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Green *Human Resource Management, Psychological Empowerment, and Employee Engagement:* Testing *Green Behaviour Mediation*

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ABSTRACT

Objectives: *This study examines how green human resource management and psychological empowerment relate to employee engagement, directly and through green behaviour, among employees of Bank Indonesia.*
Methodology: *A quantitative, cross-sectional survey was conducted with 140 respondents selected from a population of 215 employees through purposive sampling. Responses to a five-point Likert questionnaire were analysed using partial least squares structural equation modelling in SmartPLS 4. Measurement quality, structural explanatory power, and seven hypotheses were assessed, with significance tested through 5,000 bootstrap subsamples.*
Finding: *Green human resource management positively affected both green behaviour and employee engagement. Psychological empowerment likewise positively affected green behaviour and employee engagement, and green behaviour in turn positively affected employee engagement. However, green behaviour did not significantly mediate the relationships between either green human resource management or psychological empowerment and employee engagement.*
Conclusion: *Organisational green practices and psychological empowerment primarily strengthen engagement through direct, parallel responses. Green behaviour remains valuable, but it is not the principal mediation pathway in this setting.*

Keywords: *Green Human Resource Management; Psychological Empowerment; Green Behaviour; Employee Engagement; PLS-SEM.*

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INTRODUCTION

Employee engagement is central to organisational effectiveness because it reflects the energy, dedication, and sustained attention employees invest in their work. Engaged employees are more likely to approach tasks with enthusiasm, identify with organisational objectives, and maintain effort under pressure. Contemporary engagement research therefore treats the construct as more than satisfaction: it represents an active emotional, cognitive, and physical connection with work (Hariani & Mardikaningsih, 2024; Huang et al., 2022). Yet maintaining engagement is difficult when organisations face rapid transformation, increasing sustainability expectations (Bieszk-Stolorz & Dmytrów, 2023), and changing employee values. Gallup (2023)

described global engagement as persistently limited, reinforcing the need to identify organisational and psychological resources that can support a durable relationship between employees and their work.

This problem is especially relevant to the financial sector. Bank Indonesia, the central bank of the Republic of Indonesia, must perform its monetary, payment-system, and financial-stability mandates while strengthening organisational adaptability and sustainability. Its human resource strategy is organised around planning, fulfilment, development, and employee maintenance. Within this cycle, environmental responsibility cannot remain separate from employee management because sustainability objectives ultimately depend on routine decisions, competence, participation, and commitment. A preliminary assessment reported in the thesis also indicated that enthusiasm, dedication, perceived autonomy, green human resource practices, and collective environmental action had not developed evenly. The empirical issue was therefore not simply whether employees understood sustainability, but whether organisational green practices and employees' sense of empowerment were connected with observable green behaviour and engagement.

Green human resource management integrates environmental objectives into recruitment, training, performance management, rewards, and employee relations. When these practices are coherent, they clarify expected conduct and signal that the organisation values environmental responsibility. Prior evidence links green human resource management with employee green behaviour (Chen & Wu, 2022; Veerasamy et al., 2024) and with engagement in a green-banking context (Noor et al., 2023). However, a policy signal does not fully explain why employees act. Psychological empowerment provides an individual-level resource comprising meaning, competence, self-determination, and perceived impact. Empowered employees believe that their work matters, that they can perform it effectively, and that they have sufficient discretion to influence outcomes. Such perceptions have been associated with work engagement (Drūteikienė et al., 2023; Juyumaya, 2022) and environmentally oriented employee voice (Din et al., 2025).

Green behaviour may connect these organisational and psychological resources with engagement. Employees who conserve resources, manage waste, participate in environmental programmes, share environmental knowledge, and collaborate on green practices may experience a stronger sense of contribution and purpose. Research has linked workplace pro-environmental behaviour with positive work attitudes (Composto et al., 2023). Nevertheless, evidence about the direction and sequence of this relationship remains unsettled. Ababneh (2021) positioned engagement as a mechanism between green human resource management and green behaviour, whereas Din et al. (2025) examined employee green behaviour as a mediator for a more specifically environmental form of engagement. These different causal orders suggest that green behaviour should not be assumed to mediate general employee engagement without direct testing.

