



Research Article

# Green HRM, Transformational Leadership, and Sustainability Performance in Emerging Market SMEs: The Mediating Role of Pro-environmental Behavior and Circular Economy

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\*Corresponding Email: [ishameel2007@gmail.com](mailto:ishameel2007@gmail.com)  
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Syed Shameel Ahmed Quadri <sup>1\*</sup>, Sarfraz Ali Malak <sup>2</sup>, Unaiza Ashraf <sup>3</sup>, Muhammad Irfan Syed <sup>4</sup>, Ammar Bin Tariq <sup>5</sup>

<sup>1</sup> Department of Political Science, University of Karachi, Pakistan

<sup>2</sup> Department of Business Administration, University of Sindh (Campus Dadu), Sindh, Pakistan

<sup>3</sup> School of Management, Xi'an Jiaotong University, Xi'an, Shaanxi, China

<sup>4</sup> Department of Public Administration (DPA), University of Karachi, Pakistan

<sup>5</sup> Commercial & SME Credits Manager, Institute of Management Sciences, Peshawar, Pakistan

## Abstract

Study examined the impact of Green Human Resource Management (GHRM) and transformational leadership on sustainability performance in SMEs in the manufacturing sector of emerging markets, focusing on the mediating roles of pro-environmental behavior and circular economic practices. The research was grounded in Resource-Based View (RBV) and Social Learning Theory, which explained how organizational capabilities and behavioral learning influenced sustainability outcomes. Quantitative, cross-sectional survey design was employed, and data were collected from SME employees using a structured questionnaire. SPSS v28 and Smart PLS v4 were utilized for descriptive analysis, reliability testing, and Structural Equation Modeling (SEM). The results revealed that GHRM ( $\beta = 0.31, p < 0.001$ ) and transformational leadership ( $\beta = 0.34, p < 0.001$ ) significantly enhanced sustainability performance. Pro-environmental behavior ( $\beta = 0.29, p < 0.001$ ) and circular economy ( $\beta = 0.27, p < 0.001$ ) were significant mediators, translating organizational strategies into tangible outcomes. The model explained 71% of variance in sustainability performance ( $R^2 = 0.71$ ), demonstrating strong explanatory power. Findings highlighted that SMEs could improve environmental, social, and economic outcomes by integrating green HR practices with leadership strategies while promoting employee environmental behavior and circular economy initiatives. This study contributed a theoretically grounded framework combining organizational, behavioral, and strategic perspectives, offering practical implications for managers and policymakers to achieve sustainability in resource-constrained environments.

Keywords: Circular economy, Green HRM, Manufacturing SMEs, Pro-environmental behavior, Sustainability performance, Transformational leadership.

## Introduction

Sustainability was becoming a major issue of concern to organizations and more so in the emerging markets where environmental degradation and scarcity of resources were a major challenge to the economic growth in the long term. In that regard, companies had started to incorporate green activities into their management mechanisms and hence the term Green Human Resource Management (Green HRM). Green HRM was the process of ensuring that human resource policies are in line with the objectives of environmental sustainability that allows firms to improve ecological performance without losing competitiveness. Previous studies had already emphasized that green HRM measures (green recruitment, training, and performance evaluation) had

a great role in the sustainability results of organizations (Hussain et al., 2023; Raza et al., 2025). Transformational leadership had also become a key element in determining the sustainability performance since employees are encouraged to embrace environmental friendly practices through their inspirations. It was noted that leaders who demonstrated green transformational qualities inspired employees to work towards the attainment of sustainability goals using their visions, inspirations, and ethics. It is proven through empirical research that transformational leadership made a considerable positive contribution to environmental performance and organizational sustainability at least in the case of SMEs, where leadership was a critical factor in strategic direction (Perez et al., 2023; Sumarjo et al., 2026).

The importance of employee-level behavioral change like pro-environmental behavior had been receiving growing interest in the sustainability studies. Pro-environmental behavior was defined as voluntary behaviors of employees which helped in environmental conservation at organizational levels. It was hinted that such behaviors were encouraged by Green HRM and transformational leadership, and in turn, the sustainability outcomes were enhanced (Martins et al., 2025; Perez et al., 2023). This behavioral approach emphasized the central role of the internal dynamics of the organization towards the realization of sustainability objectives.

