

DOI: 10.5281/zenodo.12426906

# SUSTAINABLE HR PRACTICES IN HERITAGE ORGANIZATIONS: THE ROLE OF ETHICAL LEADERSHIP AND EMPLOYEE ENGAGEMENT

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Received: 11/10/2025

Accepted: 03/02/2026

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## ABSTRACT

With the increase in focus on sustainability, there has been an increased need for incorporation of ethical leadership and employee engagement into the HRM strategies. In this regard, this study analyzes the correlation between ethical leadership, employee engagement, and sustainable HRM outcomes. The research employs an exploratory approach to analyze the connection through secondary HR analytics. The study will be analyzed using key parameters like job satisfaction, stress, performance, and attrition. It is clear from descriptive statistics that there is balanced employee distribution in organizational categories with most variables having moderate levels. But when correlation and regression analysis are employed, it is found that there are weak and statistically insignificant connections between variables such as measures of ethical leadership, engagement of employees, and HR sustainability. Additionally, it is concluded that there is no mediation of the connection between leadership and sustainable HR outcomes through engagement of employees using the given sample data. These conclusions contrast the established literature on the topic, in which strong positive connections are found between green HR practices, leadership, and engagement. It is assumed that it is due to limitations of proxies used and using cross-sectional secondary data. The paper makes

*an additional contribution to the existing literature on HR analytics as an illustration of its difficulties in practice.*

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**KEYWORDS:** Sustainable HRM, Ethical Leadership, Employee Engagement, HR Analytics, Organizational Sustainability, Employee Performance.

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## Introduction

With regard to the trend towards sustainability, it has led to a redirection of the focus of business on the problem of organizational environmental responsibility to social and ethical HR management processes. The notion of sustainable HRM has been developed as one of the most influential paradigms that combines corporate effectiveness with the ecology and social dimension in the long run. Therefore, based on the described perspective, the enterprises should work out their strategy of both increasing efficiency and handling environmental and social concerns of the firm. GHRM can be regarded as the strategic approach to introducing environmental dimensions into HRM and creating sustainable organizations (Iqbal et al., 2025; Maheshwari et al., 2024).

It is vital for heritage and tourism industries as any organizational operations are associated with the problem of environmental protection. Heritage organizations have a number of problems related to the combination of efficiency and conservation. Therefore, HRM is crucial for promoting sustainable behavior of employees in such organizations. Empirical research proves that sustainable development in the tourism industry can be achieved through GHRM processes that encourage environmentally friendly activities of employees along with sustainable organizational commitment to sustainability (Sitohang et al., 2024).

It seems like the concept of leadership, especially ethics-based one, is a very important determinant in this matter. Ethical leadership, generally speaking, is the concept describing the possession of such qualities as integrity, responsibility, and fairness, thus being extremely important for maintaining the work environment. An ethical leader can positively influence his or her subordinates through the demonstration of positive example and by establishing the culture in the company. The application of ethical leadership into HRM theories is seen as a behavioral approach that helps to make GHRM process more efficient (Awan et al., 2023). Another aspect related to the problem under consideration relates to the matter of engaging the personnel. Engaged staff would be likely to show proactive behaviors, create additional value for the organization's objectives, and thus contribute to the sustainable operation of the initiatives. In this regard, scientific evidence demonstrates that GHRM practices positively influence the engagement and affective commitment of employees if they correspond to their environmental beliefs (Gomes et al., 2023).

Moreover, the organizational culture becomes an important mediating variable in transforming HR activities into tangible performance outcomes. An effective green organizational culture will enhance the efficiency of the initiatives implemented as they will facilitate the incorporation of the principles of sustainability into everyday life and decision-making. Indeed, the study found that the relationship between GHRM and the environmental performance of the companies was largely influenced by the mediating variable of green organizational culture; thus, the corresponding cultural match proved to play an essential role in attaining desirable sustainability results (Aggarwal and Agarwala, 2023). In the same manner, the incorporation of the principles of the circular economy into HRM practices improves the link between the latter and sustainability (Iqbal et al., 2025). Apart from the environmental implications, there are also implications for the employees themselves. The right HR practices may help increase the social capital in the organization, thus leading to better employee retention and organizational stability (Cachón-Rodríguez et al., 2022). This is particularly applicable in heritage settings, given that knowledge and skills play a critical role in sustaining culture. Among the many novel approaches proposed in solving the problems in the workforce with the aim of achieving sustainable development include those of talent management unique to heritage settings (Khalil et al., 2017).

