



Enhancing Pro-Environmental Behaviour through Green HRM: A Study in the Green Economy Framework

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Abstract. This study investigates the role of Green Human Resource Management (Green HRM) in promoting pro-environmental behaviour and enhancing employee performance within the green economy framework. Using the Theory of Planned Behaviour (TPB), the research examines how Green HRM practices—such as green recruitment, environmentally-oriented training, and sustainability-focused performance management—influence employees' attitudes, subjective norms, and perceived behavioural control. Conducted in South Sulawesi, Indonesia, with a sample of 300 employees from key sectors, the study employs linear regression analysis to test the impact of Green HRM on pro-environmental behaviour and performance outcomes. Findings indicate that Green HRM practices significantly and positively affect both pro-environmental behaviour and employee performance, highlighting Green HRM as a strategic approach for organizations pursuing sustainability objectives. However, limitations such as regional scope and cross-sectional design suggest avenues for future longitudinal studies and cross-cultural comparisons. The study contributes to the literature by providing empirical support for TPB in Green HRM research, offering insights for organizations aiming to align HRM practices with environmental sustainability goals.

Keywords: Green HRM, Pro-Environmental Behaviour, Employee Performance, Green Economy, Theory of Planned Behaviour.

1 Introduction

Climate change and environmental degradation have become urgent global challenges, prompting governments and organizations worldwide to adopt more sustainable economic models, often referred to as the green economy. This model strives to balance economic growth with environmental stewardship, aiming to minimize the ecological footprint of business activities while promoting long-term sustainability. Within this framework, businesses play an indispensable role, particularly through the integration of Green Human Resource Management (Green HRM) practices, which align organizational activities with sustainability objectives. Green HRM includes a spectrum of HR practices such as green recruitment, environmentally-focused training, and sustainability-oriented performance appraisals, all of which are designed to foster a corporate culture committed to environmental sustainability [1] [2].

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Despite growing attention in the literature, there is still limited empirical research that rigorously examines the specific impacts of Green HRM on individual employee behaviours and performance outcomes that support green economy goals. Most existing studies focus on the organizational-level impacts of Green HRM, such as cost reduction or corporate environmental performance, without exploring how these practices influence specific pro-environmental behaviours among employees [3] [4]. Additionally, there is a gap in understanding the direct link between Green HRM practices and performance outcomes aligned with long-term sustainability objectives. Addressing this gap is crucial, as fostering pro-environmental behaviour among employees is a fundamental step towards achieving an organization's green economy objectives.

This study seeks to address these research gaps by investigating the role of Green HRM in shaping employee behaviour and performance. Utilizing the Theory of Planned Behaviour (TPB) as a theoretical framework, this research posits that Green HRM practices can significantly influence employee attitudes, subjective norms, and perceived behavioural control, which in turn impact pro-environmental behaviour and performance aligned with sustainability goals. The TPB framework is particularly relevant as it helps elucidate why and how Green HRM can effectively foster workplace behaviours that contribute to a green economy, thus filling a notable gap in the Green HRM literature [5].

Through this study, we aim to explore two primary research questions: first, how do Green HRM practices influence employees' pro-environmental behaviours? Second, to what extent do these practices affect employee performance in ways that support organizational sustainability objectives? By addressing these questions, this research contributes to a deeper understanding of the critical role Green HRM can play in advancing a sustainable green economy. Additionally, the findings offer practical insights for organizational leaders aiming to enhance their sustainability efforts through effective human resource management, thus supporting broader environmental and climate goals.

2 Literature Review

Green Human Resource Management (Green HRM) refers to an array of HR practices designed to promote environmentally sustainable behaviours within organizations, thereby minimizing their environmental impact while enhancing employee engagement. These practices encompass green recruitment, environmentally focused training and development, green performance management, and sustainability-based compensation schemes [2]. By aligning HR policies with sustainability goals, Green HRM not only serves as a catalyst for fostering a corporate culture that supports environmental consciousness but also strengthens the organization's commitment to the green economy [1]. For instance, green recruitment seeks to attract candidates who exhibit strong environmental awareness and values, while green training equips employees with the knowledge and skills necessary for integrating eco-friendly practices into their daily work routines [3].

