

Original Article

Impact of HR Practices on Eco-Friendly Behaviour in Higher Education Institutions: Mediating Mechanism of Organizational Culture & Sustainable Work Environment

Article history:

Received: August 11, 2024

Revised: September 28, 2024

Accepted: September 29, 2024

Published: October 01, 2024

Qanita Imtiaz (Corresponding Author)Department of Business Administration
DHA Suffa University, Karachi – Pakistan✉ qanitamiaz@hotmail.com**Dr. Sobia Iqbal**Department of Management Sciences
DHA Suffa University, Karachi– PakistanID <https://orcid.org/0009-0006-4272-1959>✉ sobia.iqbal@dsu.edu.pkJEL Classification: **O15, I23****Author Biographies**

1 Qanita Imtiaz is currently a Research Scholar at the Department of Business Administration, DHA Suffa University in Karachi – Pakistan. She received her Master's Degree in Business Administration from Hamdard University in Karachi – Pakistan.

2 Dr. Sobia Iqbal is currently an Associate Professor at the Department of Management Sciences, DHA Suffa University in Karachi– Pakistan. She obtained her Doctorate Degree in Management Sciences from the University of Karachi in Karachi – Pakistan.

How to Cite:

Imtiaz, Q., & Iqbal, S. (2024). Impact of HR Practices on Eco-Friendly Behaviour in Higher Education Institutions: Mediating Mechanism of Organizational Culture & Sustainable Work Environment. *Bulletin of Multidisciplinary Studies*, 1(2), 105–113.

<https://doi.org/10.48112/bms.v1i3.917>

Publisher's Note:

International Research and Publishing Academy (IRAPA) stands neutral with regard to jurisdictional claims in the published maps and institutional affiliations.

Copyright:

© 2024 | Bulletin of Multidisciplinary Studies published by International Research and Publishing Academy (IRAPA)



This is an Open Access article published under the Creative Commons Attribution 4.0 International (CC BY 4.0) (<https://creativecommons.org/licenses/by/4.0>)

Creative Commons Attribution (CC BY): lets others distribute and copy the article, to create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), to include in a collective work (such as an anthology), to text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honour or reputation.

ABSTRACT

This research explored the contributions of Human Resource Management (HRM) practices towards encouraging eco-friendly behaviour in Higher Education Institutions (HEIs) in Karachi, Pakistan focusing on the organizational culture. Using mixed-method research, it was found that there was a high positive association between HRM practices and eco-friendly behaviour mediated by organizational culture. The analysis also revealed that a strong organizational culture mediates the effectiveness of HRM practices in achieving sustainability goals. The findings offer practical recommendations for HEIs in resource-constrained environments, suggesting that even low-cost or incremental HRM interventions can positively impact sustainability initiatives. This study fills the gap in existing literature where studies have tried but failed to capture any evidence from the educational sector and contributes to the body of knowledge by proving that HRM practices as per the strategy can promote higher environmental concern levels in organizations. Resource constraints were identified as significant challenges in adopting these practices in Karachi's HEIs.

Keywords: *Eco-friendly behaviours, Extra-role green behaviour, In-role green behaviour, Organizational culture, Sustainable organizational climate*

INTRODUCTION

Environmental Sustainability

Today, environmental protection resonates with each one of us as every day witnesses more effects of climate change that people have to live with including resource depletion exploitation and environmental degradation. When it comes to tackling these obstacles, HEIs play a central role in that they assist in nurturing a culture of sustainability around the world and training leaders of tomorrow on why it is paramount that we take care of our surroundings (Javed, et al., 2019; Khilji & Wang, 2006). In higher education, environmental sustainability is thus understood as application of the green in additional or all levels of structure within the academic institutions: those concerning to the academics itself (curricula) that level of operations including kettle combined: physical modifier of the structure and surrounding social culture. It is plausible that implementing this type of education in HEIs will help decrease the environmental damage, foster the sustainability intention and behaviour of students, staff and society in general (Abbas et al., 2022).