Three gaps motivate the present study. First, much of the cited literature tests only selected pairs among green human resource management, psychological empowerment, green behaviour, and employee engagement. Second, the mediating position of green behaviour has received less direct evidence than its antecedents and outcomes. Third, evidence from a central-bank setting remains limited even though such institutions combine public mandates, formal governance, knowledge-intensive work, and sustainability demands. This study addresses those gaps by testing all four constructs simultaneously among Bank Indonesia employees. It asks

whether green human resource management and psychological empowerment are associated with both green behaviour and employee engagement; whether green behaviour is associated with employee engagement; and whether green behaviour transmits the two antecedent relationships. The study contributes by distinguishing supported direct paths from unsupported indirect paths, thereby avoiding the assumption that an environmentally responsible behaviour must be the principal route through which organisational support or empowerment creates engagement.

LITERATURE REVIEW

Social exchange perspective

Social exchange theory explains employment relationships as reciprocal exchanges of valued resources. When an organisation provides support, recognition, trust, and opportunities, employees may respond with attitudes and behaviours that benefit the organisation. Reviews of the theory's development trace this logic to its foundational formulations (Ogbonna & Mbah, 2022), and a recent review by Ahmad et al. (2023) emphasised that reciprocity, perceived obligations, and the quality of exchanged resources remain central to applying the theory in organisational research. In the present model, green human resource management represents formal organisational support for sustainability, while psychological empowerment represents an experienced resource embedded in work. Employee engagement and green behaviour are two possible responses. The theory does not require those responses to occur in a single sequence: employees may become more engaged and act more sustainably in parallel. This point is important because a significant antecedent-to-behaviour path and a significant behaviour-to-engagement path do not automatically establish a significant indirect effect.

Employee engagement

Employee engagement captures a positive work-related state commonly represented by vigour, dedication, and absorption. Vigour concerns energy and persistence, dedication concerns meaning, enthusiasm, inspiration, and pride, and absorption concerns deep concentration in work. These dimensions have continued to receive psychometric support across national contexts (Gwamanda et al., 2024; Merino-Soto et al., 2022; Tatha et al., 2024). Engagement can be strengthened by organisational systems that give work a socially responsible purpose and by psychological conditions that make employees feel capable and influential. It is therefore treated here as the principal outcome rather than as a synonym for satisfaction or compliance.

Green human resource management

Green human resource management embeds environmental values in human resource functions. Green recruitment and selection seek value congruence; green training develops environmental competence; green performance management provides feedback and accountability; green rewards recognise sustainability contributions; and green employee relations encourage participation. Jamil et al. (2023) demonstrated the relevance of green recruitment to sustainability performance, while Iqbal et al. (2025) positioned green human resource practices within a broader sustainable-development model. At the behavioural level, Chen & Wu (2022) found that green human resource management can facilitate employee green behaviour, and Veerasamy et al. (2024) showed positive relationships for several practices, with participation and training strengthening the process. Converging evidence from other service

and manufacturing settings reports the same direction of association (Cahyadi et al., 2022; Fawehinmi et al., 2020; Khan et al., 2022).

From a social exchange perspective, these practices communicate that the organisation invests in sustainability and provides employees with guidance and resources. Employees may reciprocate by conserving resources, participating in environmental initiatives, and supporting colleagues' green conduct. They may also respond attitudinally through greater pride and engagement because responsible organisational values give work broader meaning. Noor et al. (2023) reported a positive relationship between green human resource management and employee engagement in green banking. Accordingly:

H1: Green human resource management is positively associated with green behaviour.

H3: Green human resource management is positively associated with employee engagement.

Psychological empowerment

Psychological empowerment is a motivational state composed of meaning, competence, self-determination, and impact. Meaning reflects alignment between work and personal values; competence is confidence in one's ability; self-determination concerns discretion in how work is performed; and impact reflects a perceived ability to influence organisational outcomes (Oliveira et al., 2023). Together, these dimensions make employees more willing to initiate action rather than merely follow instructions.

Empowerment should support green behaviour because employees who feel capable and autonomous can identify environmental improvements, adapt routines, and invite colleagues to participate. Din et al. (2025) linked psychological empowerment with green voice behaviour in a model of environmentally specific leadership, and M. A. E. M. A. E. Ali & Yahya (2023) reported that empowerment shapes how leadership translates into employees' green behaviours. Empowerment should also support employee engagement because meaningful work, confidence, discretion, and influence are intrinsically motivating. Juyumaya (2022) found that psychological empowerment increased work engagement, and Monje-Amor et al. (2021) reported positive relationships across service-sector samples in Spain and the United Kingdom. Comparable findings across educational, corporate, and cross-generational samples reinforce empowerment as a consistent antecedent of engagement (Aggarwal et al., 2020; H. Ali et al., 2022; Sun et al., 2022; Towsen et al., 2020). Thus:

H2: Psychological empowerment is positively associated with green behaviour.