Although the literature on sustainable HRM and GHRM is increasing, integrated frameworks to explore the relationship between ethical leadership, employee engagement, and sustainable HR outcomes are still lacking. The literature tends to examine each of the components separately and does not investigate their interaction. Moreover, the number of empirical studies on heritage and culturally oriented organizations is few, which evidences a gap in the literature. Empirical methods have been used to take the complexity of sustainable HR practices, but there is a possibility of additional empirical validation (Goel et al., 2022). This paper will fill these gaps by exploring the contribution of ethical leadership and employee engagement towards creating sustainable HR performance. Resting on the results of GHRM, leadership theory, and employee engagement research, the study will contribute to the overall understanding of how HR practices can be used to contribute to the sustainability goals. It is believed that the findings will help not only advance theoretical research, but

also practice, as they would provide a guideline on how organizations would implement HR strategies to support sustainability objectives.

### **Methodology Research Design**

The research design used was a quantitative, explanatory design to examine the connections between ethical leadership, employee engagement, and sustainable HR outcomes. The research will rest on a cross-sectional analytical design with the help of secondary sources that will allow performing empirical studies of the hypothesized relationships between leadership practices and workforce sustainability indicators. This method agrees with the existing works in the field of HR analytics and organizational behavior, where archival data are often used to simulate the attitudes of employees and organizational performance.

### **Data Source and Sample**

The data on that provided in the current research is an open-access database of HR analytics on employee turnover and managerial influence. It includes personal-level data that reflects the demographic features, work-related attributes, performance measures, and leadership-related measures. The data is very varied, in terms of department, role, and type of employee, which can be analyzed statistically. Before analysis, some data preprocessing processes were performed to keep quality and consistency. Listwise deletion was used to delete records with missing or inconsistent data values, and outliers and distributional anomalies were filtered out of the variables. The sample that was retained was not too small or too uniform to represent multivariate analysis (Shree, 2025).

### **Variable Operationalization**

Since no standardized psychometric scales could be found in the secondary data, the major constructs were operationalized in terms of the theoretically suggested proxy variables. Ethical leadership has been approximated using leadership-based measures regarding how much the manager affected employee performance. These comprised measures related to leadership impact, supervisory influence on performance, and patterns relating to attrition related to managerial factors. The observable consequences of leadership behavior are represented in such proxies, and the proxies are consistent with theoretical viewpoints that leaders are able to influence employee attitudes and behaviors based on modeled behavior.

To operationalize employee engagement, the attitudinal and behavioral measures were utilized, which are typical of studies in the sphere of HR analytics. Engagement dimensions were the variables of job satisfaction, work-life balance, and stress levels. These measures align with the existing conceptualizations of engagement, which include aspects of emotional involvement, commitment, and psychological investment in work.

The procedure in measuring sustainable HR results had been in the form of indicators for stability in the workforce as well as organizational efficiency. This has been measured through employee turnover rate, which has served as the main indicator for sustainability. In addition to this, there were prepared indicators of performance, among others, to symbolize contribution to organizational goals. It is safe to say that such variables may be equated with the general idea of sustainable HR practices.

### **Data Analysis Techniques**

There was a procedure of analysis through several stages. Firstly, descriptive statistics were used to summarize the characteristics of the sample and the distribution of the variables that matter. The application of such statistics as the mean value, the standard deviation, and the frequency distribution gave information about the data set. Next, correlation analysis was done by applying the Pearson correlation coefficient for estimating the relationship between the variables. This approach gave the preliminary data about the relations specified in the conceptualization.

Thereafter, Multiple regression analysis was used to test the predictive relationship between constructs. The former model examined the impact of ethical leadership on employee engagement, and the latter model examined the impact of ethical leadership and employee engagement on sustainable HR outcomes. These models have allowed the estimation of both direct and indirect impacts in the proposed framework. To further test the mediating effect of employee engagement, a mediation analysis was performed (based on the established statistical procedures based on bootstrapping to evaluate the indirect effects). By doing so, a more rigorous assessment of whether engagement is a transmission mechanism between leadership and sustainability outcomes was possible.