Organizational Development Strategies

Modern Organizational Development strategies has also necessitated the integration of the corporate goals and objectives in people management processes. Stress that this is not an easy undertaking especially in current turbulent times such as due to uncertainties, constant technological developments, fast paced innovation and pervasive social, economic, legal and political issues (Haque, 2017; Tariq et al., 2016). However, it is important to note that this recognition of the connection between

HRM practices and the sustainability objectives arises in spite of well-documented analysis showing that HRM practices do matter towards employees and the wider human, societal and environmental confines of organizations (Hussain & Deery, 2018).

In their studies, the above authors have shown that HRM practices create conditions for increasing the effectiveness of interpersonal interaction, thereby increasing the possibilities to achieve strategic organizational objectives more efficiently. However, in spite of these findings, there is full realization of the potential benefits derived from HRM practices and processes towards achieving the sustainability objectives and enhancing performance in the overall organization.

Sustainable Goals

By scrutinizing this connection, organizations can become more aware of how HRM practices can be employed to further the sustainability agenda without diminishing the general organizational outcomes. It is reasonable to stress that HRM practices are very vital not only for the employees' welfare but also for the wider sustainability in which such organizations exist. Improving and innovating the boundaries of HRM makes it possible for organizations to achieve sustainability goals in a very dynamic and innovative manner (Iqbal & Ahmad, 2021).

Corporate Sustainability

The subject of corporate sustainability as part of general management appeared in the late 1980s. The discussion extended when Dyllick and Muff (2016) suggested that instead of trying to achieve corporate

goals focused on sustainability, corporations should focus on achieving sustainable development goals. To put it differently, the focus towards pursuit of SDGs there is a contradiction of the goals of corporate institutions and HRM practices (Iqbal & Ahmad, 2021).

Further, a focus on environmental issues provides HEIs with the opportunity to enhance the understanding of sustainability problems and their possible solutions. In the case of research, various institutions may offer solutions that involve development of technological gadgets, strategies and policies that address these urgent environmental challenges. Equally, this research also goes into the syllabus to make sure that it does not become outdated and useless. At the same time, the place of employing resources to facilitate learning is over and done with the institution (Khan et al., 2013).

Energy Management Policies

Over the past few decades, however, there have been attempts by the HEIs to create a balance between using the resources profitably while maintaining the integrity of the environment. System encompasses the institution's strategy and its principles as demonstrated through adherence to energy management policies which are further provided by GMR and their implementation at the institution.

Research Questions

- How do Human Resource Management affect eco-friendly behaviours in Pakistan's HEIs?
- How to establish the relationship on Sustainable work environment and organizational culture of HEIs' Human Resource Management?

Research Hypothesis

H₁: Human Resource Management has an impact on Organizational Culture

H₂: Organizational Culture has an impact on Eco Friendly Behaviour

H₃: Human Resource Management has an impact on Eco Friendly Behaviour

H₄: Human Resource Management has an impact on Eco friendly Behaviour through Sustainable Work Environment

METHODOLOGY

In the study, a quantitative cross-sectional survey design was used to investigate the contribution of Human Resource Management (HRM) practices towards encouraging environmentally responsible activities within the Higher Education Institutions

(HEIs) found in Karachi Pakistan. This also contributed to ease in the collection of data at one period in time and thus an examination of HRM practices research, organizational culture providing the extent of eco-friendly norms.

Population and Sampling Design

The target population for the study comprised the employees of higher education institutions in Karachi, Pakistan. Middle level administration staff in a university were sent questionnaires about their university as well as the institution where they worked. This encompassed faculty, staff and other non-athletic employees who work for these establishments. In this particular study, because of its focus on the outcome variable in focusing on a particular sampling unit thus requires that these observations can be done in all HEIs in Karachi. Participants were assigned to the above-mentioned groups at random. Vice-Chancellor and Pro Vice Chancellor or Registrar of the University were interviewed as part of Group 1. Participants in groups 2 and 3, on the other hand, filled in the questionnaires. In order to gain access to Educational Institutes, the questionnaires were administered and distributed through direct personal interactions. The questionnaire data obtained first from groups 2 and 3.