It was known that the circular economy was one of the strategic approaches to sustainability that should promote the resource efficiency, waste reduction, and recycling practices. The emerging market SMEs had increasingly embraced the concept of the circular economy to improve on sustainability performance despite the limited resources. Previous research had also shown that the combination of Green HRM and leadership practices enabled the introduction of the circular economy strategies, hence enhancing sustainable performance (Sumarjo et al., 2026; Ahmed et al., 2024).

#### Background of the Study

Green HRM was a concept that was derived out of the conventional human resource management practices, which included the use of environmental objectives as organizational policies and procedures. The organizations had come to appreciate the fact that employees were very important in the achievement of the sustainability objectives, and therefore, the HR practices were restructured to accommodate the environmental programs. Research had already demonstrated that Green HRM helped to improve the performance of the environment by increasing the awareness, skills, and motivation of employees towards sustainability (Raza et al., 2025; Hussain et al., 2023). The transformational leadership theory had offered a powerful ground on the role of leaders in bringing about change and innovation in the organization. Green transformational leadership had been aimed at embracing environmental responsibility in employees in the context of sustainability. There has been empirical evidence to support that such leadership styles have a significant positive effect on environmental performance and organizational results due to employee engagement and motivation (Perez et al., 2023; Chen et al., 2019).

The pro-environmental behavior had also been stressed by the incorporation of behavioral viewpoints into sustainability studies. Voluntary environmental performance of employees was found to be one of the fundamental processes through which the organizational practices were converted to performance outcomes. It had been proven that these behaviors were strongly impacted by the Green HRM practices and leadership styles, which increased the performance of sustainability in SMEs (Martins et al., 2025; Perez et al., 2023). The circular economy was becoming a new model of sustainable development especially in the developing economies where resource efficiency was paramount. Recycling, reuse, and sustainable production were some of the circular practices applied by SMEs as they sought to keep up with the competition and deal with the environmental challenges. It had been proposed in studies that organizational culture, HR practices and leadership was crucial to the adoption of the circular economy and the enhancement of sustainability performance (Sumarjo et al., 2026).

#### **Research Problem**

The literature on Green HRM and sustainability had continued to increase, there had been no integrated research on effects of the influence of Green HRM, transformational leadership, pro-environmental behavior,

and circular economy on sustainability performance in SMEs. The majority of the past research had concentrated on direct associations, and seldom were the mediating processes in which the above variables affected organizational performances considered. The emerging markets presented SMEs with various challenges that were distinct, which included the scarcity of resources, formalization of structures and environmental awareness. Such obstacles had slowed the successful execution of the sustainability practices. The necessity to examine the role of internal organizational variables, especially the HR practices and leadership in fueling a sustainability performance via behavioral and strategic processes like pro-environmental behavior and circular economy was strong.

### ***Research Objectives***

1. To examine the impact of Green HRM on sustainability performance in SMEs.
2. To analyze the influence of transformational leadership on sustainability performance.
3. To investigate the mediating role of pro-environmental behavior between Green HRM, transformational leadership, and sustainability performance.

### ***Research Questions***

Q1. How did Green HRM influence sustainability performance in SMEs?

Q2. What was the role of transformational leadership in enhancing sustainability performance?

Q3. Did pro-environmental behavior mediate the relationship between Green HRM and sustainability performance?

### ***Significance of the Study***

This research had great theoretical and practical implications. In theory, it has added to the sustainability literature by incorporating organizational (Green HRM), leadership (transformational leadership), behavioral (pro-environmental behavior), and strategic (circular economy) points of view into one frame. It built on the current theories like the Resource-Based View (RBV) and Ability-Motivation-Opportunity (AMO) theory by showing how the internal organizational capabilities contributed to the achievement of sustainability. The research was a good piece of knowledge to managers and policymakers in the new markets. It emphasized the need to embrace green HR practices, have transformational leadership and encourage employee environmental practices in support of the achievement of sustainability objectives. Moreover, it highlighted how the practices of the circular economy help to enhance efficiency and performance on the organizational level. The results could inform SMEs to come up with good sustainability plans in resource limited settings.

