Research on the Relationship Between Human Resource Management and Corporate Environmental Responsibility

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Abstract: The significance of human resource management in enterprise management is steadily growing, especially as businesses today are expected to shoulder their share of social responsibility. Among these responsibilities, corporate environmental responsibility assumes a pivotal role. This paper aims to investigate the interplay between human resource management practices and corporate environmental responsibility. The study employs various factors of human resource management practices as independent variables, using the current environmental status quo and environmental innovation capacity as intermediary variables, and adopts multiple regression analysis to scrutinize the influencing factors of corporate environmental responsibility. The findings underscore that when the working environment is favorable, enterprise human resource management practices can effectively enhance corporate environmental responsibility. Furthermore, when supported by environmentally responsible behavior, these human resources practices exhibit a positive influence on a company's environmental responsibility. Consequently, this study provides practical recommendations for enhancing corporate environmental responsibility.

Keywords: Human resource management; Corporate environmental responsibility; Employee

1. Introduction

In today's world, global consensus is primarily achieved when addressing environmental issues, with a particular emphasis on the double carbon economy. The pervasive impact of these issues on all aspects of human activity has made them a top concern for everyone. This section aims to provide a theoretical framework for environmental strategy, encompassing its development and the incorporation of environmentally friendly elements into human resource management (HRM) operations and economic considerations [1]. Consequently, HR procedures play a crucial role in the development of sustainable businesses. Sustainable growth introduces a framework that combines environmental regulations and development plans, with the dual objectives of promoting economic advancement while preserving environmental quality, as recognized by the United Nations General Assembly.

1.1. Literature review

According to Shafaei et al. (2020), business enterprises have frequently been at the center of sustainability discussions and are considered a major contributor to ecological challenges on local, regional, and global scales [2]. Consequently, corporations are expected to play a vital role in addressing environmental issues. Beyond merely obtaining social approval to operate, stakeholders are increasingly pressuring corporations to take a proactive stance on ecological concerns and acknowledge their responsibility for their ecological footprint, ensuring the needs and aspirations of future generations are met. Achieving environmental sustainability requires companies to go beyond mere compliance and embrace a more strategic approach [2].

China and Malaysia, both typical developing countries experiencing rapid industrialization, are also grappling with environmental concerns [3]. Drawing from the theory and empirical research of green HRM in China, this paper delves into the development of green human resource theory in China. Zhang (2022) discussed the concept of HR and its application in crucial areas such as recruitment, staff training, and performance management. The paper presented recommendations aimed at facilitating the sustainable development of businesses and fostering harmonious coexistence with ecosystems, offering valuable insights [4].

1.2. Theories

This section elucidates the fundamental theories underpinning HRM systems and practices within organizations. Numerous scholars have sought to define the principles of HRM, and achieving sustainable HR practices is a complex process reliant on managing external organizational constraints, the efficiency of sustainable resources, empowering individuals, and shaping employee behavior towards environmental conservation. Therefore, it is crucial to explore the theoretical foundations of HRM, which include key HR theories, prior to devising an HRM model for the organizations. Prominent HR theories that have been employed to formulate HRM models in various sectors encompass theories such as organizational behavior, resource-based, institutional theory, ability, motivation, opportunity, and others.

Emphasizing organizational behavior helps elucidate how specific behaviors influence employee productivity and motivation, in addition to understanding how different policies impact HRM. Rehman *et al.* (2021) investigated the connections underlying knowledge-oriented administration [5], whereas Gim *et al.* (2021) explored the interplay between HRM, leadership-members exchange (LME), core evaluations of self (CES), workplace engagement, and HRM performance inferences. They focused on theories of attribution and the preservation of resources to uncover these relationships [6].

2. Variables and models related to the study

2.1. Variables

Yusoff (2018) discussed a set of HR practices that prioritize productivity through green approaches, including recruitment, training, engagement, and green performance management and compensation [7]. Joyce and Vijai (2020) reported that green HRM practices involve enhancing employees' eco-friendly skills through training, encouraging the use of green performance management, and offering environmentally conscious opportunities through employee participation [8]. Malaysia's hotel industry demonstrates better environmental performance through the application of green HRM practices, such as green recruitment and selection, training and development, performance evaluation, and compensation. This enhances the environmental performance of the company as a response to competitive pressures and the need for environmental compliance [2,8]. Aboramadan (2020) empirically examined the effects of HRM on environmental performance in postsecondary education, treating HRM practices as an independent variable and environmental performance as a dependent