Data Collection

This data was captured with the help of an open-ended questionnaire which consists of pre-designed standardized scales that were validated on literature. Questionnaire was divided into multiple sections and each section discussed different aspects of the study;

Data Analysis

Descriptive statistics (means, standard deviations and frequencies) were calculated to summarize the demographic characteristics of our sample as well as the main variables we are actually interested in. Reliability Analysis Cronbach's alpha was used to measure the level of internal consistency among the various scales obtained from the survey. A threshold of 0.7 was considered the lower limit for acceptance of the scales (reliable, constructs).

Analysis

Study hypotheses were tested using a multiple regression analysis. Eco-friendly behaviour was taken as dependent variable and HRM practices and organizational culture were taken as independent variables. Function of regression model: In this study, the research employs a Regression Model for the investigation of factors that lead to prediction of eco-

friendly behaviours by employees of the Organization, and the specific factors were found to be HRM practices and Organizational culture.

RESULTS & FINDINGS S

Descriptive Statistics

Table 1
Descriptive Statistics for Demographic Variables

Demographic Variable	Mean	Standard Deviation
Gender	1.4952	0.5008
Age Group	2.5841	1.1237
Household Income Level	3.0667	1.4361
Qualification	3.0889	1.4338
Work Experience	2.6000	1.1309

The descriptive statistics table 4.1 for demographic variables allow having more knowledge concerning the composition of the sample that, in turn, would help the author in inferring his research question “how HRM practices have moved the HEIs in Karachi.

Confirmatory Factor Analysis

When studying, it is common to use a statistical method called Confirmatory Factor Analysis (CFA) to assess the reliability and validity of a measurement

The most important tool for analysing and summarizing a dataset’s significance, such as its major tendency, distribution of patterns and variability is known as descriptive statistics. These tools help in identifying and understanding the data before moving for complicated or difficult analysis.

model, especially when you are working with Structural Equation Modelling (SEM). Use CFA as the tool to enhance and confirm or verify the constructs’ measurement methodology in research. Rarely, which raises the validity of the research findings.

Factor Loading

We have used CFA to confirm the relationship of indicator variables with the relevant latent variables.

Table 2
Results of Factor Loading

Indicators	HRM	SWE	IRGB	ERGB	IWB	OC
HRM1	0.703					
HRM2	0.763					
HRM3	0.771					
HRM4	0.780					
HRM5	0.712					
SWE1		0.825				
SWE2		0.828				
SWE3		0.829				
SWE4		0.754				
SWE5		0.701				
IRGB1			0.716			
IRGB2			0.633			
IRGB3			0.706			
ERGB				0.764		
ERGB2				0.755		
ERGB3				0.747		
IWB1					0.755	
IWB2					0.745	
IWB3					0.796	
IWB4					0.779	

IWB5	0.786
IWB6	0.721
OC1	0.745
OC2	0.711
OC3	0.702
OC4	0.706
OC5	0.787

HRM=Human Resource Management
 SWE=Sustainable Work Environment
 IRGB=In-Role Green Behaviour
 ERGB=Extra-Role Green Behaviour
 IWB=Innovative Work Behaviour
 OC=Organizational Culture

The Confirmatory Factor Analysis results from Table 4.2 are critical for understanding the extent to which the indicators measure latent constructs in the current study on HRM practices and psychologically and eco-friendly behaviours in HEIs of Karachi, Pakistan. Factor loading ranges between 0 and 1 and explains the strength of the relationship between the observed indicators and related latent construct.

Reliability and Validity Analysis

As part of the present study, a measurement model was subjected to reliability and validity evaluations, followed by examination of the measurement model's structural model. Provided that this a threshold value higher than 0.7, Cronbach's Alpha and composite reliability have been used in the measurement of reliability.

