

The Influence of Green Human Resources Management on Green Employee Engagement Mediated by Green Organizational Culture and Moderated by Green Transformational Leadership

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Abstract

This study aims to analyze the effect of green human resources management on green employee engagement mediated by green organizational culture and moderated by green transformational leadership. The study was conducted using a survey method on 100 employees in all regional offices of Bank Sultra. SEM PLS analysis was used for data analysis and obtained results green human resources management has a negative and significant effect on green employee engagement; green human resources management has a positive and significant effect on green organizational culture; green organizational culture has a positive and significant effect on green employee engagement; green human resources management has a positive and significant effect on green employee engagement mediated by green organizational culture; green human resources management has a positive and significant effect on green employee engagement moderated by green transformational leadership.

Keywords: *Green Human Resources Management, Green Transformational Leadership, Green Organizational Culture, Green Employee Engagement.*

Introduction

Climate change and environmental degradation have driven organizations across various sectors to integrate the principle of sustainability into their business strategies. In the banking sector, this approach encompasses not only environmentally sound financing policies but also internal organizational transformation, particularly in human resource management. Internal organizational transformation requires organizational support and the support of all individuals within the organization, particularly employee involvement in organizational activities. The importance of employee involvement in internal organizational transformation certainly deserves special attention from organizational leaders. One emerging strategic approach in this context is green human resource management, which integrates environmentally friendly principles into human resource management practices such as recruitment, selection, training, development, and reward systems (Noor et al., 2023; Renwick et al., 2013). Green human resource management is believed to have a positive impact on increasing green employee engagement, namely green employee engagement in organizational activities and behaviors that support environmental sustainability (Yuzliza et al., 2021; Tang et al., 2018). Employees exposed to green human resources management practices tend to have a higher awareness of environmental issues and demonstrate commitment and active participation in green (environmentally friendly) activities in the workplace. According to Social Exchange Theory (Blau, 1964), when organizations pay attention to values that employees believe are important, such as environmental sustainability and desirability, employees will respond positively through increased engagement and contribution to organizational goals.

Several previous studies have found that green human resources management contributes positively to employee engagement in environmentally friendly activities. Effective green human resources management practices through environmental training, participation in decision-making, and environmentally-based incentives can increase green employee engagement (Noor et al. (2023). Saeed

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et al. (2019) also found that green human resources management has a positive impact on green employee outcomes, including green employee engagement and green commitment. Similar findings were also presented by Jabbour et al. (2019) who emphasized that environmentally-based training and development practices have a significant impact on active employee participation in environmental issues.

However, several studies have shown that well-implemented green human resources management by organizations does not always improve green employee engagement. Pham et al. (2020), in their study of organizations in Vietnam, found that green human resources management does not necessarily increase green employee engagement without an organizational culture that supports environmental values. Similarly, Yusliza et al. (2020) stated that the relationship between green human resources management and green employee outcomes is strengthened by leader involvement and the integration of green (environmentally friendly) values into the work culture. This inconsistency indicates a research gap, particularly in understanding the mechanisms and conditions that strengthen or weaken the relationship between green human resources management and green employee engagement.

Based on the above, the researcher is interested in filling the research gap by adding a green organizational culture variable as a mediator of the influence of green human resources management on green employee engagement by referring to the research results of Jabbour and Santos (2008) which explains that training and development that emphasizes environmental values significantly increases employee competence in carrying out work in a more sustainable manner, so that the green human resources management approach through training and development that emphasizes environmental values enables the creation of an organizational culture that supports green (environmentally friendly) values, which has an impact on employee internal motivation to participate in sustainability programs. Research results Tran (2023) revealed that organizational culture has a significant role in mediating the influence of green human resources management on green employee engagement.

The influence of green human resources management on green employee engagement is not linear and can be influenced by contextual factors, including green transformational leadership. Green transformational leadership is leadership that inspires, motivates, and encourages positive change that aligns with environmental values (Mittal & Dhar, 2016). Leaders who apply green transformational leadership principles not only create a clear green vision but also shape a work climate that supports active employee participation in environmental issues.

Robertson and Barling (2013) demonstrated that transformational leadership plays a significant role in encouraging pro-environmental behavior in the workplace. Green transformational leadership strengthens the relationship between green human resources management and environmentally friendly organizational outcomes, including employee environmentally friendly behavior (Chen and Chang, 2013). This is reinforced by the Theory of Planned Behavior (Ajzen, 1991), which states that individual intentions and behavior are influenced by subjective norms and perceptions of social and environmental support, as well as the role of visionary leaders in supporting green behavior. Thus, it can be explained that although green human resources management can increase green employee engagement, its effectiveness will be even stronger if supported by green transformational leadership. Bank Sultra, as a regional financial institution that plays a significant role in regional development, understands the relationship between green human resources management, green employee engagement, and the moderating role of green transformational leadership is becoming increasingly relevant. This study is expected to provide theoretical and practical contributions in developing green human resources management practices that support the transition to green banking.

This research was conducted at Bank Sultra because according to the researcher, Bank Sultra has made efforts towards green banking such as the leadership has conducted an internal campaign to reduce the use of paper (paperless) by using e-documents for internal processes and communication between divisions, providing separate trash bins for organic and inorganic waste, reducing the use of plastic, especially for food and drink consumption by providing eating and drinking utensils in the office, employees are involved in CSR activities such as planting trees or cleaning the environment with the community. appeals to turn off lights, computers, and air conditioners when not in use and the use of energy-saving lamps in the office environment as well as regular socialization about the importance of environmentally friendly behavior in meetings or training. However, this has not been able to increase green employee engagement, this condition indicates that employees are already accustomed to the old work culture so that green human resources management is needed to form a green organizational

culture and the need for green transformational leadership to strengthen the role of green human resources management in increasing green employee engagement at Bank Sultra

Literature Review and Hypothesis

In the modern era that increasingly emphasizes the importance of environmental sustainability, organizations are required not only to be oriented towards profitability but also to have social and environmental responsibilities. One strategic approach to addressing these demands is through the application of green management principles, specifically by encouraging green employee engagement or employee involvement in environmentally friendly activities. Green employee engagement refers to the level of emotional, cognitive, and behavioral commitment of employees to organizational initiatives related to environmental sustainability. As a financial institution that plays a vital role in regional development, Bank Sultra is not only responsible for managing community finances and encouraging local economic growth, but also has a responsibility to contribute to environmental preservation. In daily operational practices, banking activities such as energy use, paper consumption, and operational transportation systems are aspects that have an environmental impact and require sustainable management.