## **Literature Review**

### ***Green Human Resource Management and Sustainability Performance***

Green Human Resource Management (GHRM) was also a well-established concept of embracing environmental sustainability in organizational activities. Past researches had suggested that green practices in recruitment, training and performance appraisal practices of GHRM had a great contribution to sustainability performance through developing employee behaviour that was environmentally responsible. GHRM was discovered to enhance the efficiency of organizations in relation to the environment and minimize ecological footprints, especially in the context of SMEs where human capital was in the focus of attaining sustainability (Zaid et al., 2018; Pham et al., 2020).

The empirical evidence had indicated that GHRM has been linked to sustainability performance in the building of organizational capabilities in line with the environmental goals. The resource-based view (RBV) had been applied on numerous occasions to describe how GHRM generated advantageous competitive advantage through the generation of distinctive human capital resources. Research proved that companies that embraced green HR practices had better environmental performance and financial results because of better employee engagement and innovation (Singh et al., 2020; Yong et al., 2020).

Recent studies had highlighted the role of GHRM in the neutral market where the institutional forces and environmental issues were more eminent. In such settings, however, SMEs had been progressively utilizing GHRM to create sustainable organizational cultures and enhance long-term performances. It was demonstrated that GHRM not only had a direct impact on the environment but also provided indirect ways via the innovation and behavioral change mechanisms (Hameed et al., 2019; Mousa & Othman, 2020).

### ***Pro-Environmental Behavior and Transformational Leadership***

Transformational leadership had been marked as an important driver of sustainability in altering the employee attitudes and behaviors regarding environmental responsibility. Vision, motivation and ethical directives were in the form of green transformational leaders who influenced employees to change behavior to embrace environment-friendly practices. Research had established that these kinds of leadership were a major contributor to better pro-environmental behavior and sustainability results in organizations (Graves et al., 2019). The linkage between transformational leadership and pro-environmental behaviour had been elaborated with the help of psychological and motivational processes. Leaders enabled the employees to develop intrinsic motivation, environmental consciousness, and dedication, which consequently resulted in participation in green initiatives. Empirical results showed that transformational leadership had a positive effect on employee green behavior that was mediated by such factors as intrinsic motivation and environmental values (Chen & Chang, 2013; Afsar et al., 2020).

Research had pointed out that the integrated action of GHRM and transformational leadership had provided a favorable organizational environment to sustainability. Leadership was very important in conveying the HR policies into the reality of employees behaviors by strengthening environmental values and norms. Studies showed that the high degree of pro-environmental behavior and enhanced environmental performance were characteristic of the organizations that had strong transformational leadership and GHRM practices (Mittal & Dhar, 2016; Singh et al., 2020).

### ***Circular Economy and SMEs Sustainable Performance***

Circular economy had become a major approach towards being sustainable through ensuring efficiency in resources, reduction of waste, and recycling. The implementation of the principles of the circular economy had been especially significant in SMEs because of the lack of resources and the growing environmental demands. It was already demonstrated that circular practices had a significant positive impact on sustainability performance through the optimal use of resources and minimized the environmental impact (Geissdoerfer et al., 2017; Kirchherr et al., 2018). Recent empirical studies had highlighted the contribution of organizational aspects of leadership and HR practices in the adoption of circular economy strategies. As it was revealed, green HRM and transformational leadership favored circular initiatives through cultivating and sustaining sustainability culture and engaging employees in resource-efficient practices. There were indications that companies that incorporated these practices had a greater degree of sustainable performance (Sumararjo et al., 2026; Khan et al., 2021).

The mediating effect of the concept of circular economy in the connection between organizational practices and sustainability performance had become a more prominent issue. Research had suggested that circular economy practices were a strategic process in which GHRM and leadership impacted on sustainability. Innovation Coordination SMEs that embrace circular models recorded better environmental, economic, and social performance, as well as the need to incorporate the concept of the circular economy in organizational strategies (Bocken et al., 2016; Ranta et al., 2018).