variable. The study revealed strong associations between independent and dependent variables based on data from 208 individuals working in higher education institutions in Palestine [9]. Ojo *et al*. (2020) empirically investigated the contribution of HRM tasks and processes to environmental performance in the information technology sector, using environmental performance as the dependent variable and HRM practices as an independent variable. The study involved 333 IT professionals working for Malaysian companies. It employed the resource-based view (RBV) and partial least squares structural equation modeling (PLS-SEM) approaches to show how HRM practices serve as organizational resources that promote environmentally conscious IT attitudes and achievements [10]. Kar and Praharaj (2020) discussed various green human resources practices and a few initiatives, as well as suggested a few prolific HR initiatives for green organizations [11]. On the other hand, Duric and Topler (2021) offered an insight into, and analysis of, performance and indicators of the environmental sustainability of hotels through relevant literature [12].

2.2. Models

Various hypotheses can be formulated based on the examination of mediation factors and the relationships between variables, as seen in **Figure 1.**
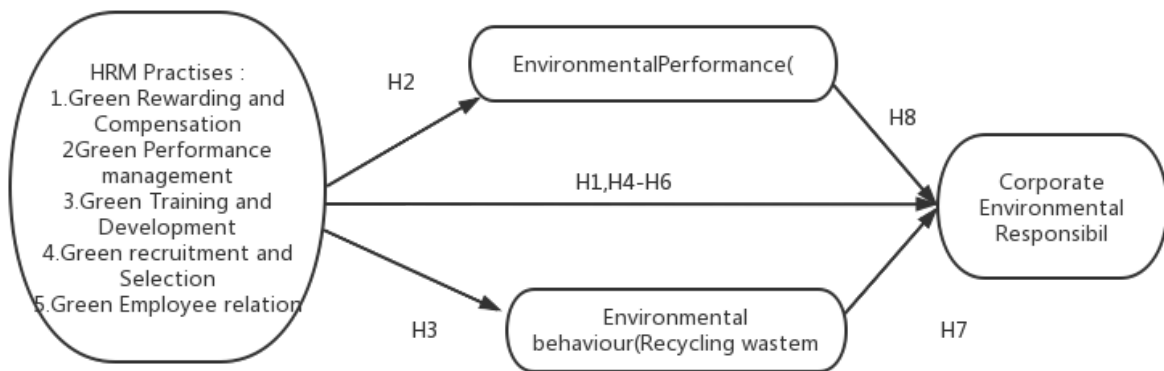

Figure 1. Research models

(1) Hypothesis 1 (H1): The relationship between HRM and sustainable performance can be mediated through environmental performance.

(2) Hypothesis 2 (H2): Green behavior among employees acts as a mediator between HRM procedures and sustainable performance.

(3) Hypothesis 3 (H3): Environmental performance and green HRM practices are related through the mediation of green innovation.

(4) Hypothesis 4 (H4): Green recruitment and selection practices are positively associated with environmental performance.

(5) Hypothesis 5 (H5): Green training and development and environmental performance have a positive relationship.

(6) Hypothesis 6 (H6): Green rewards and compensation are positively associated with environmental performance.

(7) Hypothesis 7 (H7): Environmental performance and green performance evaluation are positively associated.

(8) Hypothesis 8 (H8): Environmental performance and green innovation are closely related.

2.3. Multiple regression

In multiple regression analysis (MRM), each independent variable is examined separately, allowing each to have a unique coefficient that represents its relationship with the dependent variable. Using coefficients such as the coefficient of determination and the significance level, MRM helps explain the direction and magnitude of the associations observed between the study variables.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e \tag{1}$$

Here, Y is the environmental sustainability, $\{\beta_i, i=1,2,3,4\}$ is the coefficients for independent variables, X_1 is the green recruitment, X_2 is the green training and development, X_3 is the green reward and compensation, X_4 is the green performance, and e is the error term. The coefficients β_1, β_2, β_3 and β_4 indicate the degree of influence of independent variables on the variation in the dependent variable (Y). The intercept β_0 represents the minimal effect on the dependent variable when assuming all other variables have no effect. The independent variables X_1, X_2, X_3 and X_4 contribute to the error term e in the model, which accounts for any inexplicable changes.

3. Data sources

3.1. Data survey

A comprehensive research instrument consisting of 54 statements and 5 demographic variables was meticulously designed to gauge employees' perceptions of environmentally sustainable HRM practices. The questionnaire was developed following an extensive review of relevant literature and is structured into three sections, along with an introductory preface. The preface served to acknowledge the respondents and provided a brief overview of the study and instrument used.