H4: Psychological empowerment is positively associated with employee engagement.

Green behaviour

Green behaviour comprises employee actions that reduce environmental harm or support sustainability at work. In this study, it includes conserving paper, electricity, and water; managing waste; participating in environmental programmes; encouraging colleagues; sharing environmental knowledge; and collaborating on green practices. Yuan et al. (2024) showed that green human resource management may influence voluntary workplace green behaviour through more than one psychological process, while Zacher et al. (2023) identified employee green behaviour as a core element of environmentally sustainable organisations. Usman et al. (2023) further showed that green training can extend employees' eco-friendly conduct beyond the immediate work setting.

Green behaviour may strengthen engagement because it allows employees to see a concrete contribution beyond task completion. Environmental action can increase perceived

purpose, connection with organisational values, and collective participation. Composto et al. (2023) associated pro-environmental behaviour at work with more positive job outcomes. The expected direct relationship is:

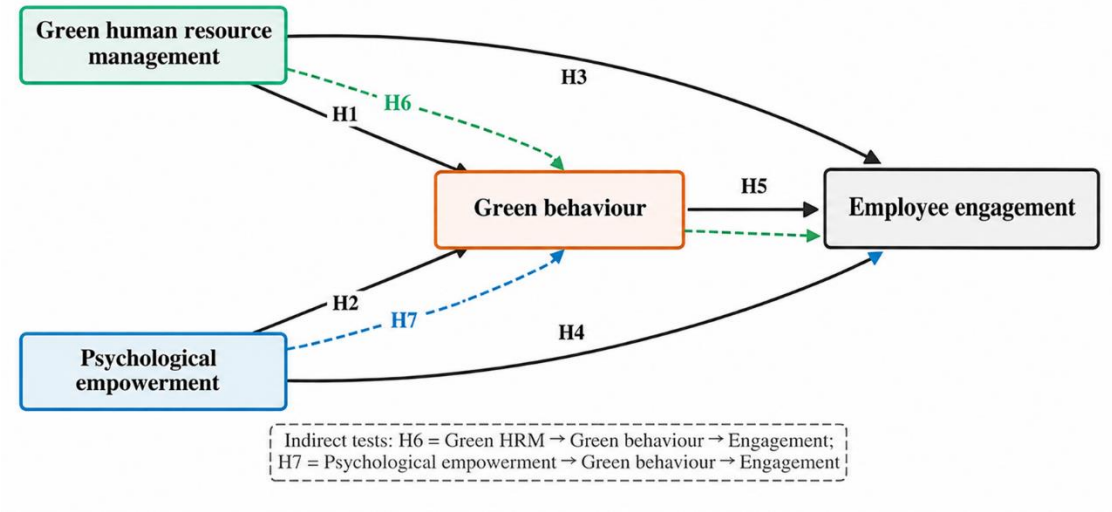
H5: Green behaviour is positively associated with employee engagement.

The mediation arguments combine the preceding paths. Green human resource management can supply knowledge, expectations, incentives, and social support that encourage green behaviour; that behaviour may then reinforce the meaning employees attach to their work. Psychological empowerment can similarly enable proactive environmental action, which may strengthen engagement through perceived contribution. Nevertheless, prior studies do not establish the same full sequence consistently. Din et al. (2025) found mediation by employee green behaviour for engagement in environmental initiatives within healthcare, whereas Ababneh (2021) tested the reverse ordering by placing engagement before green behaviour. Other studies position work engagement or green behaviour as the intervening variable without converging on a single sequence (Kania, 2024; Prasidi, 2025). The present study therefore treats mediation as an empirical question:

H6: Green behaviour mediates the association between green human resource management and employee engagement.

H7: Green behaviour mediates the association between psychological empowerment and employee engagement.

Figure 1. Research framework



Source: Adapted from the thesis research framework, 2026.

METHOD

Research design and participants

The study used a quantitative, explanatory, cross-sectional survey to test the hypothesised relationships. The population comprised 215 employees of Bank Indonesia. The thesis determined a target of 140 respondents using the Slovin calculation with a five per cent error level, and the final data set contained 140 valid responses. Participants were selected through non-probability purposive sampling. Eligibility required active employment, involvement in organisational activities, familiarity with workplace sustainability practices, and work within the same task cluster. Because all variables were measured at one point in time

from employee perceptions, the model estimates statistical associations and does not establish temporal causality.