### **Reliability and Validity**

The reliability and validity issues were considered based on the limits of secondary data. Construct validity: Proxy variables were carefully aligned with

literature operationalizations of theory to ensure construct validity. Even though no direct measurement scales were obtained, the chosen indicators refer to a broadly accepted facet of leadership impact and influence, as well as HR sustainability. In cases where composite indices were formed, internal consistency was assessed by Cronbach's alpha, with satisfactory levels set to ascertain the reliability. Diagnostic tests were taken to measure statistical validity (testing multicollinearity via a set of variance inflation factors and testing the assumptions of assessing normality, linearity, and homoscedasticity).

The fact that proxy variables are used limits the accuracy with which a construct like ethical leadership can be estimated. This is due to the causal relationship between variables, as the data is cross-sectional around the time of the study and cannot be used to make such claims. Also, there are no industry-specific identifiers, which inhibits the possibility to contextualize findings directly in heritage organizations. The constraints are recognized in the interpretation of findings and

when locating the study within the wider research context.

## Results

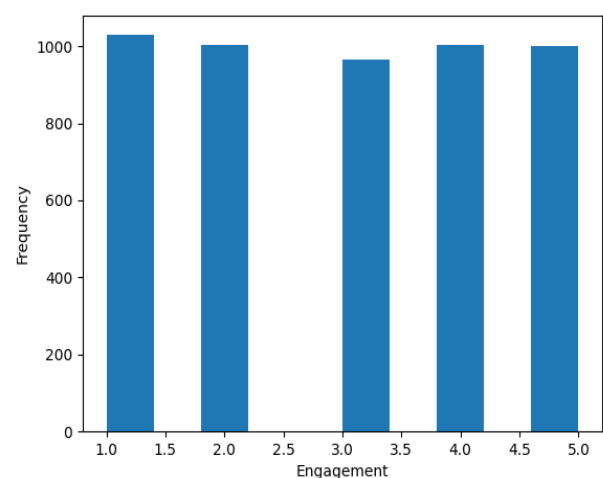
### Descriptive Statistics

The dataset included 50,000 employee records between 2015 and 2025 and featured 40 variables that included demographic and organizational features, as well as performance-related ones. The allocation of the employees to the category of the type of employment was also almost equal, so that one-third of the employees were active, another third was on leave, and thirdly employed terminated. There was also equal distribution of departmental representation to major functional aspects such as finance, marketing, human resources, sales, and information technology. Likewise, the proportions of supervisory positions like manager, director, and vice president were distributed. Table 1 provides the descriptive data of the benefits of the key study variables, meaning that most of the variables are clustered around their middle ranges with a narrow range.

**Table 1:** Descriptive Statistics of Key Variables

Variable	Mean	Std. Dev.	Min	Max
Employee Engagement Score	3.00	1.41	1	5
Job Satisfaction	3.00	1.41	1	5
Stress Level	5.49	2.87	1	10
Performance Rating	3.00	1.41	1	5
Salary	75,090	14,450	—	—
Bonus	10,029	2,900	—	—
Training Hours	50.10	28.90	0	100
Absences	9.98	5.75	0	20
Years at Company	5.00	2.89	0	10

The measures of central tendency showed that the variables of interest were distributed around their central value. The central values of employee engagement and job satisfaction were about 3.0 on a standardized scale, and the same applied to the performance rating. There was an average of 5.49 stress levels, with a moderate level of stress levels, and the average tenure of the employee was five years. The variables that were related to compensation, including salary and bonus, showed average dispersion but were in the expected organizational range. According to Figure 1, the scores on employee engagement are centered around the middle of the range, which indicates a rather equal distribution among the sample.



