Business Ethics, 119(1), 1-15.

Kim, Y. J., Kim, W. G., Choi, H. M., & Phetvaroon, K. (2019). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. International Journal of Hospitality Management, 76, 83-93. https://doi.org/10.1016/j.ijhm.2018.04.007

Langat. B. (2016). Green Human Resource Management and Environmental Sustainability (1 Ed.). London: Scholar's Press

Lasrado, F. (2018). Achieving Sustainable Business ExcellenceThe Role of Human Capital. Palgrave Macmillan. https://link.springer.com/book/10.1007%2F978-3-319-73314-2

Leonidou, L. C., Christodoulides, P., Kyrgidou, L. P., & Palihawadana, D. (2017). Internal drivers and performance consequences of small firm green business strategy: The moderating role of external forces. Journal of business ethics, 140(3), 585-606. https://doi.org/10.1111/jsbm.12118

Liebowitz, J. (2010). The role of HR in achieving a sustainability culture. Journal of sustainable development, 3, 50–57.

Al Mamun, M. A. (2019). An Analysis of Employee Awareness on Green Human Resource Management Practices: Evidence from Bangladesh. Human Resource Management Research, 9(1), 14-21.

Marhatta, S., & Adhikari, S. (2013). Green HRM and sustainability. International eJournal Of Ongoing Research in Management & IT.

Masri, H. A., & Jaaron, A. A. (2017). Assessing green human resources management practices in Palestinian manufacturing context: An empirical study. Journal of cleaner production, 143, 474-489.

Mandip, G. (2012). Green HRM: People management commitment to environmental sustainability. Research Journal of Recent Sciences, 1, 244–252. https://doi.org/10.1016/j.jclepro.2016.12.087

Mazzoni, F. (2020). Circular economy and eco-innovation in Italian industrial clusters. Best practices from Prato textile cluster. Insights into Regional Development, 2(3), 661-676. https://doi.org/10.9770/IRD.2020.2.3(4)

Mukherjee, S. Bhattacharjee, S. Paul, N.S. and Banerjee, U. (2020). Assessing Green Management Human Resource Practices in Higher Educational Institute. Test Engineering and Management, 82, 221-240

Opatha, H. H. P., & Arulrajah, A. A. (2014). Green human resource management: Simplified general reflections. International Business Research, 7(8), 101.

Paillé, P. (2019). Green recruitment and selection: an insight into green patterns. International Journal of Manpower. https://doi.org/10.1108/IJM-05-2018-0155

Pirzada, K. (2016). Providers and users' perception of voluntary need of human resource disclosure: A content analysis. Polish Journal of Management Studies, 14(2) 232-242. http://doi.org/10.17512/pjms.2016.14.2.22

Preacher, K. J. Merkel, E.C. (2016). Testing non-tested structure equation models. Psychological Methods. 21 (2), 151-163.

Renwick, D. W. (Ed.). (2018). Contemporary developments in green human resource management research: towards sustainability in action?. Routledge.

Renwick, D. W., Jabbour, C. J., Muller-Camen, M., Redman, T., & Wilkinson, A. (2016). Contemporary developments in Green (environmental) HRM scholarship. https://doi.org/10.1080/09585192.2015.1105844

Renwick, D. W., Redman, T., & Maguire, S. (2013). Green human resource management: A review and research agenda. International Journal of Management Reviews, 15(1), 1-14. https://doi.org/10.1111/j.1468-2370.2011.00328.x

Renwick, D., Redman, T., & Maguire, S. (2008). Green HRM: A review, process model, and research agenda. University of Sheffield Management School Discussion Paper, 1, 1-46.

Rudyanto, A. and Pirzada, K. 2020, "The role of sustainability reporting in shareholder perception of tax avoidance", Social Responsibility Journal, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/SRJ-01-2020-0022

Sharma, K. (2016). Conceptualization of green HRM and green HRM practices: Commitment to environment sustainability. International Journal of Advanced Scientific Research and Management, 1(8), 74-81. http://ijasrm.com/wp-content/uploads/2016/08/IJASRM_V1S8_105_74_81.pdf

Saunders, M., Lewis, P., & Thornhill, A. (2009). Research methods for business students. Pearson education.