This is where green employee engagement is crucial in the context of Bank Sultra. Employees who are highly environmentally conscious and feel involved in eco-friendly programs will be more motivated to actively contribute to reducing the organization's ecological footprint. This can be done, for example, by reducing energy and paper consumption, using digital technology for transactions, and participating in recycling programs or environmental CSR activities. Active employee involvement in green activities not only improves internal efficiency but also strengthens Bank Sultra's positive image as a socially and environmentally responsible organization. Green Employee Engagement, as defined in this study, refers to the level of active employee participation in supporting the organization's environmental programs and policies, as well as a proactive attitude in implementing environmentally friendly practices. Indicators refer to Saks (2006) and Kim et al. (2017).

- 1) Cognitive Engagement → Employees' understanding and awareness of the importance of environmental sustainability in their work.
- 2) Emotional Engagement → The level of employee concern and commitment to the organization's environmental programs.
- 3) Behavioral Engagement → Actual employee behavior in supporting green initiatives such as saving energy, using environmentally friendly transportation, and reducing paper use.

However, encouraging green employee engagement is not automatic. It requires a supportive human resource management system, such as environmental training, a green performance-based assessment and reward system, and leadership and an organizational culture that instills sustainability values. Therefore, it is crucial for Bank Sultra to design an integrated strategy to create a work environment that supports employee engagement in environmentally friendly practices.

Human resource management referred to in this research is Environmentally sustainable human resource management practices, including recruitment, training, performance appraisal, and compensation policies that support environmentally friendly behavior in the workplace. Green human resource management indicators refer to (Renwick et al., 2013; Jabbour & Jabbour, 2016):

- 1) Green Recruitment & Selection → The recruitment process takes into account the environmental awareness of prospective employees.
- 2) Green Training & Development → Employee training related to environmentally friendly work practices.
- 3) Green Performance Management → Performance evaluation includes contributions to the environment.
- 4) Green Compensation & Reward System → Incentives for employees who support green initiatives

Green human resource management involves integrating environmental policies into core HR functions such as green recruitment, environmental awareness training, performance appraisal systems based on environmental indicators, and reward programs for environmentally friendly behavior. The

goal of green human resource management is to promote resource efficiency and conservation and become an integral part of an organization's sustainability strategy. Employees are more proactively involved in environmental activities when companies implement green human resource management (Noor et al., 2023; Renwick et al., 2013; Tran, 2023). Green human resource management has a positive and significant effect on green work engagement (Noor et al., 2023; Tran, 2023). Human resource management practices contribute to the improvement of environmentally sustainable business practices and encourage environmentally friendly behavior among employees (Renwick et al., 2018). Green human resource management is an important bridge between the organization's goal of being environmentally sustainable and the daily behavior of employees (Renwick et al., 2018) and becomes the foundation for the formation of a green organizational culture within the company (Jabbour & de Sousa Jabbour, 2016) and can shape an environmentally oriented organizational culture (Dumont et al., 2017).

A green organizational culture is an organizational culture that instills values, norms, and work practices that support environmental sustainability. This includes organizational policies that encourage energy efficiency, waste reduction, recycling, and the use of environmentally friendly materials. This culture is also supported by leadership commitment and collective employee awareness of maintaining environmental sustainability in every aspect of work. Green organizational culture is measured using indicators referring to Harris & Crane (2002); Norton et al. (2015):

- 1) Green Shared Values → Collective agreement within the organization that environmental sustainability is a top priority.
- 2) Green Norms → Unwritten rules that encourage employees to save energy, reduce waste, and support other environmental initiatives.
- 3) Green Symbols & Artifacts → Availability of green facilities such as recycling bins, green spaces, and visual communication about sustainability.
- 4) Green Organizational Practices → The existence of organizational policies related to energy efficiency, waste management, and the use of more environmentally friendly materials.

Green human resource management has a positive and significant impact on green organizational culture (Tran, 2023)

By increasing green employee engagement, Bank Sultra can create a sustainable competitive advantage while contributing to the achievement of the Sustainable Development Goals (SDGs), particularly goals 13 (Addressing Climate Change) and 12 (Responsible Consumption and Production). This also demonstrates the implementation of ESG (Environmental, Social, and Governance) principles, which are currently a key indicator in the management of modern organizations, including regional financial institutions. Green organizational culture is not just about formal policies, but also encompasses cultural aspects and values that encourage every individual in the organization to play an active role in maintaining and improving environmental quality. A work environment that supports green behavior increases employee engagement (Paillé et al., 2016). A strong green work culture increases employee engagement and commitment to sustainability (Yusliza et al., 2017). A green organizational culture increases employee active participation in sustainability activities (Tran, 2023).