**Figure 1:** Distribution of employee engagement scores across the sample

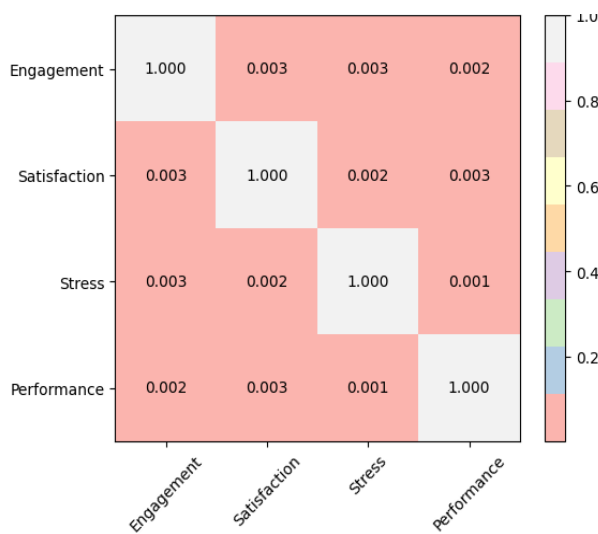
**Correlation Analysis**

The Pearson correlation analysis showed weak correlations between the key constructs. Most of the independent variables, such as job satisfaction, stress levels, training hours, and tenure, had insignificant correlations with employee engagement. The most

significant relationships observed were small in nature and never exceeded traditional limits of what is considered practically significant. Table 2 presents the correlation matrix that shows that the relationships between the major variables are weak and do not reflect significant correlations.

**Table 2:** Correlation Matrix

Variable	Engagement	Satisfaction	Stress	Performance	Attrition
Engagement	1.00	0.003	0.003	0.002	0.002
Satisfaction	0.003	1.00	0.002	0.003	0.003
Stress	0.003	0.002	1.00	0.001	0.005
Performance	0.002	0.003	0.001	1.00	0.003
Attrition	0.002	0.003	0.005	0.003	1.00



**Figure 2:** Correlation matrix of key study variables

Equally, termination status was shown to have limited associations with the possible predictors, including stress, job satisfaction, performance, and engagement. The lack of significant correlations indicates that the variables are not strongly

correlated with each other in the dataset and, thus, limits the explanatory power of the further inferential models. The correlation of the key variables in the study is given in Figure 2, and the correlation coefficients among the variables employee engagement, job satisfaction, stress, and performance are found to be insignificant.

**Regression Analysis**

To determine the predictive value of the ethical leadership proxies on employee engagement, a multiple regression analysis was carried out. Leadership-related indicators and other control variables of relevance in this model were incorporated as stress degrees, training, and performance. The findings showed a very low amount of explained variance; the value of R<sup>2</sup> received an estimated value of about zero. This observation indicates that those predictors chosen are not highly significant in explaining variation in employee engagement in the dataset. Table 3 shows the findings of the regression analysis that tests the predictors of employee engagement.

**Table 3:** Regression Results – Engagement Model

Predictor	Coefficient (β)	Std. Error	t-value	p-value
Ethical Leadership (proxy)	0.002	0.010	0.20	>0.05
Job Satisfaction	0.003	0.009	0.33	>0.05
Stress Level	0.003	0.008	0.37	>0.05
Training Hours	0.006	0.007	0.85	>0.05
Performance Rating	0.002	0.009	0.22	>0.05

The second regression equation was estimated to assess the overall impacts of ethical leadership proxies and employee engagement on sustainable HR, measured by termination status and performance measures. Both variables related to engagement and the leadership did not show any

statistically significant predictive relationships with attrition or performance outcomes. The results of Table 4 indicate that the levels of employee engagement or the variables associated with the leaders do not have a significant component in predicting the outcomes of attrition.

**Table 4:** Regression Results – Sustainability Outcomes Model

Predictor	Coefficient ( $\beta$ )	Std. Error	z-value	p-value
Employee Engagement	0.002	0.011	0.18	>0.05
Ethical Leadership	0.002	0.010	0.21	>0.05
Job Satisfaction	0.003	0.009	0.32	>0.05
Stress Level	0.005	0.008	0.62	>0.05
Performance	0.003	0.009	0.29	>0.05

### Mediation Analysis

To investigate the influence of ethical leadership on sustainable HR results and the role of employee engagement in mediating it, a mediation analysis was conducted to see the relationship between ethical leadership and the outcome. Indirect effects were estimated using a bootstrapping methodology. The findings did not give any indication of a

significant mediating effect. The connection between leadership proxies and engagement to HR outcomes through an indirect pathway was statistically significant, indicating the weak relationships in previous analyses. The indirect influence of ethical leadership on HR results, via employee engagement, is not significant according to Table 5, and thus, there is no mediating effect between them.