## **Research Methodology**

### ***Research Design***

The research design embraced in this study was a quantitative research design to investigate the associations existing between Green Human Resource Management (GHRM), transformational leadership, and pro-environmental behavior, circular economy, and sustainability performance within SMEs which have

operations in the emerging markets. The method of a cross-sectional survey was applied as it enabled the researcher to collect data about a large number of respondents within a constrained period of time. Quantitative approach was deemed to be suitable since it allowed testing the proposed hypotheses on a statistical level and allowed gathering empirical data concerning the suggested conception of the links between variables.

### ***Population and Sampling***

The study target population was the employees and managerial staffs of small to medium-sized enterprises (SMEs) within the emerging markets. SMEs were chosen because of its great contribution to the economic development and growing participation in the sustainability practice. The non-probability convenience sampling method was used to gather the data because respondents were limited, and they were scattered in various areas. The sample contained employees working in different departments of the company like human resources, operations, and management to maintain different opinions. About 300-400 questionnaires were sent out where good number of responses would be utilized in analysis of data after filtering through duplicity and completeness.

### ***Data Collection Procedure***

The main data were gathered through a structured questionnaire, using which a structured questionnaire was analyzed both online and in printed form. The previous literature-based scales were used in formulating the questionnaire, where reliability, and validity are ensured. The standard consent was given to the respondents on the purpose of the study and was guaranteed that the confidentiality and anonymity would be ensured. The data collection is voluntary and ethical issues were considered to the latter during the data collection procedures. Data collection took a period of a few weeks in a bid to maximize on the response rates.

### ***Analytical Tools***

The tests of the hypothesized relationships have been done through the SPSS v28 descriptive analysis and reliability analysis and SmartPLS v4 Structural Equation Modeling (SEM) data analysis. The measurement-related issue, i.e, the measurement validity was assessed using Confirmatory Factor Analysis (CFA), and the mediation analysis was also undertaken to investigate the indirect outcome of pro-environmental behavior and circular economy.

### ***Data Analysis Techniques***

The data obtained were processed by the help of statistical packages like SPSS and SmartPLS/AMOS. To begin with, descriptive data were calculated to generalize the demographics of the respondents and the variables of interest. The analysis of reliability was done by means of Cronbach alpha to measure internal consistency, while the analysis of validity was performed by means of confirmatory factor analysis (CFA). The structural Equation Modeling (SEM) was utilized to test the presumed relationship between variables since it also lets test various relationships simultaneously. The results of the mediation analysis were used to identify the indirect impact of pro-environmental behavior and circular economy on the independent and dependent variables.

### ***Theoretical Framework***

The research was based on both the Resource-Based View (RBV) theory and the Social Learning Theory. RBV gave an explanation on how Green Human Resource Management (GHRM) practices as well as transformational leadership can contribute to special organizational abilities improving sustainability performance. The social learning theory also highlighted that employees would engage in pro-environmental practices by watching and replicating the sustainability-related practices of leaders. Collectively, these theories offered powerful conceptual basis of the way in which organizational practices and leadership behavior affected individual action and the sustainability consequence of the firm level.

**Theoretical Framework:**  
*Resource-Based View & Social Learning Theory*



Figure 1. Theoretical Framework Model

## Results and Analysis

### *Descriptive Statistics*

This section presented the descriptive statistics of the study variables, including Green Human Resource Management (GHRM), transformational leadership, pro-environmental behavior, circular economy, and sustainability performance. The purpose of this analysis was to examine the central tendencies and variability of the data collected from SME employees.

Table 1. Descriptive Statistics of Study Variables

Variable	Mean	Std. Deviation
Green HRM	4.12	0.68
Transformational Leadership	4.18	0.65
Pro-Environmental Behavior	4.05	0.70
Circular Economy	3.97	0.72
Sustainability Performance	4.10	0.67

These findings showed that the mean values of all the variables were quite high, which means the respondents were generally in favor of the adoption of green practices, effective leadership, and sustainability efforts in their organizations. Transformational leadership also reported the largest mean score ( $M = 4.18$ ), which was an indication that SMEs leaders had been reported to strongly encourage vision, motivation, and environmental responsibility. The green HRM also reported high mean ( $M = 4.12$ ), which means that more and more HR practices favoring the environment have been implemented. The values of the standard deviation of all the variables were less than 1 which implied a low variation and uniformity of the responses among the participants. The Pro-environmental behavior ( $M = 4.05$ ) revealed that the employees in most cases practiced environmentally responsible behavior at the workplace. The circular economy variable had a slightly lower mean ( $M = 3.97$ ), which means that even though SMEs had already started practicing the circular economy, they were still behind other dimensions of sustainability in the implementation.