Green human resource management involves integrating environmental policies into core HR functions such as green recruitment, environmental awareness training, performance appraisal systems based on environmental indicators, and reward programs for environmentally friendly behavior (Renwick et al., 2013). The goal of green human resource management is to promote resource efficiency and conservation and to become an integral part of an organization's sustainability strategy. Employees are more proactively involved in environmental activities when companies implement green human resource management (Noor et al., 2023; Renwick et al., 2013; Tran, 2023). Transformational leadership plays a crucial role in enabling environmentally friendly behavior (Graves et al., 2013). Green transformational leadership strengthens the relationship between green human resource management and employee environmental engagement (Mittal & Dhar, 2016). Green transformational leadership, as defined in this study, is a leadership style that inspires and encourages organizational members to adopt sustainable practices, acts as a role model, provides a green vision for the organization, and builds a culture of innovation in environmental management, encourages employee participation in environmental activities, and instills sustainability values in organizational operations.

Green transformational leadership can be measured using indicators referring to Bass (1990); Robertson & Barling (2013)

- 1) Idealized Influence → Leaders act as role models in implementing environmentally friendly behavior.
- 2) Inspirational Motivation → Leaders provide a clear green vision and inspire employees to contribute to environmental sustainability.
- 3) Intellectual Stimulation → Leaders encourage innovation and creativity in implementing environmental solutions, such as waste reduction or energy efficiency.
- 4) Individualized Consideration → Leaders support and guide employees in developing environmentally friendly attitudes and skills.

To visually explain the relationship between the variables described above, the conceptual framework of this research is described as follows:

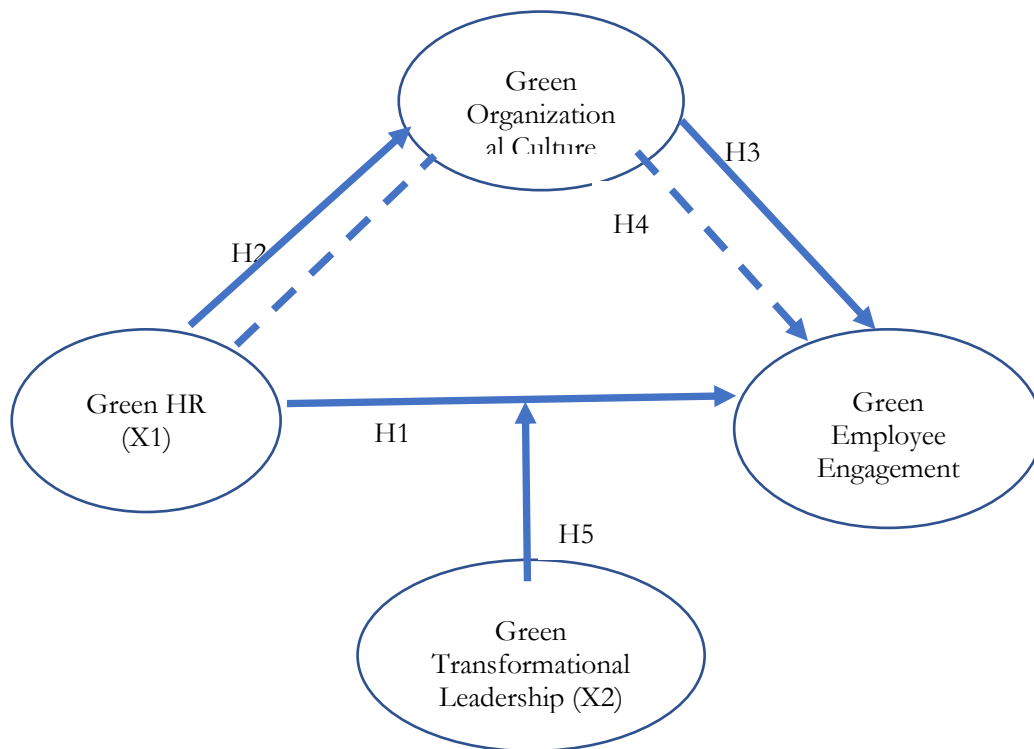


Figure 1 Research Conceptual Framework

Based on the literature review, the hypothesis formulated in this study is as follows:

Hypothesis 1: Green human resources management has a positive and significant effect on green employee engagement

Hypothesis 2: Green human resources management has a positive and significant influence on green organizational culture

Hypothesis 3: Green organizational culture has a positive and significant effect on green employee engagement

Hypothesis 4: Green human resources management has a positive and significant effect on green employee engagement mediated by green organizational culture.

Hypothesis 5: Green human resources management has a positive and significant effect on green employee engagement moderated by green transformational leadership.

Research Methodology

This study was conducted using a survey method on all Bank Sultra employees. A total of 100 questionnaires were distributed to all regional offices of Bank Sultra. Respondents filled out questionnaires containing statements about their demographics and their perceptions of the answer choices using a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Data analysis was carried out using descriptive statistical analysis and hypothesis testing. Product moment correlation was used to assess the validity of the instrument. Each questionnaire statement item was declared valid, according to a p-value of 0.05. All variables were considered reliable after verifying the instrument's reliability using Cronbach's alpha > 0.6. The conclusion of the study shows that the questionnaire instrument meets the standards and is useful.

Research Result

The results of this study consist of descriptive statistical analysis and inferential statistical analysis. The results of this study are presented and described as follows:

The demographic characteristics of respondents consisting of gender, age, and education level are presented in Table 1 as follows:

Table 1 Respondent Characteristics

| Respondent Characteristics | | Frequency (People) | Percentage (%) |
|----------------------------|--------------------|--------------------|----------------|
| Gender | Man | 60 | 60.00 |
| | Woman | 40 | 40.00 |
| Ages | 21-30 | 28 | 28.00 |
| | 31-40 | 47 | 47.00 |
| | 41-50 | 19 | 19.00 |
| | >50 | 6 | 6.00 |
| Years service of | 17 years | 31 | 31.00 |
| | 8 – 14 Years | 40 | 40.00 |
| | 15 – 21 Years | 21 | 21.00 |
| | > 21 years | 8 | 8.00 |
| Formal education | SENIOR HIGH SCHOOL | 11 | 11.00 |
| | Diploma | 7 | 7.00 |
| | S1 | 53 | 53.00 |
| | S2-S3 | 29 | 29.00 |

The respondents who became the unit of analysis for this research were 100 Bank Sultra employees, dominated by male employees (60.00%), with 47.00% aged 31-40 years and 47.00% with 8-14 years of working experience. The respondents' formal education was dominated by employees with a bachelor's degree (S1) (53.00%).