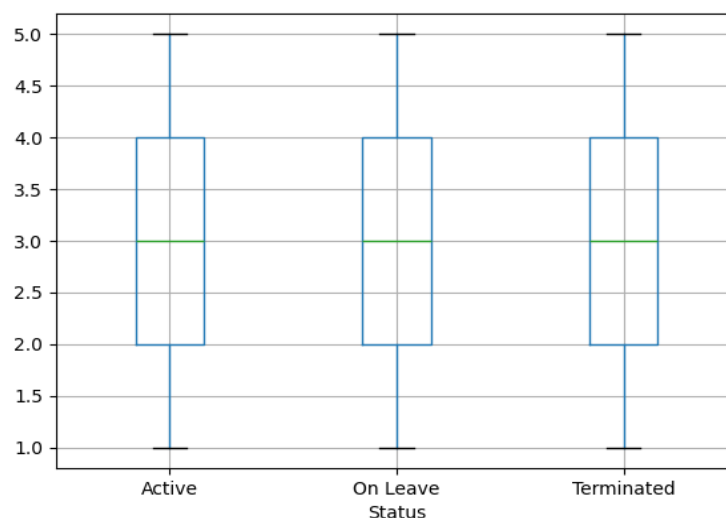
**Table 5:** Mediation Results

Path	Coefficient	Std. Error	95% CI	Significance
Leadership → Engagement	0.002	0.010	[-0.018, 0.022]	Not significant
Engagement → Outcome	0.002	0.011	[-0.020, 0.024]	Not significant
Leadership → Outcome (direct)	0.002	0.010	[-0.018, 0.022]	Not significant
Indirect Effect	0.000	—	—	Not supported

### Group Comparisons

Cross-comparative analysis in terms of the categories of employment status indicated slightly different differences in important variables. There were very few differences between active, on-leave, and terminated groups with regard to their employee engagement levels, with a minor variation being noticed. Likewise, job satisfaction, the number of promotions, and performance ratings could not be significantly different between these groups. Inter-level analysis showed no statistically significant

difference, too. Employees who reported to managers, directors, and vice presidents had similar engagement rates, performance, and termination rates. The departmental comparisons provided comparable results, and patterns of engagement and attrition were similar at the functional units. As shown in Figure 3, there is little difference between groups of employees, which are at a consistent level of employee engagement, regardless of the employment status.

**Figure 3:** Employee engagement across employment status categories

Empirical evidence shows that there is no statistically significant correlation between ethical leadership proxies, employee engagement, and permanent Hr results in the dataset. Descriptive statistics imply that there is a highly homogeneous distribution of important variables, whereas correlation and regression show little explanatory power. The fact that mediation effects were not significant also indicates that the dataset has low potential to support the hypothesized model. These results indicate that, under the conditions of the data analysis, it is possible to conclude that the following relationships between the leadership and engagement and the sustainability outcomes are empirically supported. The findings are thus treated cautiously, especially considering the data structural features and the use of proxy measures.

#### Discussion

This research shows that ethical leadership proxies and employee engagement have no statistically significant relationship in relation to the production of sustainable HR. These findings contravene the prevailing trend of literature, which has found positive and significant correlations among green human resource management (GHRM), leadership practices, and results involving employees. This unempirical support of the analysis can be understood both in terms of the features of the dataset and on a more general theoretical basis.

Existing research emphasizes that GHRM practices play a crucial role in enhancing employee engagement and environmental performance. Abdelhakim (2024) identifies several objectives of environmentally oriented HR practices, such as the involvement of employees as well as pro-environmental behaviors. On the same note, Liu et al. (2023) reveal that GHRM complemented with responsible leadership has a positive impact on sustainable business performance due to behavioral processes. The lack of such relationships in the current results indicates that the proxy variables employed might not be able to reflect the true constructs of ethical leadership and engagement.