Table 3
 Reliability and Validity Assessment

Constructs	CR	CA	AVE
HRM	0.826	0.845	0.634
SWE	0.831	0.718	0.506
IRGB	0.856	0.772	0.564
ERGB	0.809	0.743	0.542
IWB	0.811	0.765	0.601
OC	0.831	0.767	0.599

CR=Composite Reliability
 CA=Cronbach's Alpha
 AVE=Average variance extracted

In Table 4.3, the results of the construct reliability and validity assessment are provided. The constructs that were assessed in this research included, namely: 'Human Resource Management', 'Sustainable Work Environment', 'In-Role Green Behaviour', 'Extra-Role Green Behaviour', 'Innovative Work Behaviour', and 'Organizational Culture'. To assess the reliability and

validity of measures applied, the author used three indicators, including Composite Reliability, Cronbach's Alpha, and Average Variance Extracted.

Discriminant Validity

It ensures that the discriminant validity identify the factors or the constructs that are distinct and not easy to measure the underlying phenomena.

Table 4
 Heterotrait-Monotraits Ratio (HTMT)

Constructs	HRM	SWE	IRGB	ERGB	IWB	OC
HRM						
SWE	0.712					
IRGB	0.701	0.799				
ERGB	0.620	0.671	0.787			
IWB	0.891	0.723	0.634	0.783		
OC	0.698	0.791	0.721	0.701	0.752	

Collinearity Assessment

Statistical analysis helps when two or more independent variables are correlated, and this phenomenon is known as multi collinearity assessment. To measure the collinearity assessment, we usually

used Variance Inflation Factor (VIF). It helps to quantify how much variance in one independent variable is enlightened by the other variable in the model. The VIF values must be under 5 with a p value of 0.5 for a favourable result.

Table 5
Collinearity Assessment

Constructs	VIF
HRM	1.803
SWE	2.067
IRGB	2.524
ERGB	1.352
IWB	1.549
OC	1.689

Structural Equation Model

Table 6
Path Coefficients: Structural Equation Modelling (SEM)

Hypothesis	Paths	Exp. Sign	Path Coefficient (β)	Standard Error	Empirical t-value	P-value
H1	HRM -> OC	+	0.822	0.021	10.660	0.000
H2	HRM -> EFB	+	0.790	0.011	11.453	0.000
H3	HRM -> SWE	+	0.896	0.034	10.945	0.000
H4	SWE -> EFB	+	0.843	0.028	10.970	0.000
H5	OC -> EFB	+	0.855	0.026	11.321	0.000
H6	HRM -> EFB	+	0.876	0.023	11.219	0.000
H7	HRM -> EFB	+	0.812	0.019	10.572	0.000
H8	HRM -> EFB	+	0.801	0.022	11.008	0.000

The results presented in Table 4.6 allow to have a good understanding of the relationships in HRM practices and different outcomes pertinent to eco-friendly behaviours in Higher Education Institutions in Karachi, Pakistan. The path coefficients along with standard errors, empirical t-values, and p-values given from the analysis using SEM show that the hypotheses are validated together by all outcomes.

Mediation Analysis

Moderation analysis is a statistical technique used to understand how the relationship between two variables is affected by a third variable. The third variable is called the mediator variable. Now we analysed these study hypothesis one by one to understand these relationships.