In this study, there are four latent variables with 15 indicators. The evaluation of the measurement model for each latent variable is presented in Table 2 as follows:

Table 2 Loading Factor and AVE Values

| Variable | Indicator | Loading Factor | AVE |
|-----------------------|-----------|----------------|-------|
| Green Human Resources | X1.1 | 0.825 | 0.620 |
| | X1.2 | 0.614 | |
| | X1.3 | 0.928 | |

| Variable | Indicator | Loading Factor | AVE |
|--|-----------|----------------|-------|
| Management (X1) | X1.4 | 0.749 | |
| Green Transformational Leadership (X2) | X2.1 | 0.684 | 0.701 |
| | X2.2 | 0.905 | |
| | X2.3 | 0.888 | |
| | X2.4 | 0.855 | |
| Green Organizational Culture (Y1) | Y1.1 | 0.887 | 0.692 |
| | Y1.2 | 0.881 | |
| | Y1.3 | 0.829 | |
| | Y1.4 | 0.719 | |
| Green Employee Engagement (Y2) | Y2.1 | 0.859 | 0.687 |
| | Y2.2 | 0.888 | |
| | Y2.3 | 0.638 | |

Based on the results of data processing using SEM PLS 4 in table 2, it shows that all indicators obtained outer loading values and AVE (Average Variance Extracted) values greater than 0.6, so all questionnaire items were declared valid and could be used for subsequent analysis.

The variable reliability test used two criteria: Cronbach's alpha and composite reliability. The results of the reliability test are presented in Table 3 as follows:

Table 3. Reliability Test Results

| Value of Cut | | Green Human Resources Management (X1) | Green Transformational Leadership (X2) | Green Organizational Culture (Y1) | Green Employee Engagement (Y2) |
|-----------------------|-------|---------------------------------------|--|-----------------------------------|--------------------------------|
| Cronbach's Alpha | > 0.6 | 0.837 | 0.939 | 0.927 | 0.934 |
| Composite Reliability | > 0.7 | 0.882 | 0.941 | 0.928 | 0.936 |

Table 3 shows that the Cronbach's alpha value for each variable is >0.6 and the composite reliability value for each variable is >0.7. These results indicate that each construct meets the requirements.

The goodness of fit model in PLS analysis is carried out using Q-Square predictive relevance (Q2). The results of the Q-Square calculation using the R-Square data are in table 4 below:

Table 4. Goodness of Fit model

| Variables | R-Square |
|-----------------------------------|----------|
| Green Organizational Culture (Y1) | 0.756 |
| Green Employee Engagement (Y2) | 0.739 |

The results of the Q-Square calculation using the R-Square data in table 4 above are as follows:

$$Q2 = 1 - (1 - R12) * (1 - R22) * (1 - Rn2)$$

$$Q2 = 1 - (1 - 0.756) * (1 - 0.739)$$

$$Q2 = 0.973$$

Based on the results of the Q-Square (Q2) value evaluation, it shows that this research model is considered acceptable.

In this research, the hypothesis testing is divided into two parts: direct effect hypothesis testing and indirect effect hypothesis testing (mediation). The hypothesis testing is presented in Figure 2 and Table 5 as follows:

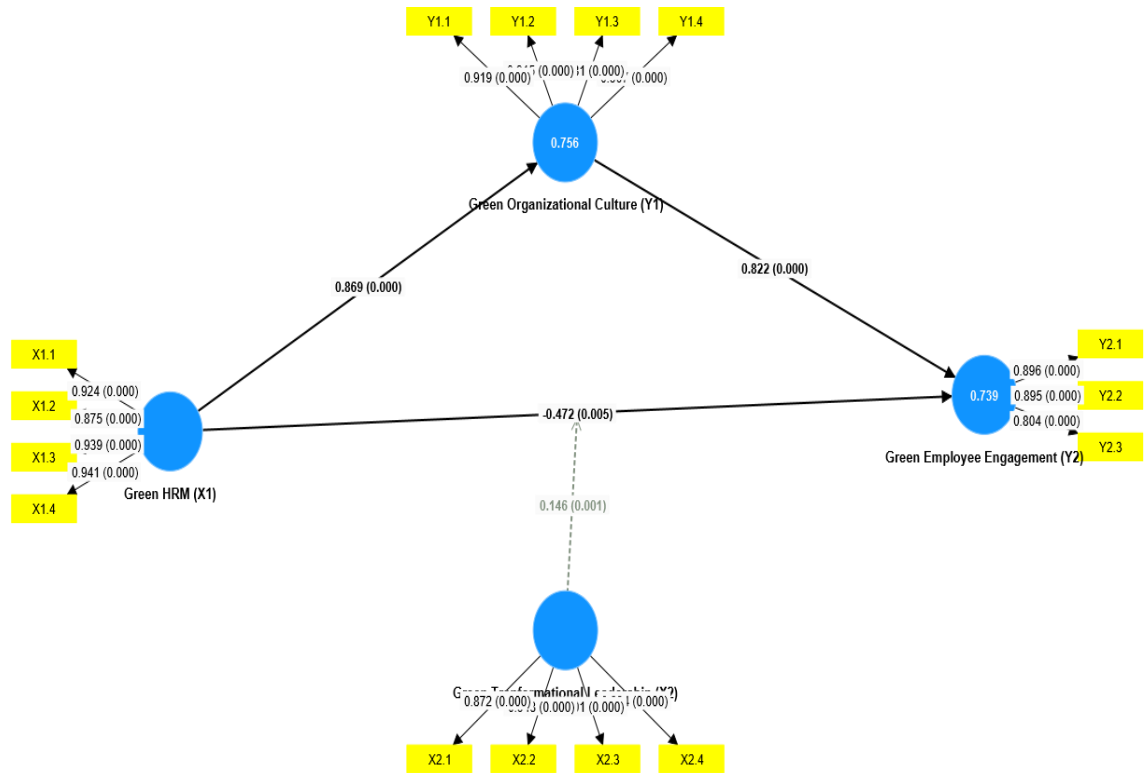


Figure 2. Path Coefficients of the Research Model

Table 5 Hypothesis Testing

| Hypothesis | | Original sample (O) | P values | Decision |
|------------|--|---------------------|----------|----------|
| H 1 | Green Human Resources Management (X1) -> Green Employee Engagement (Y2) | -0.472 | 0.005 | Reject |
| H 2 | Green Human Resources Management (X1) -> Green Organizational Culture (Y1) | 0.869 | 0.000 | Accept |
| H 3 | Green Organizational Culture (Y1) -> Green Employee Engagement (Y2) | 0.822 | 0.000 | Accept |
| H 4 | Green Human Resources Management (X1) -> Green Organizational Culture (Y1) -> Green Employee Engagement (Y2) | 0.714 | 0.000 | Accept |
| H 5 | Green Human Resources Management (X1) * Green Transformational Leadership (X2) -> Green Employee Engagement (Y2) | 0.146 | 0.001 | Accept |

Based on the hypothesis testing in Figure 2 and Table 5, it shows that there are 4 research hypotheses that are accepted and 1 hypothesis is rejected.

Discussion

Based on the results of data processing presented in Table 5, the results of the hypothesis testing can be explained as follows:

1. The Influence of Green Human Resources Management on Green Employee Engagement

The values of the coefficients of the influence pathsThe relationship between green human resources management and green employee negation is -0.472 and is negative. The P-Value of 0.05 is smaller than $\alpha = 0.05$. This value indicates that green human resources management has a negative and significant effect on green employee engagement. Based on this, the first hypothesis is rejected. The results of the study indicate that green human resources management has a negative and significant effect on green employee engagement at Bank Sultra. This means that the better the

environmentally oriented human resource management (green HRM) practices implemented by Bank Sultra, including various HR policies and practices that focus on environmental sustainability, such as: recruitment and selection based on green values (looking for employees who care about the environment); training and development that instills environmental awareness; performance appraisal based on environmentally friendly behavior; and a reward system for employees who contribute to energy efficiency, waste reduction, or green innovation, the lower the level of employee engagement in environmentally friendly activities both cognitively, emotionally, and behaviorally involved in activities that support environmental sustainability in the workplace. The results of this study do not support the results of the study by Saeed et al. (2019) found empirical evidence that GHRM increases employee pro-environmental behavior through a package of practices (training, rewards, and performance management). The results of this study indicate that green human resources management (GHRM) practices at Bank Sultra are negatively and significantly related to the level of Green Employee Engagement. This finding contradicts the research of Noor et al. (2023), which found that GHRM practices are positively correlated with green employee engagement in the context of green banking.

2. The Influence of Green Human Resources Management on Green Organizational Culture

The second hypothesis test, namely the influence of green human resources management on green organizational culture, has a path coefficient estimate of 0.869 and is positive. The P-Value of 0.000 is smaller than $\alpha = 0.05$. This value indicates that green human resources management has a positive and significant effect on green organizational culture. Based on this, the second hypothesis is accepted. The results of the study indicate that environmentally friendly human resource management policies not only influence individual behavior, but also shape the values, norms, mindsets, and collective habits of employees at Bank Sultra in working in an environmentally friendly manner. This finding also explains that environmentally based HR practices at Bank Sultra are able to be the main driver in building an organizational culture that pays attention to environmental sustainability through the process of internalizing values, social learning, reward systems, training mechanisms, and performance management processes that integrate sustainability aspects. These findings indicate that the better the implementation of green human resources management (GHRM) practices at Bank Sultra, the stronger the Bank's sustainability-oriented organizational culture, particularly in the practice of environmentally-based compensation and reward systems at Bank Sultra, which have been running well and have had a positive influence on employee behavior in implementing environmentally friendly work practices. The results of this study support the findings of Noor et al. (2023) by explaining that green human resources management contributes significantly to influencing employee behavior and strengthening the organization's sustainability culture. These results are also consistent with the findings of Jabbour et al. (2021) which show that green human resources management functions as a strategic mechanism in instilling green values, norms, and practices at various organizational levels.

3. The Influence of Green Organizational Culture on Green Employee Engagement

The effect of green organizational culture on green employee engagement obtained a path coefficient value of 0.915 with a p-value of $0.000 < 0.05$ indicating that the third hypothesis is accepted. The results of this study indicate that green organizational culture (GOC) has a positive and significant effect on green employee engagement (GEE). This finding indicates that the stronger the environmentally oriented organizational culture, the higher the level of employee engagement in green activities in the workplace. An organizational culture that integrates sustainability values, norms, symbols, and practices is able to create a psychological environment that supports, motivates, and inspires employees to actively engage in various environmentally friendly behaviors. These results reflect that employees respond positively when the organization demonstrates a consistent commitment to sustainability principles. When green shared values have become shared beliefs, green norms form behavioral guidelines, green artifacts (green symbols & artifacts) are visible in symbols, facilities, and procedures, and green organizational practices are implemented in operational activities, employees feel more connected cognitively, emotionally, and behaviorally with the organization's sustainability goals. The results of this study support the results of research conducted by Haque et al. (2024) who found that a sustainability-based organizational culture creates a green psychological climate that encourages employee engagement in environmentally friendly activities. This is consistent with the results of this study where when employees perceive strong green norms and practices, they are more emotionally and behaviorally engaged. The results of research by Yusliza et al. (2020) which confirms that a green organizational culture encourages employee green commitment which then increases employee involvement in various sustainable activities. The results of research by Noor et al. (2023) which shows that institutionalized green values, symbols, and norms within the organization are the