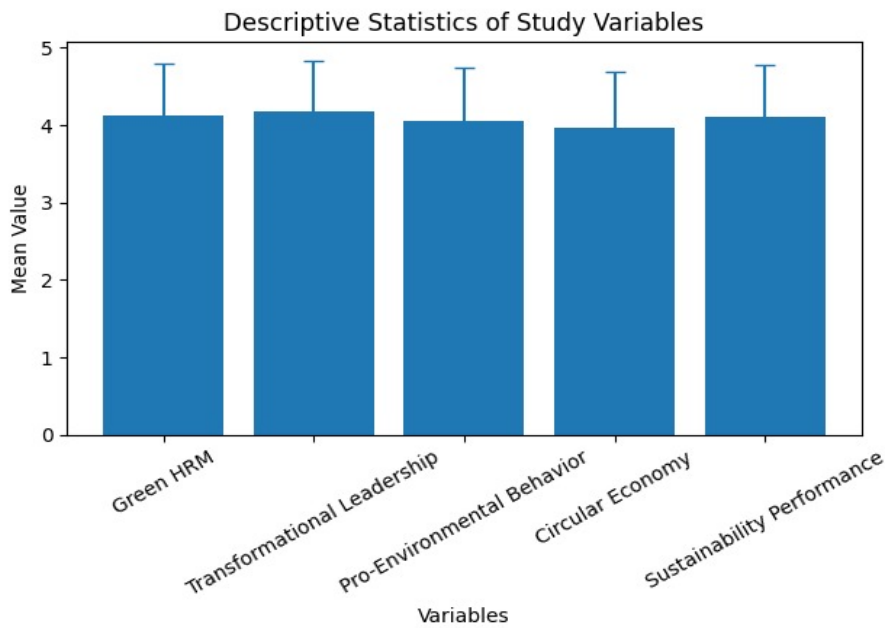


Figure 2. Descriptive Statistics of Study Variables

**Correlation Analysis**

Correlation analysis was conducted to examine the strength and direction of relationships among the study variables. This analysis helped to determine whether the variables were significantly associated with each other before proceeding to regression and structural modeling.

Table 2. Correlation Matrix

Variables	GHRM	TL	PEB	CE	SP
Green HRM (GHRM)	1				
Transformational Leadership (TL)	0.62	1			
Pro-Environmental Behavior (PEB)	0.58	0.64	1		
Circular Economy (CE)	0.55	0.60	0.63	1	
Sustainability Performance (SP)	0.66	0.69	0.71	0.68	1

The findings of the correlation resulted in a strong positive correlation between all the variables of the study. The correlation of green HRM with sustainability performance was significantly positive ( $r = 0.66$ ) and therefore organizations with green HR practices were likely to have high sustainability performance. Sustainability performance was highly related to transformational leadership ( $r = 0.69$ ), which showed how leadership plays an important role in promoting sustainability activities. Pro-environmental behavior showed the greatest relationship with sustainability performance ( $r = 0.71$ ) indicating that the employee behaviors were significant in the attainment of environmental and organizational objectives. Sustainability performance ( $r = 0.68$ ) was also observed to be closely linked to all the practices on the circular economy, which implied the contribution of resource-efficient approach to the overall sustainability outcomes within the SMEs.