Despite the rising interest in Green HRM, a critical gap persists in understanding how these practices influence specific employee behaviours and performance

outcomes that support green economy objectives. Although prior studies have suggested that Green HRM may promote organizational citizenship behaviours directed towards the environment [4], research directly linking these HR practices to individual employee behaviour and performance within the context of a green economy remains sparse. This study therefore seeks to bridge this gap by exploring the role of Green HRM in shaping two key outcomes: employees' pro-environmental behaviour and their performance in alignment with the sustainability goals of the organization.

The Theory of Planned Behaviour (TPB), provides a comprehensive framework for understanding and predicting behavioural intentions, particularly relevant within the context of pro-environmental behaviour in the workplace. TPB suggests that behavioural intentions are influenced by three primary components: attitudes, subjective norms, and perceived behavioural control. Attitudes refer to an individual's favourable or unfavourable evaluation of performing a specific behaviour; in the context of Green HRM, these attitudes can be positively shaped by exposure to green policies and environmentally oriented training initiatives, thereby fostering a supportive orientation towards sustainable practices. Subjective norms denote the perceived social pressures to engage in or avoid a specific behaviour, and Green HRM has the potential to influence these norms by cultivating an organizational culture that values and prioritizes sustainability. This, in turn, elevates employees' perception that engaging in pro-environmental behaviours is aligned with the expectations of their peers, managers, and the organization at large [6]. Lastly, perceived behavioural control reflects an individual's assessment of their ability to perform the behaviour, shaped by both past experiences and anticipated challenges. Green HRM can enhance perceived behavioural control by providing employees with the necessary resources, training, and clear operational guidelines, thus enabling them to confidently participate in sustainability initiatives [7].

Applying TPB within the study of Green HRM suggests that HR practices structured around environmental sustainability can significantly influence these three components, thereby shaping employees' intentions and their eventual behaviour. For instance, structured training programmes focused on environmental sustainability may positively impact employees' attitudes, strengthen supportive social norms, and enhance perceived control over their eco-friendly actions. TPB thus serves as an essential theoretical foundation to examine the potential influence of Green HRM on fostering pro-environmental behaviour and improving performance aligned with green economy objectives.

Green HRM seeks to cultivate sustainable behaviour among employees, encouraging them to actively participate in environmentally responsible initiatives and integrate sustainability considerations into their everyday tasks. Existing studies indicate that Green HRM can drive pro-environmental behaviour through targeted interventions, such as green training and performance evaluations based on environmental impact [2]. Green training, in particular, enhances employees' environmental awareness and motivates them to act responsibly towards the environment [4]. Nonetheless, the literature remains limited in establishing a direct link between Green HRM practices and specific behavioural outcomes that contribute to green economy goals. This study aims to address this gap by examining the extent to which Green HRM practices influence employees' environmentally responsible

behaviours, positing that such practices will positively affect employees' propensity to adopt pro-environmental actions.

In addition to shaping employee behaviour, Green HRM can also influence performance outcomes, especially when such outcomes are measured with sustainability goals in mind. Unlike traditional HRM, which often focuses on productivity and efficiency, Green HRM integrates environmental goals into performance appraisals and incentive structures, motivating employees to align their individual performance with the organisation's sustainability objectives [1]. In a green economy context, performance outcomes include both individual productivity and contributions to environmental targets, such as waste reduction, energy conservation, and sustainable innovation [7]. Therefore, this study hypothesises that Green HRM practices have a positive effect on employee performance, particularly in areas that support sustainable development and contribute to green economy targets.

Based on the Theory of Planned Behaviour and findings from previous literature, this study posits two main hypotheses: first, that Green HRM practices positively influence employees' pro-environmental behaviour; and second, that Green HRM practices positively impact employee performance aligned with sustainability objectives. These hypotheses are grounded in the notion that Green HRM can shape employees' attitudes, norms, and perceived control in a manner that promotes eco-friendly actions and enhances performance outcomes within a green economy framework. By testing these hypotheses, this study aims to shed light on the effectiveness of Green HRM practices in fostering sustainable behaviours and enhancing performance, providing valuable insights for organisations striving to contribute to a sustainable green economy.

3 Methodology

3.1 Research Design

This study employs a quantitative research design utilising a survey-based approach to investigate the effects of Green HRM practices on employee behaviour and performance in the green economy framework. A quantitative design is appropriate to measure specific constructs like pro-environmental behaviour and performance, allowing for efficient data collection and analysis across large samples. Grounded in the Theory of Planned Behaviour (TPB), the study assesses how Green HRM practices influence employees' attitudes, subjective norms, and perceived behavioural control, thereby shaping their behavioural intentions and outcomes.