Shen, J., Dumont, J., & Deng, X. (2018). Employees' perceptions of green HRM and non-green employee work outcomes: The social identity and stakeholder perspectives. Group & Organization Management, 43(4), 594-622. https://doi.org/10.1177/1059601116664610

Shah, M. (2019). Green human resource management: Development of a valid measurement scale. Business Strategy and the Environment, 28(5), 771-785. https://doi.org/10.1002/bse.2279

Sherren, K. (2008). A history of the future of higher education for sustainable development. Environmental Education Research, 14(3), 238-256. https://doi.org/10.1080/13504620802148873

Shen, J. Dumont, J. and Deng, X. (2016). Employees' perceptions of Green HRM and non-green employee work outcomes: the social identity and stakeholder perspectives", Group & Organization Management, 43 (4), 1-29.

Solikhah, B., Della Firmansyah, N., & Pirzada, K. (2017). The Influence of Effective BOC on Choice of Auditor. Pertanika Journal of Social Science annd Humanities, 25 (S), pp. 271-280. http://www.pertanika.upm.edu.my/view_archives.php?journal=JSSH-25-S-11

Stephan, U. (2018). Entrepreneurs' mental health and well-being: A review and research agenda. Academy of Management Perspectives, 32(3), 290-322. https://doi.org/10.5465/amp.2017.0001

Stringer, L. (2010). *The green workplace: Sustainable strategies that benefit employees, the environment, and the bottom line*. St. Martin's Press.

Suryani, A., & Pirzada, K. (2018). Analysis of opportunistic behavior of management to company performance. Polish Journal of Management Studies, 18(1) 379-388. http://doi.org/10.17512/pjms.2018.18.1.28

Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). Using multivariate statistics (Vol. 5, pp. 481-498). Boston, MA: Pearson.

Tang, G., Chen, Y., Jiang, Y., Paille, P., & Jia, J. (2018). Green human resource management practices: scale development and validity. Asia Pacific Journal of Human Resources, 56(1), 31-55. https://doi.org/10.1111/1744-7941.12147

Vidal-Salazar, M. D., Cordón-Pozo, E., & Ferrón-Vilchez, V. (2012). Human resource management and developing proactive environmental strategies: The influence of environmental training and organizational learning. Human Resource Management, 51(6), 905-934. https://doi.org/10.1002/hrm.21507

Wati, L.N.; Primiana, H.I.; Pirzada, K.; Sudarsono, R. 2019. Political connection, blockholder ownership and performance, *Entrepreneurship and Sustainability Issues* 7(1): 52-68. http://doi.org/10.9770/jesi.2019.7.1(5)

Weissman, N. B. (2012). Sustainability and liberal education: Partners by nature. Liberal Education, 98(4), 6-13.

Wiklund, J., Nikolaev, B., Shir, N., Foo, M. D., & Bradley, S. (2019). Entrepreneurship and well-being: Past, present, and future. Journal of Business Venturing, 34(4), 579-588. https://doi.org/10.1016/j.jbusvent.2019.01.002

Wu, Y.J. and Shin, J-P. (2016). Higher Education for sustainable development: A systematic review. International Journal of sustainability in Higher Education, 17 (5), 633-651.

Yong, J. Y. M-Y. Yusliza. Fawehinmi, O. O. (2019a). Green human resource management. Benchmarking, 27 (7), 2005-2027.

Yong, J. Y., Yusliza, M. Y., Ramayah, T., & Fawehinmi, O. (2019). Nexus between green intellectual capital and green human resource management. Journal of cleaner production, 215, 364-374. https://doi.org/10.1016/j.jclepro.2018.12.306

Yusliza, M. Y., Othman, N. Z., & Jabbour, C. J. C. (2017). Deciphering the implementation of green human resource management in an emerging economy. Journal of Management Development. https://doi.org/10.1108/JMD-01-2017-0027

Zaid, A. A., Jaaron, A. A., & Bon, A. T. (2018). The impact of green human resource management and green supply chain management practices on sustainable performance: An empirical study. Journal of Cleaner Production, 204, 965-979. https://doi.org/10.1016/j.jclepro.2018.09.062

Zoogah, D. B. (2011). The dynamics of Green HRM behaviors: A cognitive social information processing approach. German Journal of Human Resource Management, 25(2), 117-139. https://doi.org/10.1177/239700221102500204

Vazeerjan BEGUM
ORCID ID: https://orcid.org/0000-0002-0966-3981

Tahseen Anwar ARSHI
ORCID ID: https://orcid.org/0000-0002-5244-7862