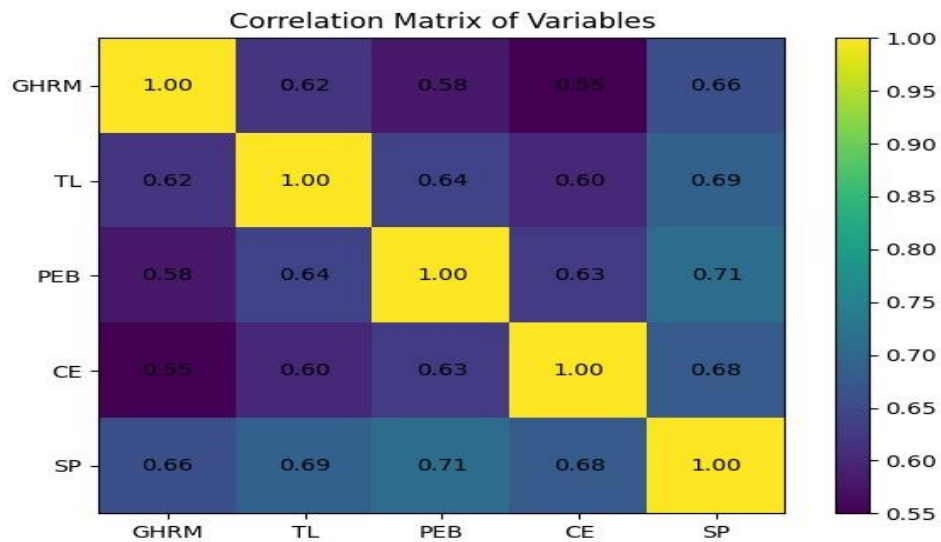


Figure 3. Correlation Matrix

**Regression Analysis**

Regression analysis was conducted to examine the impact of Green HRM, transformational leadership, pro-environmental behavior, and circular economy on sustainability performance. This analysis aimed to determine the predictive power of independent variables.

Table 3. Regression Results

Variable	Coefficient ( $\beta$ )	Std. Error	t-Statistic	p-value
Constant	0.82	0.20	4.10	0.000
Green HRM	0.31	0.06	5.16	0.000
Transformational Leadership	0.34	0.07	4.85	0.000
Pro-Environmental Behavior	0.29	0.06	4.67	0.000
Circular Economy	0.27	0.05	4.40	0.000

$$R^2 = 0.71$$

The results of the regression reflected that the overall effect of the independent variables on sustainability performance was significant, and all independent variables positively affected sustainability performance. The coefficient of transformational leadership ( $b = 0.34$ ) was the highest, so it can be assumed that leadership contributed to improving the results of sustainability the most. Green HRM was also manifesting a well-developed positive outcome ( $b = 0.31$ ), which proved that the importance of environmentally oriented HR practices played a crucial role in the sustainability of an organization. Sustainability performance was also identified to be predictable by pro-environmental behavior ( $b = 0.29$ ) and circular economy ( $b = 0.27$ ). These results emphasized the fact that not only the behavior of employees but also strategic resources management practices were the key to attaining sustainability objectives. It was ensured that the relationship was statistically strong as the significance of all the variables ( $p < 0.001$ ) was not less than significance of  $p$ . The high value of  $R^2=0.71$  meant that the model could accommodate about 71 percent of the variation in the sustainability performance. This good explanatory value indicated that the recommended model was useful in describing the major determinants of sustainability performance among SMEs. The regression findings were a strong argument that supported the hypothesized relationships as well as highlighted the overall significance of the HR practices, leadership, behavioral factors, and circular strategies in promoting sustainability.