3.2 Population and Sample

The study is conducted in South Sulawesi, Indonesia, a region progressively emphasising green economic practices. The target population includes employees from various sectors, particularly those with a significant environmental footprint, such as manufacturing and services. A purposive sampling technique is adopted to ensure that respondents are well-informed and directly involved in Green HRM initiatives within their organisations.

The sample size of 300 participants is determined based on Cochran's formula, ensuring both statistical validity and reliability in regression analysis for large populations. This sample size also anticipates potential non-responses, maximising data representativeness across sectors in South Sulawesi.

3.3 Data Collection Methods

Data is collected through a structured questionnaire distributed to employees within selected organisations. The questionnaire is divided into three sections. The first section gathers demographic details, including age, gender, educational background, and employment tenure. The second section measures Green HRM practices, encompassing green recruitment, training, performance management, and environmentally focused compensation schemes. The third section assesses employees' pro-environmental behaviours and performance, aligned with green economy objectives.

Each construct is measured using validated scales adapted from established studies. Green HRM practices are based on scales developed by Renwick et al. and Dumont et al., while items measuring pro-environmental behaviour draw from Pham et al. Performance metrics are tailored to gauge individual contributions to environmental objectives. All items are rated on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree), providing a consistent metric of respondents' perceptions and engagement levels.

3.4 Data Analysis

Linear regression analysis is employed to examine the relationships between Green HRM practices (independent variable) and the outcome variables: pro-environmental behaviour and employee performance. The analysis is conducted using statistical software to ascertain the strength, direction, and statistical significance of the relationships, testing the proposed hypotheses.

To ensure robustness, the assumptions of the regression model—absence of multicollinearity, normal distribution of residuals, and homoscedasticity—are verified. Descriptive statistics summarise the demographic data and response distribution for each survey item, offering insights into the sample characteristics and prevalent patterns.

3.5 Validity and Reliability

To ensure the validity and reliability of the measurement instruments, several steps are taken. Content validity is established through an extensive review of relevant literature to ensure that each survey item accurately represents the constructs being measured. Additionally, the questionnaire is pre-tested on a small group of employees to check for clarity and relevance, and adjustments are made based on feedback to enhance its suitability for the larger sample.

Reliability is assessed using Cronbach's alpha for each construct measured in the study, with a value of 0.7 or higher considered acceptable for internal consistency.

Confirmatory factor analysis (CFA) is also conducted to verify the dimensionality of the constructs and to ensure that the items load appropriately on their respective factors. These steps contribute to the robustness and credibility of the findings, enabling reliable conclusions about the influence of Green HRM practices on employee behaviour and performance in South Sulawesi.

4 Results and Discussion

4.1 Reliability and Validity

Table 1. Reliability Test (Cronbach's Alpha)

Construct	Cronbach's Alpha	Description
Green HRM	0.86	Reliable
Pro-Environmental Behaviour	0.71	Reliable
Employee Performance	0.81	Reliable

Source: *Authors own estimation (2024)*

The reliability test conducted using Cronbach's Alpha demonstrates that all constructs—Green HRM, Pro-Environmental Behaviour, and Employee Performance—exceed the acceptable threshold of 0.7, with values of 0.86, 0.71, and 0.81, respectively (see Table 1). This indicates high internal consistency and suggests that the measurement items within each construct reliably represent the constructs under study [8]. The reliability of these constructs underscores the robustness of the survey instrument used in capturing the nuances of Green HRM practices, pro-environmental behaviour, and employee performance in the context of the green economy.

Table 2. Validity Test (Confirmatory Factor Analysis - CFA)

Construct	Item	Loading Factor	AVE	CR	Description
Green HRM	1	0.65	0.52	0.8	Valid
	2	0.72			
	3	0.7			
Pro-Environmental Behaviour	1	0.68	0.55	0.79	Valid
	2	0.75			
Employee Performance	1	0.71	0.61	0.82	Valid
	2	0.8			

Source: *Authors own estimation (2024)*

For validity, the Confirmatory Factor Analysis (CFA) shows that each item has a loading factor above 0.5, with Average Variance Extracted (AVE) values above 0.5 and Composite Reliability (CR) values above 0.7 across all constructs (see Table 2).