main factors triggering increased green employee engagement. These findings directly strengthen the results of this study which also found that when green values (green shared values) have become shared beliefs, green norms (green norms) form behavioral guidelines, green artifacts (green symbols & artifacts) are visible in symbols, facilities, and procedures, and green organizational practices are implemented in operational activities, employees feel more connected cognitively, emotionally, and behaviorally with the organization's sustainability goals.

4. The Influence of Green Human Resources Management on Green Employee Engagement Mediated by Green Organizational Culture

The coefficient value of the indirect influence path from green human resources management to green employee engagement through green organizational culture is 0.714 and the p-value is 0.000 greater than $\alpha = 0.05$, which means that green organizational culture has a significant role in mediating the influence of green human resources management to green employee engagement. Thus, the fourth hypothesis is accepted. Based on these results, it can be said that increasing green human resources management has an impact on increasing green employee engagement through increasing green organizational culture. Based on this, the fourth hypothesis is accepted. The results of this study explain that the influence of green human resources management is reflected by the green compensation and reward system indicator explaining that clear incentives, awards, and reward mechanisms for environmentally friendly behavior are the strongest aspects perceived by employees. A strong green compensation and reward system creates a signal that the organization values green behavior, thereby increasing employee commitment to the organization's environmental goals. The green performance management indicator strengthens the perception that the organization monitors, assesses, and provides feedback on employee environmental contributions. The green recruitment & selection indicator ensures that incoming employees have values and preferences towards sustainability issues. The green recruitment & selection indicator, although having the lowest value, still plays a role in building employee competence and environmental awareness. The combination of these four indicators fosters a collective perception that the organization systematically facilitates and values employees' roles in sustainability, thus forming the foundation of a strong environmental culture. When Bank Sultra employees perceive that the organization's values, norms, and practices align with sustainability, their engagement in green activities increases. Green organizational culture acts as a social glue that strengthens employees' intrinsic motivation to engage in environmental issues. The results of this study found that high cognitive engagement indicates that employees think about, process, and understand their role in the organization's environmental contributions. Emotional engagement indicates that employees feel proud, emotionally connected, and affectively motivated by environmental initiatives. Behavioral engagement, although the lowest, indicates that employees still demonstrate concrete actions in green activities.

5. Green Human Resources Management towards Green Employee Engagement Moderated by Green Transformational Leadership

The path coefficient value of the moderating influence of green transformational leadership on the influence of green human resources management on green employee engagement has a path coefficient value of 0.146 and a p-value of 0.001 smaller than $\alpha = 0.05$, which means that green transformational leadership has a significant role in strengthening the influence of green human resources management on green employee engagement. Thus, the fifth hypothesis is accepted. Based on these results, it can be said that green transformational leadership strengthens the influence of green human resources management in increasing green employee engagement. This value shows that green transformational leadership is proven to strengthen the relationship between green human resources management and green employee engagement. The results of this study can be interpreted that the higher the green transformational leadership style possessed by leaders in the organization, the stronger the influence of green human resources management practices in increasing employee engagement on environmental issues. This finding reflects that environmentally friendly human resource management policies will not run effectively without a leadership role that is able to inspire, stimulate, and motivate employees in the context of sustainability. This finding indicates that the effectiveness of green human resources management practices in increasing employee engagement on environmental issues is highly dependent on the quality of green-oriented transformational leadership in the organization. The positive and significant moderation findings of green transformational leadership indicate that leaders play a crucial role in ensuring that green human resources management practices transform into real employee engagement in green work activities. Although green human resources management has been strongly reflected by indicators of green

compensation & reward systems and green performance management, these formal organizational practices do not necessarily automatically create green engagement without direction and inspiration from green transformational leaders who strengthen employee perceptions that green policies are not merely administrative formalities, but are strategic organizational values that must be internalized.

Conclusion, Limitations and Future Research Directions

This study shows that Green Human Resources Management (GHRM) has a negative and significant effect on Green Employee Engagement (GEE) among Bank Sultra employees, indicating that the implementation of GHRM has not been fully understood or perceived as beneficial by employees, thus giving rise to the perception of it as an additional burden. However, this study found that GHRM has a positive and significant effect on Green Organizational Culture (GOC), and GOC also has a positive and significant effect on GEE. This confirms that a sustainability-oriented organizational culture is an important element in strengthening employee engagement on environmental issues. In addition, the study proves that GOC mediates the effect of GHRM on GEE, so that green organizational culture becomes a strategic pathway that connects GHRM policies with employee sustainability behavior. Another finding is the moderating role of Green Transformational Leadership (GTL) which is proven to strengthen the relationship between GHRM and GEE. Leaders with an environmentally-based transformational style are able to increase employee sensitivity, motivation, and commitment to sustainability programs, thereby increasing the effectiveness of GHRM implementation.