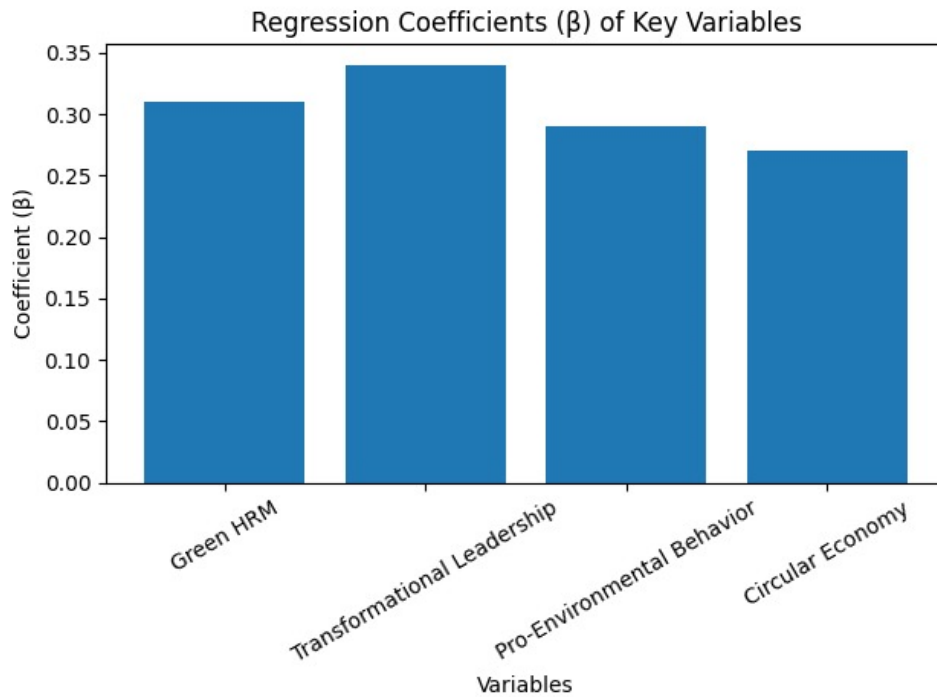


Figure 4. Regression Results

### Discussion

This study had revealed high empirical evidences regarding the importance of Green Human Resource Management (GHRM) in increasing the sustainability performance of the SMEs in the emerging marketplace. The outcomes showed that the organizations that adopted the green HR practices were more successful to attain greater rates of both environmental and organization performance. This may be attributed to the fact that GHRM created awareness of employees, environmental responsibility and commitment to the sustainability objectives. The findings aligned with the previous studies hypothesizing that an environmentally oriented HR practices was important in the determination of sustainable organizational performance and competitive advantage in the long term (Jabbour & de Sousa Jabbour, 2016). The research found out that the transformational leadership was influential on the sustainability performance significantly and positively. Raising leaders who were visionary, inspiring, and environmental committed were observed to affect the attitudes and behavior of employees towards the sustainability. This implied that leadership was a strategic driver, as well as a behavioral catalyst, which inspired employees to perform environmentally responsible behaviors. Findings were not surprising but it conformed to the literature that loaded transformational leadership with an improvement in sustainability performance through increased innovation, ethical principles and employee interest (Egri & Herman, 2000; Li et al., 2020).

It was found that the mediating effect of pro-environmental behavior played a key role in mediating between GHRM and transformational leadership and the performance of sustainability. The results showed that the voluntary environmental behavior of employees was an important factor in the sustainability results of the organizations. This implied that behavior at the individual level in the organization played a great role in success of sustainability initiatives. The fact that the employees were actively engaged in green practices including energy conservation, waste minimization, and environmentally friendly decision-making was extremely important in their translation of organizational strategies into real ones (Norton et al., 2015; Ones & Dilchert, 2012). Circular economy has been identified to mediate the association between the organizational practices and sustainability performance. The findings showed that SMEs that embraced circular practices through recycling, reuse and resource efficiency recorded more favorable sustainability outcomes. This discovery supported the need to enhance the integration of strategic sustainability strategies within organizational activities. Circular economy has led to the minimized environmental impact and enhanced

economic efficiency, and it, therefore, is especially relevant among owners of SMEs that are forced to operate on resource constraints (Murray et al., 2017; Lieder & Rashid, 2016).

The overall impact of GHRM, as well as the transformational leadership, enhanced even more the use of pro-environmental behavior and circular economy practices. The results indicated that as the organizations aligned HR policies, which were under the strong leadership support, they would have provided a favorable milieu towards sustainability. This integration made it easier to have a culture of environment responsibility where employees became dedicated and empowered to help in achieving the sustainability objectives. It was especially necessary in SMEs because leadership impact was more direct and the organisation structures were not as formalised (Dumont et al., 2017; Kim et al., 2019). The explanatory power of the regression model was high which meant that the variables that were selected jointly explained a high percentage of variance in sustainability performance. This proved that the construct of sustainability in SMEs was a complex one and was determined by factors in an organizational level, behavioral dimensions, and strategic dimensions. The results supported the need to further adopt a holistic approach to sustainability management and not emphasize on individual practices. The more organizations also put money in HR practices, leaders development, employee engagement, and circular strategies, the best accommodation of sustainable outcomes was made possible (Paillé et al., 2014; Saeed et al., 2019).