The survey section of this study delineates the sampling design, the population, the sample frame, and the sampling techniques employed to determine the sample size of respondents. The survey encompassed several sectors, including Automobile, Electronics, Plastic, and Food.

3.2. Reliability tes

Before employing the research instrument in the actual study, a test-retest procedure was applied to assess its validity (**Table 1**).

Table 1. Reliability test

	Human resource management (HRM) practices	Enterprise environmental responsibility
Cronbach's α	0.98	0.92
Number of items	4	44

The Cronbach's α coefficient for HRM practices was found to be 0.98, indicating a high degree of internal consistency. This scale includes four items. The Cronbach's α coefficient for enterprise environmental responsibility was 0.92, suggesting a robust level of internal consistency. Reliability coefficients between 0.6 and 0.7 are considered acceptable, while values of 0.8 or higher indicate very good reliability. In this case, both HRM and enterprise environmental responsibility exhibit reliability well above 0.90.

3.3. Data analysis

3.3.1. Demographic statistical analysis

The demographic data analysis includes an examination of the age distribution of the population working in

the four industries. The data is summarized in **Table 2**, which displays the percentages and frequencies for five different age groups.

Table 2. Frequency table of age

	Frequency	Percent
18 to 25	46	17.0
26 to 35	87	32.1
36 to 45	71	26.2
46 to 55	39	14.4
56 to 70	28	10.3
Total	271	100.0

Among the 271 participants in the study, the majority of the participants fall within the "26 to 35" age group, representing 32.1% of the total population, followed by 71 aged 36–45 (26.2%), 46 aged 18–25 (17%), 39 aged 46–55 (14.4%), and 28 aged 56–70 (10.3%).

Moreover, the demographic data also reveals the gender distribution among the participants. Of the 271 total participants, 170 are male, while 101 are female, accounting for 62.7% and 37.3%, respectively, as indicated in **Table 3**.

Table 3. Frequency table of gender

	Frequency	Percent
Male	170	62.7
Female	101	37.3
Total	271	100.0

3.3.2. Descriptive analysis

In **Table 4**, the analysis of the relationship between HRM and corporate environmental responsibility reveals several statistics. A scatter plot in **Figure 2** indicates a strong positive relationship between HRM and corporate environmental responsibility.

Table 4. Descriptive statistics of HRM and corporate environmental responsibility

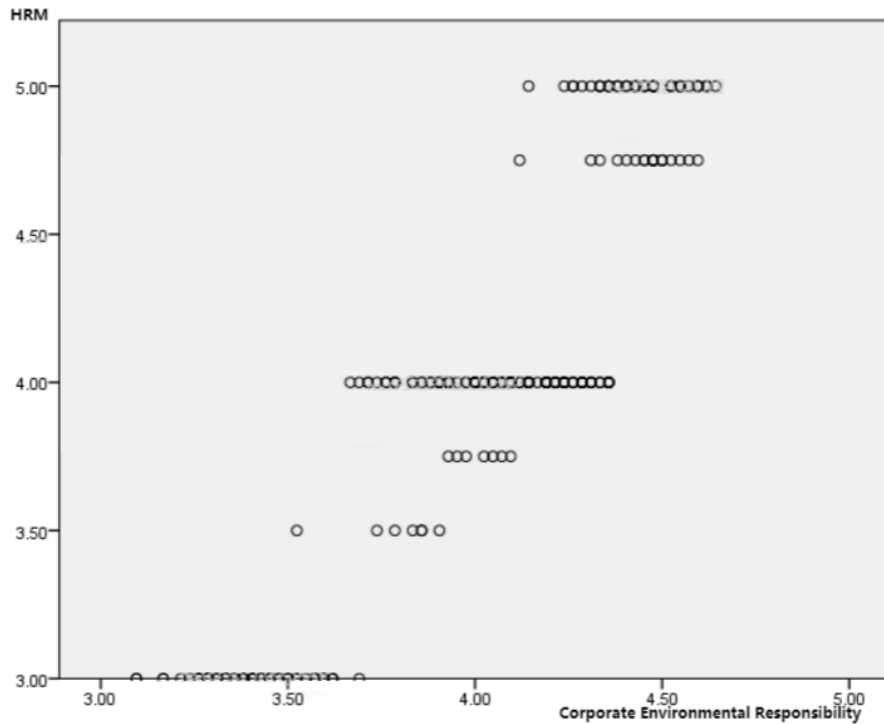|	HRM	Corporate environmental responsibility
Min	3	3.10
Max	5	4.64
Range	2	1.55
Mean	3.93	3.97
Variance	0.49	0.17
Standard deviation	0.69	0.41
Skewness	0.06	-0.36
Kurtosis	-1.06	-1.07