Based on the research results, it is recommended that the implementation of GHRM at Bank Sultra be improved to be more substantial and not merely administrative. Management needs to ensure that the GHRM policy provides tangible benefits to employees, such as clear ecological incentives, relevant green training, and the development of applicable environmental competencies to reduce the perception of additional burdens that have a negative effect on GEE. In addition, strengthening GOC needs to be carried out through internal campaigns, alignment of green values, and habituation of environmentally friendly behaviors because they have proven to be important mechanisms that help transfer the influence of GHRM on GEE. Leadership training with the theme of GTL also needs to be expanded so that leaders can provide inspiration, role models, and green motivation to employees. This study is limited by the scope of only one institution (Bank Sultra), the survey method is susceptible to perception bias, and the cross-sectional design is unable to capture the dynamics of behavioral changes over time.

For future research, it is recommended that the research object be expanded to other sectors or organizations so that the findings can be more broadly generalized. Future research could also add new mediating variables such as green psychological climate, green motivation, or environmental knowledge to find alternative mechanisms that bridge the influence of GHRM on GEE. Furthermore, the use of a longitudinal design has the potential to provide a deeper understanding of how employees' green behaviors develop over time. A mixed-method approach is also recommended for a more comprehensive and in-depth analysis of perceptions, barriers, and the effectiveness of GHRM policies.

References

- [1] Ababneh, Omar Mohammed Ali (2021) How do green HRM practices affect employees' green behaviors? The role of employee engagement and personality attributes, *Journal of Environmental Planning and Management*, 64:7, 1204-1226, DOI: 10.1080/09640568.2020.1814708
- [2] Aboramadan, M. (2022)., The effect of green HRM on employee green behaviors in higher education: the mediating mechanism of work engagement. *International Journal of Organizational Analysis* Vol. 30 No. 1, 2022. pp. 7-23.
- [3] Arulrajah, AA, Opatha, HHDNP, & Nawaratne, NNJ (2015). Green human resource management practices: A review. *Sri Lankan Journal of Human Resource Management*, 5(1), 1–16.
- [4] Ayandibu, A. (2019). Green Transformational Leadership and Organizational Behavior Effectiveness. *Contemporary Multicultural Orientations and Practices for Global Leadership*. <https://doi.org/10.4018/978-1-5225-6286-3.CH012>
- [5] Bass, B. M., & Avolio, B. J. (1994). *Improving organizational effectiveness through transformational leadership*. Sage Publications.
- [6] Begum, S., Xia, E., Ali, F., Awan, U., & Ashfaq, M. (2022). Achieving green product and process innovation through green leadership and creative engagement in manufacturing. *Journal of Manufacturing Technology Management*, 33(4), 656 – 674. <https://doi.org/10.1108/JMTM-01-20210003>
- [7] Boiral, O., Heras-Saizarbitoria, I., & Brotherton, M. C. (2015). Managing with ISO 14001: The influence of the internal context. *Journal of Environmental Management*, 160, 1-13.

- [8] Chen, YS & Chang, CH (2013). The determinants of green product development performance: green dynamic capabilities, green transformational leadership, and green creativity. *Journal of Business Ethics*, 116(1), 107-119. <https://doi.org/10.1007/s10551-012-1452-x>
- [9] Daily, B.F., & Huang, S. (2001). Achieving sustainability through attention to human resource factors in environmental management. *International Journal of Operations & Production Management*, 21(12), 1539-1552. <https://doi.org/10.1108/01443570110410892>
- [10] Ehnert, I. (2009). *Sustainable Human Resource Management: A Conceptual and Exploratory Analysis from a Paradox Perspective*. Physica-Verlag.
- [11] Fang, L., Shi, S., Gao, J., & Li, X. (2022). The mediating role of green innovation and green culture in the relationship between green human resource management and environmental performance. *PLOS ONE*, 17(9), e0274820. <https://doi.org/10.1371/journal.pone.0274820>
- [12] García-Sánchez, I.M., Martínez-Ferrero, J., & García-Sánchez, A. (2019). The role of environmental management in the relationship between corporate social responsibility and financial performance. *Journal of Business Research*, 98, 1-10.
- [13] Gürlek, M., & Tuna, M. (2018). Reinforcing competitive advantage through green organizational culture and green innovation. *The Service Industries Journal*, 38(7-8), 467-491. <https://doi.org/10.1080/02642069.2018.1486391>
- [14] Imran, M., García-Machado, J. J., & Martínez-Ávila, D. (2021). Green organizational culture and environmental performance: The role of green innovation. *Academy of Strategic Management Journal*, 20(1), 1-10. <https://www.abacademies.org/articles/green-organizational-culture-and-environmental-performance-the-role-of-green-innovation-13457.html>
- [15] Jackson, S. E., Renwick, D. W. S., Jabbour, C. J. C., & Müller-Camen, M. (2011). State-of-the-art and future directions for green human resource management: Introduction to the special issue. *Zeitschrift für Personalforschung*, 25(2), 99-116.
- [16] Jabbour, C. J. C., & Santos, F. C. A. (2008). The central role of human resource management in the search for sustainable organizations. *The International Journal of Human Resource Management*, 19(12), 2133-2154.
- [17] Jabbour, C. J. C., & Jabbour, A. B. L. de S. (2016). Green human resource management and green supply chain management: Linking two emerging agendas. *Journal of Cleaner Production*, 112, 1824-1833.
- [18] Jabbour, C.J.C., de Sousa Jabbour, ABL, Govindan, K., Teixeira, A.A., & Freitas, W.R.S. (2017). Environmental management and operational performance in automotive companies in Brazil: The role of human resource management and lean manufacturing. *Journal of Cleaner Production*, 47, 129-140.
- [19] Jabbour, C.J.C., Jabbour, ABL, & Godinho Filho, M. (2019). Green human resource management and green innovation: Exploring the connection. *Business Strategy and the Environment*, 28(7), 1316-1323.
- [20] Jabbour, C. J. C., & Jabbour, A. B. L. (2020). Green Human Resource Management and Environmental Sustainability. In *Research Handbook of HRM in the Public Sector*. Edward Elgar Publishing.
- [21] Jabbour, C.J.C., Jabbour, ABL, Godinho Filho, M., & Roubaud, D. (2021). Green human resource management and the enablers of green organizational culture: A conceptual model. *Journal of Cleaner Production*, 321, 128738.
- [22] Kim, A., Kim, Y., Han, K., Jackson, S. E., & Ployhart, R. E. (2017). Multilevel influences on voluntary workplace green behavior: Individual differences, leader behavior, and coworker advocacy. *Journal of Management*, 43(5), 1335-1358.
- [23] Lee, J., & Lee, H. (2018). The effect of transformational leadership on environmental innovation: The moderating role of environmental orientation. *Journal of Business Research*, 88, 1-10.
- [24] Liu, X. and Yu, X. 2023. Green transformational leadership and employee organizational citizenship behavior for the environment in the manufacturing industry: A social information processing perspective. *Frontiers in Psychology*, 13(January), 1-10. <https://doi.org/10.3389/fpsyg.2022.1097655>
- [25] Mandal, S., & Khatri, P. (2018). Green leadership: A new paradigm in organizational sustainability. *Journal of Business Research*, 85, 1-9.
- [26] Mandip, G. (2012). Green HRM: People management commitment to environmental sustainability. *Research Journal of Recent Sciences*, 1(2), 244-252.
- [27] Noor, Juliansyah., Zakiyya Tunnufus, Voppy Yulia Handrian, Yumhi Yumhi (2023). Green human resources management practices, leadership style and employee engagement: Green banking context. *Heliyon Volume 9 (2023) e22473*. <https://doi.org/10.1016/j.heliyon.2023.e22473>
- [28] Paillé, P., Boiral, O., & Chen, Y. (2013). Linking environmental management practices and organizational citizenship behavior for the environment: A social exchange perspective. *International Journal of Human Resource Management*, 24(18), 3552-3575.
- [29] Paillé, P., Chen, Y., Boiral, O., & Jin, J. (2014). The impact of human resource management on environmental performance: An employee-level study. *Journal of Business Ethics*, 121, 451-466.
- [30] Paillé, P., Chen, Y., Boiral, O., & Jin, J. (2015). Individual and organizational factors that influence employees' pro-environmental behavior. *Journal of Environmental Psychology*, 43, 1-10.
- [31] Pham, N.T., Tučková, Z., & Jabbour, C.J.C. (2019). Greening the hospitality industry: How to do green human resource management practices influence organizational citizenship behavior in hotels? A mixed methods study. *Tourism management*, 72, 386-399.