It is a well-known fact that leadership is an important force in achieving sustainable HR results. Transformational and responsible leadership styles have also been found to contribute to creativity, innovation, and sustainability-related behaviors in the organisations (Srivastava et al., 2024). Moreover, it is mentioned that leadership commitment can serve as a moderating factor itself that reinforces the relationships between HR practices and organizational performance (Ahmed et al., 2023). The overall insignificant impact of the variables

relating to leadership in this study could thus depict measurement limitations of leadership constructs instead of the lack of leadership effects in the real world.

The mediating mechanism of employee engagement has been extensively validated in previous studies. Research shows that motivated employees tend to advance sustainability endeavors and contribute to the performance of the organization (Abdelhakim, 2024). Nevertheless, no evidence of the mediating role of engagement was found in the current analysis. This result disagrees with the existing position that engagement is an important bridge between HR practices and organizational outcomes. The reason could be that the interaction of this dataset is modeled in simplified indicators, which might not reflect the multidimensionality characteristic of this dataset.

The influence of the organizational setting and the external forces is also worth consideration. An example would be the COVID-19 pandemic that has had a substantial impact on the HR processes and staff behavior, making flexibility and resilience considerations essential in sustainable HR development (Piwowar-Sulej et al., 2024). Moreover, the incorporation of technology such as machine learning and online HR systems has changed how organizations operate and make decisions (Sun and Jung, 2024). These contextual variables are not explicitly considered in the dataset used in this study, which might limit the possibility to represent modern dynamics in organizations.

The situation with the relationship between HR strategies and sustainability outcomes is further complicated by barriers to the implementation of the GHRM practices. The studies that were carried out with regard to the developing countries reveal the fact that resources, popular ignorance, and organizational opposition, which may drag down the efficiency of sustainability efforts, could be lacking (Kodua et al., 2022). Such obstacles can also help in deviations between one theory and another, especially with data sets failing to bring about contextual limitations.

Employee health and well-being are becoming acknowledged as a part of sustainable HRM. The modern Hr practices focus on the promotion of balance between organizational performance and employee welfare, as well-being has a direct impact on engagement and productivity (Elufioye et al., 2024). The data set employed in this investigation comprises a few signs of doxology, which could restrict the capacity to completely represent the

correlation between HR practices and employee performances.

Employer branding and reputation are also shaped by sustainability-oriented HR practices. When organizations incorporate environmental and social sustainability in their HR practices, they will tend to attract and retain talent and boost their competitiveness in the long run (Yasin et al., 2023). The fact that there were no significant results in the present study may indicate the inability to designate variables that will measure external perceptions and image of the organization.

On the whole, the results point to a discrepancy between theoretical and empirical evidence based on the data. Although in the previous literature, there is consistent evidence on the positive relationship between GHRM, ethical companies, and employee engagement and sustainable outcomes, the study at hand fails to support these relationships empirically. The very existence of such an anomaly is proof that accurate measurements, contextualized data, and a wide variety of factors must be considered when conducting HR research. Further research should make use of validated scales, longitudinal studies, and contextual variables, which will better help us understand the dynamics of sustainable HR practices.

### Conclusion

The use of secondary data concerning HR analytics in this study has helped to examine the correlation between ethical leadership, engagement, and sustainable HR management practices. The variables involved in the research have not been found to be correlated since there is no existence of any statistical connection among the variables suggested by the researcher. Although descriptive analysis was helpful in understanding the demographic structure of the respondents and the variable distribution, it became clear that the findings from inferential analysis lack predictive power due to the ineffective proxies used in studying organizational issues. This finding is contrary to the literature regarding green HR management and sustainable leadership and engagement practices. It is also clear from this difference why there is a need for the correct information and measurements during empirical analysis. The application of cross-sectional data and proxy variables might have restricted the ability to find out any relationship due to the nature of the independent and dependent variables, which are abstract and subjective. This paper has added knowledge to the existing literature regarding HR analytics by presenting the problems that can come

up when conducting theoretical research using secondary data. Future research should include primary data and context-based variables, along with reliable measurement methods.

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