Table 6
Moderation Analysis

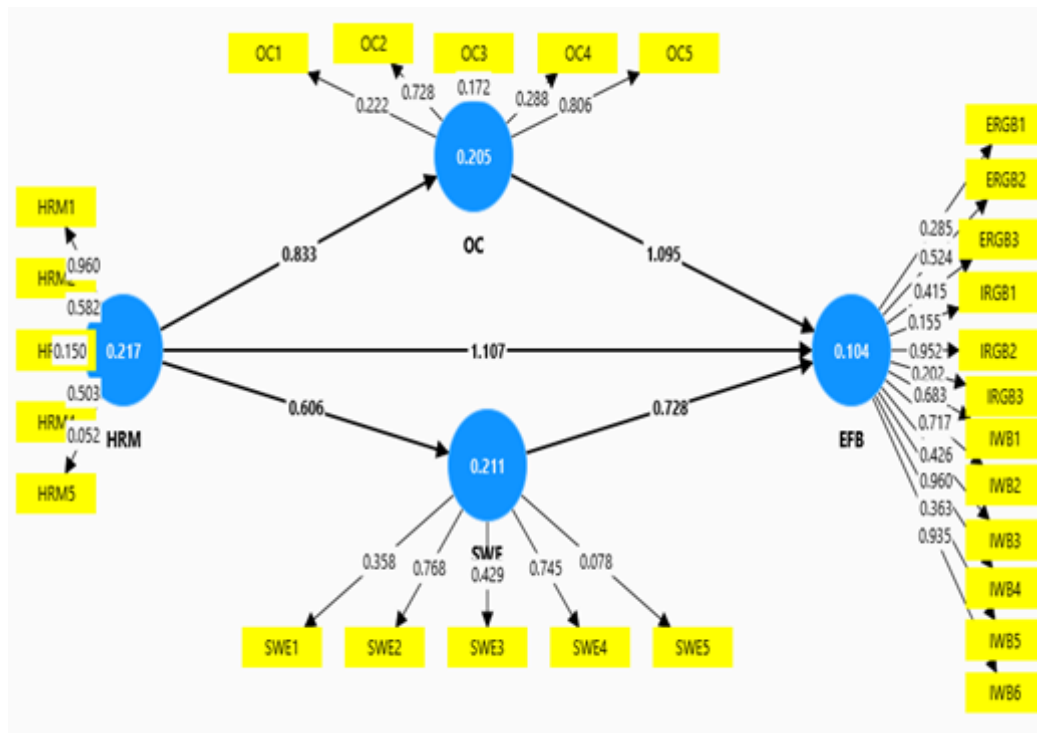
Hypothesis	Direct Path	Indirect Path	Path Coefficient (β)	Standard Error	t-value	p-value
H6	HRM -> OC -> EFB	HRM -> OC -> EFB	0.703 * 0.855 = 0.601	0.024	9.780	0.000
H7	HRM -> SWE -> EFB	HRM -> SWE -> EFB	0.896 * 0.843 = 0.755	0.027	10.216	0.000
H8	HRM -> OC -> SWE -> EFB	HRM -> OC -> SWE -> EFB	0.822 * 0.896 * 0.843 = 0.619	0.032	9.344	0.000

The results of the mediating analysis of the table above show the indirect impact of HRM practices on EFB through Organizational Culture. According to the results, this path is statistically significant, as is suggested by the coefficients of the path, standard

errors, t-values, and p-values. Thus, the results of the testing Hypothesis 6 are that from HRM to EFB, the combined path coefficient is equal to 0.601, standard error is 0.024, empirical t = 9.780, and p-value= 0.000. Therefore, the relationship is mediating because it is

significant.

Model



Discussion

These findings address a significant gap in the scholarly literature regarding the actions of Human Resource Management (HRM) policies, an organizational culture, and green practices in Higher Education Institutions (HEIs) in Karachi, Pakistan. These findings suggest HRM practices to have substantial contribution towards achieving sustainability work environment in terms of employees’ in-role green behaviours and extra-role green behaviours also. The study also highlights the fact that HRM is essential in creating and developing an organization culture which is favourable towards greening the business operations.

On the other hand, the findings of the studies in this research largely agree with the emerging inclination that HRM practices can make the organizations perform better and be sustainable. As, for instance, suggested by Renwick et al. (2016) and Rothenberg et al. (2017), it is also worth noting that practices of HRM affect not only the employees, but other contextual and environmental aspects of the organization as well. Nevertheless, as opposed to those previous researches which examined knowledge in corporate businesses or organizations, this research adds the knowledge in the area of HEIs and the practices of HRM on how it shapes the green practices.