Specifically, the AVE and CR values for Green HRM, Pro-Environmental Behaviour, and Employee Performance are 0.52, 0.55, and 0.61 for AVE, and 0.80, 0.79, and 0.82 for CR, respectively. These results confirm that the constructs exhibit convergent validity, indicating that each set of items cohesively measures its respective construct. This finding aligns with previous research suggesting that valid and reliable measures are critical in HRM and behavioural studies [9].

4.2 Normality and Multicollinearity

Table 3. Normality Test (Skewness and Kurtosis)

Variable	Skewness	Kurtosis	Description
Green HRM	-0.15	0.98	Normal
Pro-Environmental Behaviour	0.1	-0.85	Normal
Employee Performance	-0.2	1.05	Normal

Source: *Authors own estimation (2024)*

The normality test, evaluated through skewness and kurtosis, reveals that the distribution of data for Green HRM, Pro-Environmental Behaviour, and Employee Performance is within the acceptable range (-1 to +1 for both skewness and kurtosis), supporting the assumption of normality (see Table 3). These results indicate that the data distribution is suitable for linear regression analysis, consistent with guidelines for multivariate statistical analysis [10].

Table 4. Multicollinearity Test (Variance Inflation Factor - VIF)

Independent Variable	VIF	Description
Green HRM	1.75	No multicollinearity
Pro-Environmental Behaviour	2.8	No multicollinearity

Source: *Authors own estimation (2024)*

Additionally, the Variance Inflation Factor (VIF) test confirms that multicollinearity is not a concern in this study. The VIF values for Green HRM and Pro-Environmental Behaviour are 1.75 and 2.80, respectively, both below the recommended threshold of 5 (see Table 4). These findings suggest that the predictor variables in the regression model are independent and do not exhibit multicollinearity, which is essential for obtaining reliable and interpretable regression results [11].

4.3 Hypothesis Testing: Linear Regression Analysis

Table 5. Linear Regression Test (Significance and Beta Coefficient)

Independent Variable	Dependent Variable	Beta Coefficient (β)	p-value	Description
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Green HRM	Pro-Environmental Behaviour	0.42	0.004	Significant
Green HRM	Employee Performance	0.35	0.015	Significant

Source: Authors own estimation (2024)

The results of the linear regression analysis reveal that Green HRM significantly impacts both Pro-Environmental Behaviour and Employee Performance, thereby supporting Hypotheses 1 and 2. For the relationship between Green HRM and Pro-Environmental Behaviour, the beta coefficient (β) is 0.42 with a p-value of 0.004, indicating a statistically significant and positive relationship (see Table 5). This suggests that organisations with robust Green HRM practices are more likely to foster pro-environmental behaviours among employees. Such findings are consistent with prior studies, which have shown that Green HRM practices, such as green training and performance management, positively influence employees' environmental attitudes and behaviours [2] [4]. The presence of Green HRM practices may contribute to shaping an organisational culture where sustainable practices are not only encouraged but also ingrained in employees' daily activities.

Similarly, the analysis confirms a significant positive effect of Green HRM on Employee Performance, with a beta coefficient (β) of 0.35 and a p-value of 0.015 (see Table 5). This result indicates that employees exposed to Green HRM practices tend to exhibit higher performance levels, particularly when performance metrics are aligned with sustainability goals. This finding is consistent with previous research that links environmentally-focused HRM practices with enhanced employee performance, particularly in roles where sustainability is a strategic objective [1] [6]. The positive relationship between Green HRM and performance suggests that sustainability-oriented HR policies not only contribute to environmental goals but also enhance individual productivity and effectiveness within the green economy framework.

4.4 Goodness of Fit: Model Explanation

Table 6. Goodness of Fit Test (R-squared and Adjusted R-squared)

Model	R-squared	Adjusted R-squared	Description
Regression Model	0.45	0.43	Satisfactory model

Source: *Authors own estimation (2024)*

The goodness-of-fit analysis shows that the model explains 45% of the variance in the outcome variables (R-squared = 0.45), with an adjusted R-squared of 0.43 (see Table 6). This indicates that Green HRM practices, as conceptualised in this study, account for a substantial portion of the variance in Pro-Environmental Behaviour and Employee Performance. While other factors may also influence these outcomes, the R-squared value of 0.45 is considered satisfactory in social science research, particularly in studies involving human behaviour and organisational practices [12]. This finding reinforces the relevance of Green HRM as a strategic component in

fostering a sustainable organisational environment, where employees are motivated to contribute actively to environmental goals.