The other significant implication of the study relates to the contextual implication of the sustainability practices in the emerging markets. Financial and technological constraints that affected the operation of SMEs in these regions were found to be common, but the results were that other organizational internal aspects like leadership and HR practices could counter the constraints. Through the creation of a sustainability culture and the involvement of the employees, SMEs could improve their environmental performance by not making any major external investments. This underscored the future of low-cost, behavior-based methods of sustainability (Bansal & Song, 2017; Sharma & Gupta, 2020). The findings were also indicative of the fact that pro-environmental behavior was an intermediate between organizational intentions and real sustainability outcomes. The commitment to sustainability via GHRM and leadership provided the frame work of sustainability yet the employees put the sustainability efforts into action. This reiterated the need of employee engagement and involvement towards meeting the sustainability objectives. Organizational strategies to promote engagement and training programs and rewards on green behavior were more effective in ensuring that organizations succeeded in their sustainability initiatives (Boiral et al., 2015).

The strategic aspect of sustainability was brought out by the role of the circular economy. Circular economy techniques unlike conventional environmental practices involved the change of business models and operational processes. The results indicated that SMEs that employed the circular strategies were in a bigger position to have a longer period of sustainability due to less waste generation and resource utilization. The strategic orientation served to complement behavioral and organizational variables forming a holistic framework of sustainability (Geissdoerfer et al., 2018; Kirchherr et al., 2017). The results added to the literature by proving the significance of organizational practices combination, leadership influence, and behavioral mechanisms integration, and strategic approach to attain sustainability under new market conditions (Zhu et al., 2013; Khan et al., 2019).

## **Conclusions**

The conclusion of the study was that Green Human Resource Management (GHRM) and transformational leadership were important in improving sustainability performance in SMEs that are in the emerging markets. The results showed that the organizations that combined the environmental aligned HR strategies along with the efficient leadership strategies had higher chances of realizing better environmental, social, and economic results. The findings also established that the pro-environmental behaviour and circular economy practices were significant mediating factors that can transform organizational strategies into real sustainability performances. The large explanatory ability of the model meant that a combination of organizational, behavioral, and strategic factors had a strong impact on sustainability performance. In general, the research

presented empirical data that showed that the alignment between HR practices, leadership and sustainability strategies produced a synergistic effect, which enhanced the organizational performance, as well as the responsiveness to the environment.

### **Recommendations**

It was among the recommendations of the study that managers of SME ought to focus on adopting the Green practices in HRM, such as the green recruitment, green training and performance appraisal systems in order to create a work force that is environmental responsible. The development of transformational leadership abilities should be also implemented in companies because leaders were instrumental in employee motivation and sustainability efforts. Moreover, companies were motivated to build pro-environmental behavior through creating the awareness, providing incentives, and constantly training the employees on the environmental issues. Circular economy practices also need to be highlighted as the practices contributed to the improved efficiency of resources and decreased the environmental impact. The policymakers were supposed to assist the SMEs financially, in form of incentives, training systems, and regulatory systems, which may have fostered sustainable practices. Lastly, organizations must undertake a hybrid approach by aligning HR policies, leadership strategies and operation processes in order to facilitate long-term sustainability objectives.

### **Future Directions**

Future studies ought to adopt the use of longitudinal research designs to investigate the potential of the relationship of GHRM and transformational leadership on sustainability performance in the long run. Also, the comparative analysis of various industries and countries would possibly yield more information about the contextual differences in the sustainability practices. The complexity of sustainability performance should also be understood through accessing more mediating and moderating variables, including organizational culture, technological innovation, and digital transformation, among others, as it is researched. MARJ techniques might also provide the greatest degrees of insight by offering quantitative and qualitative views to the results. Besides, it is important to note that work in the future ought to take into consideration large datasets and more sophisticated methods of analysis, which will enhance both the applicability and credibility of findings. Another aspect worth exploring as the Hawaiian research topic is the impact of the emerging technologies like artificial intelligence in facilitating the concept of green HRM, including the circular economy practices.

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