- [33] Pham, H.T., Pham, T., Truong Quang, H., & Dang, C.N. (2023). Impact of transformational leadership on green learning and green innovation in construction supply chains. *Engineering, construction and architectural management*, 30(5), 1883-1901.
- [34] Renwick, D. W.S. (2008). Green HRM: A review, process model, and research agenda. University of Sheffield Working Paper.
- [35] Renwick, D.W.S., Redman, T., & Maguire, S. (2013). Green Human Resource Management: A review and research agenda. *International Journal of Management Reviews*, 15(1), 1–14. <https://doi.org/10.1111/j.1468-2370.2011.00328.x>
- [36] Renwick, D.W.S., Jabbour, C.J.C., Muller-Camen, M., Redman, T., & Wilkinson, A. (2016). Contemporary developments in Green (environmental) HRM scholarship. *International Journal of Human Resource Management*, 27(2), 114–128.
- [37] Renwick, D. W. S., Jabbour, C. J. C., & Muller-Camen, M. (2018). Challenges and opportunities in Green Human Resource Management. *German Journal of Human Resource Management*, 32(1), 5–18.
- [38] Robertson, J. L., & Barling, J. (2013). Greening organizations through leaders' influence on employees' pro-environmental behaviors. *Journal of Organizational Behavior*, 34(2), 176–194. <https://doi.org/10.1002/job.1820>
- [39] Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600-619.
- [40] Shahriari, S., Jafari, M., & Jafari, M. (2022). Green organizational culture and organizational performance: The mediating role of green innovation and environmental performance. *Indonesian Journal of Science Education*, 11(2), 161–182. <https://doi.org/10.15294/jpii.v11i2.32386>
- [41] Singh, SK, Giudice, M. Del, Chierici, R., and Graziano, D. 2020. Green innovation and environmental performance: The role of green transformational leadership and green human resource management. *Technological Forecasting and Social Change*, 150 (October 2019), 119762. <https://doi.org/10.1016/j.techfore.2019.119762>
- [42] Siyal, S., Salamzadeh, Y., Cerchione, R., and Gelaidan, HM 2022. Green transformational leadership and green creativity? The mediating role of green thinking and green organizational identity in SMEs. *Frontiers in Psychology*, 1-12.
- [43] Tran, Nguyen Khanh Hai (2023). An empirical investigation on the impact of green human resources management and green leadership on green work engagement. <https://doi.org/10.1016/j.heliyon.2023.e21018>
- [44] Wehrmeyer, W. (1996). *Greening people: Human resources and environmental management*. Greenleaf Publishing.
- [45] Zhou, S., Zhang, D., Lyu, C., & Zhang, H. (2018). Does seeing “mind acts upon mind” affect green psychological climate and green product development performance? The role of matching between green transformational leadership and individual green values. *Sustainability*, 10(9), 3206
- [46] Zibarras, L.D., & Coan, P. (2015). HRM practices used to promote pro-environmental behavior: A UK survey. *The International Journal of Human Resource Management*, 26(16), 2121–2142.
- [47] Zibarras, L.D., & Coan, P. (2016). Promoting environmental sustainability through HRM practices: A review of literature. *Journal of Environmental Psychology*, 45, 120–130.