HRM has also been noted to offer opportunities to

increase organizational performance through various published works including but not limited to Cohen (2015) and Opoku-Dakwa et al., (2018). This study has corroborated their assertions as to how HRM practices are beneficial to achieving sustainability as well as enhancing the performance of HEIs. This study in particular builds on the work of Ehnert and Ehnert (2009). Den Hartog et al., (2013) as well as Pfeffer (2010) which stressed on the importance of developing sustainable HRM in order to enhance human sustainability. This study has also brought forth a new dimension by narrowing the focus of investigation towards the educational sector and instead investigating the direct and mediated relationship through the organization culture of the diverse HRM practices and eco-friendly behaviours.

This research is also distinct from previous ones in that it includes the SMART PLS advance software in data analysis nor did any among the studies put in more than one sided approach. Structural Equation Modelling (SEM) offers better understanding and insight into how variables relate with one another as well as providing adequate evidence for the constructs that posit positive relationship between HRM practices and eco-friendly behaviours. Past researches would settle on more straight forward analytical forms; correlation analysis or regression and these may provide simplistic

reasoning to the issues presented therein.

These results also reaffirm the findings reported by Gillani et al. (2024) who suggested a design of operational projects for HEIs, in which sustainability is considered as a priority for integration in all the fundamental activities of these institutions including curriculum, research and functioning of the campus that must be done in a Sustainable manner. As HEIs practice sustainability within the educational context, they, therefore, also assist in the broader aspects of sustainability and at the same time groom the future generation who will spearhead sustainability in their career practice. This study proceeds in that assumption and explains HRM's contribution to the establishing of the sustainable culture in HEI's.

However, the current study agrees with Iqbal and Ahmad (2021) vigorously conflicting debates on whether or not HRM systems can be employed in the attainment of the sustainability goals of corporations. It provides empirical support in favour of sustainable HRM in management. It is consistent with the view that a reinforcement of such practices and mission, strategies and objectives that include environmental issues among others are positive around employees of the organization and enable them to perform eco-friendly oriented behaviours, supported by more understanding and resources. In summary, the findings of this study will help fill the literature gap on the role of HRM practices in developing an eco-friendly image of HEIs. Employing a new methodology on different countries sustains the findings of earlier works and proceeds further within such interrelations which provide new scopes on the information of the HRM purpose within institutions of higher education with regard to sustainability.

CONCLUSION

The research illustrates how the practices of Human Resource Management (HRM) are vital in enhancing green practices in Higher Education Institutions (HEIs) in Karachi, Pakistan. The results show that HRM practices, when integrated with sustainability, have a positive impact on the development of sustainable work culture as well as positive in-role and extra-role green behaviours in employees. A new area of research can be addressed where the practices of HEIs in terms of HRM can be utilized to assist to realize the institutions' solutions in protecting the environment and that the graduates will be able to use their skills for sustainable development in various sectors.

The results confirm and further develop the

existing body of literature, allowing for the first time relationships between HRM practices, organizational culture and eco-friendly behaviour to be tested within a quantitative research design. This research also offers a new perspective as it studies the educational sector and innovatively research and analyses these relationships. The findings point to the fact that HEIs which consume a pivotal place in the society drive the sustainability agenda not only through their business models but also through the culture focused on sustainable practices.

To summarize, it can be stated that the present research places a great deal of importance on the fact that the need for sustainable development in higher education institutions cannot be fully achieved in isolation and, therefore, requires integration of HRM. One such situation involves factors that facilitate the application of waste management practices, where HEIs could, in addition to paperless policies, emphasize appropriate human resource management practices in improving eco-behaviour.

Competing Interest

The authors had no competing interests.