Figure 2. Scatter plot between HRM and corporate environmental responsibility

3.4. Regression analysis

Multiple regression analysis of the data is presented in **Table 5**. In this analysis, corporate environmental responsibility is the dependent variable, while HRM serves as the predictor or explanatory variable. The regression model is employed to investigate the relationship between corporate environmental responsibility and HRM and to assess how corporate environmental responsibility is affected by HRM. **Table 5** includes a regression summary, which reports the strength of the correlation between the model and the predictor variable.

Table 5. Regression summary

R^2	Standard error of the estimate
0.863	0.16454

Variable coefficient analysis is detailed in **Table 6**. This table provides information about the regression coefficients, which statistically quantify the overall operational relationship between variables. Notably, the constant coefficient is 1.86, and its significance level indicates that the constant is a significant predictor of corporate environmental responsibility. The HRM coefficient is 0.541 with a standard error of 0.01, signifying that HRM significantly predicts corporate environmental responsibility. Additionally, the positive HRM coefficient suggests a positive relationship between HRM and corporate environmental responsibility, indicating that an increase in HRM corresponds to an increase in corporate environmental responsibility. In specific terms, a one-unit increase in HRM is associated with a 0.54-unit increase in corporate environmental responsibility.

Table 6. Coefficients

	Unstandardized coefficients		Standardized coefficients	*t*	*p*-value
	B	Standard error	β		
Constant	1.864	0.055		33.546	0.000
HRM	0.531	0.012	0.929	37.927	0.000

4. Discussion

4.1. Government-level initiatives

To promote the adoption of green human resource management, governments must improve environmental protection laws and regulations, bolster monitoring and subsidies for environmental pollution control, and serve as a catalyst for companies to implement green HR practices. For instance, companies should bear the responsibility and costs of pollution control and management of their pollution sources. In cases where pollution leads to damage, compensation for losses should be provided, along with the obligation to rectify the pollution's consequences. The introduction of mechanisms such as sewage charges and tax incentives can be leveraged to tighten the oversight and penalties for entities contributing to pollution. This, in turn, can encourage enterprises to upgrade their technology and intensify their focus on green HR management, fostering environmental awareness among all employees. Furthermore, financial incentives and tax benefits can be extended to enterprises exhibiting exemplary performance in environmental protection and green initiatives.

4.2. Prioritizing environmental awareness in recruitment

In the practice of HRM, it is crucial to assess the environmental responsibility of individuals during the recruitment process. Emphasizing green recruitment not only allows for the identification and retention of candidates well-versed in environmental conservation but also facilitates the integration of environmental responsibility within the enterprise. Moreover, candidates with heightened environmental consciousness often exhibit higher overall qualities. Research has indicated that individuals with higher education backgrounds tend to display greater social responsibility during their tenure with a company. Additionally, an improved working environment has been observed to enhance an employee's sense of social and environmental responsibility. To bolster corporate social and environmental responsibility, it is necessary to improve the working conditions of employees.

4.3. Non-financial incentives for employees

Previous studies have highlighted the effectiveness of organizations in enhancing environmental performance through the provision of various non-financial rewards, such as commendations, promotions, career advancement, cash bonuses, gifts, and a diverse range of incentives. Diversified welfare policies can be developed to motivate environmentally responsible behavior among employees. For example, offering incentives for green commuting can encourage employees to reduce their carbon footprint and elevate their environmental awareness. Recognizing green patents, eco-friendly improvement proposals, or outstanding project teams and employees during annual meetings can foster a positive organizational culture and reinforce a sense of pride and mission. Acknowledging employees for their exceptional green performance in company publications leads to a sense of accomplishment among colleagues and serves as a more effective influencing factor for ecological initiatives.

4.4. Facilitating employee green engagement

Green participation entails providing employees with the opportunity to actively engage in environmental management. This extensive green engagement encompasses engagement, support culture, and tacit knowledge and is designed to instill commitments to the organization's environmental initiatives. Companies can increase the involvement of employees in environmental decision-making processes, granting them more opportunities to contribute to environmental protection efforts.

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Disclosure statement

The author declares no conflict of interest.

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