4.5 Discussion

The results of this study underscore the importance of Green HRM as a catalyst for promoting pro-environmental behaviours and enhancing performance outcomes within organisations striving to support the green economy. By adopting Green HRM practices, organisations can positively influence employees' attitudes, behaviours, and productivity, aligning individual actions with broader sustainability objectives. This study's findings contribute to the existing body of literature by providing empirical evidence that supports the Theory of Planned Behaviour (TPB) as a useful framework for understanding the impact of Green HRM on employee behaviour and performance.

Furthermore, these findings have practical implications for organisational leaders and HR managers aiming to integrate sustainability into their HR practices. By implementing green recruitment, training, performance management, and compensation systems, organisations not only demonstrate their commitment to environmental goals but also foster a workforce that actively contributes to these objectives. This dual benefit—enhancing employee performance while achieving sustainability targets—positions Green HRM as a valuable strategy in the context of the green economy. As previous studies have suggested, the alignment of HRM practices with environmental objectives can drive meaningful changes in employee behaviour and organisational culture [2] [3].

In summary, this study provides evidence that Green HRM practices significantly influence both pro-environmental behaviour and employee performance, supporting the hypothesis that sustainability-oriented HRM can be a strategic enabler of the green economy. These insights extend the current understanding of Green HRM by demonstrating its practical benefits in terms of both behavioural and performance-related outcomes. Future research could further explore the moderating effects of organisational culture or leadership styles on the relationship between Green HRM and employee outcomes, thus enriching the theoretical and practical implications of Green HRM in diverse organisational contexts.

5 Conclusion

This study has empirically examined the influence of Green Human Resource Management (Green HRM) practices on pro-environmental behaviour and employee performance within the framework of the green economy. Using the Theory of Planned Behaviour (TPB) as the foundation, this research provides significant insights into how Green HRM practices can shape employee attitudes, subjective norms, and perceived behavioural control, ultimately fostering behaviours and performance outcomes aligned with organisational sustainability goals. The findings reveal that Green HRM practices positively and significantly influence both pro-environmental behaviour and employee performance. This supports the notion that organisations can leverage Green HRM as a strategic tool, not only to achieve environmental objectives

but also to enhance individual productivity and contribute to a broader green economy framework.

5.1 Limitations

Despite its contributions, this study has several limitations. Firstly, the research was conducted in South Sulawesi, Indonesia, where specific cultural factors may shape employee perceptions and attitudes toward Green HRM practices. Consequently, generalising these findings across different geographical or cultural contexts requires caution. Secondly, the study employs a cross-sectional design, limiting the ability to establish causality between Green HRM practices and employee outcomes. Although the data support the hypothesised relationships, future longitudinal studies could better capture the long-term impact of Green HRM practices on employee behaviour and performance.

Another limitation lies in the self-reported data collected via questionnaires, which could introduce social desirability bias, especially concerning pro-environmental behaviours. Participants may have responded in a way they perceive as socially acceptable within the environmental context, potentially influencing the findings' accuracy. Future studies could enhance accuracy by including objective performance metrics or evaluations from supervisors, offering a more comprehensive assessment of the influence of Green HRM practices.

5.2 Future Research

Future research could expand upon these findings by investigating the moderating effects of organisational culture or leadership styles on the relationship between Green HRM and employee outcomes. These variables may further elucidate the organisational contexts in which Green HRM practices are most effective. Comparative studies across various industries and countries would also provide a broader understanding of Green HRM's impacts across diverse environmental and cultural settings.

Moreover, adopting a longitudinal approach in future studies could reveal the sustained effects of Green HRM on employee behaviour and performance, offering valuable insights into the long-term viability of HRM practices focused on sustainability. Exploring the integration of Green HRM with other organisational sustainability initiatives, such as Corporate Social Responsibility (CSR) programmes, could also yield valuable insights into their combined effects on employee outcomes and organisational performance.

In summary, this study underscores the pivotal role of Green HRM practices in fostering pro-environmental behaviours and enhancing performance within the green economy framework. Addressing these limitations and expanding the scope of research in the future will continue to deepen our understanding of Green HRM's potential to contribute meaningfully to sustainability goals and environmental stewardship.

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