References

- Abbas, Z., Sarwar, S., Rehman, M. A., Zámečník, R., & Shoaib, M. (2022). Green HRM promotes higher education sustainability: a mediated-moderated analysis. *International Journal of Manpower*, 43(3), 827-843.
<https://doi.org/10.1108/IJM-04-2020-0171>
- Cohen, D. J. (2015). HR past, present and future: A call for consistent practices and a focus on competencies. *Human Resource Management Review*, 25(2), 205-215.
<https://doi.org/10.1016/j.hrmmr.2015.01.006>
- Den Hartog, D. N., Boon, C., Verburg, R. M., & Croon, M. A. (2013). HRM, communication, satisfaction, and perceived performance: A cross-level test. *Journal of Management*, 39(6), 1637-1665.
<https://doi.org/10.1177/0149206312440118>
- Dyllick, T., & Muff, K. (2016). Clarifying the meaning of sustainable business: Introducing a typology from business-as-usual to true business sustainability. *Organization & Environment*, 29(2), 156-174.
<https://doi.org/10.1177/1086026615575176>
- Ehnert, I., & Ehnert, I. (2009). Conceptual model for sustainable HRM and a paradox framework. *Sustainable Human Resource Management: A Conceptual and Exploratory Analysis from a Paradox Perspective*, 163-181.

https://doi.org/10.1007/978-3-7908-2188-8_5

Gillani, F., Chatha, K. A., Jajja, S. S., Cao, D., & Ma, X. (2024). Unpacking digital transformation: Identifying key enablers, transition stages and digital archetypes. *Technological Forecasting and Social Change*, 203, 123335.

<https://doi.org/10.1016/j.techfore.2024.123335>

Haque, A. U., Faizan, R., & Cockrill, A. (2017). The relationship between female representation at strategic level and firm's competitiveness: evidences from cargo logistic firms of Pakistan and Canada. *Polish Journal of Management Studies*, 15(2), 69-81.

<http://dx.doi.org/10.17512/pjms.2017.15.2.07>

Hussain, T., & Deery, S. (2018). Why do self-initiated expatriates quit their jobs: The role of job embeddedness and shocks in explaining turnover intentions. *International Business Review*, 27(1), 281-288.

<https://doi.org/10.1016/j.ibusrev.2017.08.002>

Iqbal, Q., & Ahmad, N. H. (2021). Sustainable development: The colors of sustainable leadership in learning organization. *Sustainable Development*, 29(1), 108-119.

<https://doi.org/10.1002/sd.2135>

Javed, B., Naqvi, S. M. M. R., Khan, A. K., Arjoon, S., & Tayyeb, H. H. (2019). Impact of inclusive leadership on innovative work behavior: The role of psychological safety. *Journal of Management & Organization*, 25(1), 117-136.

<https://doi.org/10.1017/jmo.2017.3>

Khan, N. R., Ghouri, A. M., & Awang, M. (2013). Leadership styles and organizational citizenship behavior in small and medium scale firms. *Researches World-Journal of Arts, Science & Commerce*, 4(2), 153-163.

Khilji, S. E., & Wang, X. (2006). 'Intended' and 'implemented' HRM: the missing linchpin in strategic human resource management research. *The International Journal of Human Resource Management*, 17(7), 1171-1189.

<https://doi.org/10.1080/09585190600756384>

Opoku-Dakwa, A., Chen, C. C., & Rupp, D. E. (2018). CSR initiative characteristics and employee engagement: An impact-based perspective. *Journal of Organizational Behavior*, 39(5), 580-593.

<https://doi.org/10.1002/job.2281>

Pfeffer, J. (2010). Building sustainable organizations: The human factor. *Academy of Management Perspectives*, 24(1), 34-45.

<https://doi.org/10.5465/amp.24.1.34>

Renwick, D. W., Jabbour, C. J., Muller-Camen, M., Redman, T., & Wilkinson, A. (2016). Contemporary developments in Green (environmental) HRM scholarship. *The International Journal of Human Resource Management*, 27(2), 114-128.

<https://doi.org/10.1080/09585192.2015.1105844>

Rothenberg, S., Hull, C. E., & Tang, Z. (2017). The impact of human resource management on corporate social performance strengths and concerns. *Business & Society*, 56(3), 391-418.

<https://doi.org/10.1177/0007650315586594>

Tariq, S., Jan, F. A., & Ahmad, M. S. (2016). Green employee empowerment: a systematic literature review on state-of-art in green human resource management. *Quality & Quantity*, 50, 237-269.

<https://doi.org/10.1007/s11135-014-0146-0>