Measures and data collection

Data were collected using a five-point Likert questionnaire ranging from 1 (strongly disagree) to 5 (strongly agree). The original instrument contained 35 indicators. Employee engagement was represented by vigour, dedication, and absorption; green human resource management by green recruitment and selection, training and development, performance management, compensation and rewards, and employee relations; psychological empowerment by meaning, competence, self-determination, and impact; and green behaviour by individual and social workplace actions. The construct specification followed the measures and literature documented in the thesis, including Gwamanda et al. (2024), Jamil et al. (2023), Oliveira et al. (2023), and Veerasamy et al. (2024), together with validated engagement scales reported by Merino-Soto et al. (2022), and Tatha et al. (2024). During measurement-model evaluation, indicators Y5, Y9, and X1.9 were removed, leaving 32 indicators in the final model.

Table 1. Construct specification in the final model

Construct	Model role	Dimensions represented	Final indicators
Employee engagement	Endogenous outcome	Vigour, dedication, absorption	7
Green human resource management	Exogenous predictor	Recruitment and selection, training and development, performance management, compensation and rewards, employee relations	9
Psychological empowerment	Exogenous predictor	Meaning, competence, self-determination, impact	10
Green behaviour	Mediator/endogenous outcome	Individual and social green behaviour	6

Source: Questionnaire and final measurement model reported in the thesis, 2026.

Data analysis

The data were analysed with partial least squares structural equation modelling in SmartPLS 4 (Ringle et al., 2024). The measurement model was evaluated first. Convergent validity was assessed through outer loadings and average variance extracted (AVE), and internal consistency through Cronbach's alpha, rho_A, and composite reliability. AVE of at least .50 and reliability values above .70 were required (Ghozali & Latan, 2015). Discriminant validity was assessed through the heterotrait-monotrait ratio (HTMT), with values below .90 indicating empirical distinctiveness (Henseler et al., 2015). The structural model was then examined through inner variance inflation factors (VIF), coefficients of determination (R^2), effect sizes (f^2), the study's calculated Q^2 value, and the standardised root mean square residual (SRMR). Direct and specific indirect effects were tested using 5,000 bootstrap subsamples. A hypothesis was supported when t exceeded 1.96 and p was below .05.

RESULTS AND DISCUSSION

Respondent profile and descriptive results

Women comprised 65.71 per cent of respondents and men 34.29 per cent. More than half were aged 30-40 years, and 86.43 per cent had worked for more than five years. The sample therefore largely reflected experienced employees who had sufficient exposure to organisational practices to evaluate the study constructs. Table 2 reports the full profile available in the final data set.

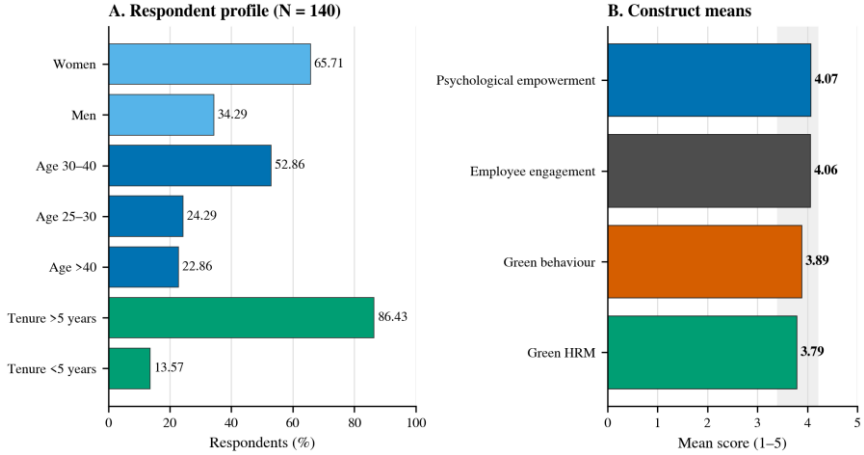
Table 2. Respondent profile (N = 140)

Characteristic	Categories	Frequency (percentage)
Gender	Men; women	48 (34.29%); 92 (65.71%)
Age	25-30 years; 30-40 years; above 40 years	34 (24.29%); 74 (52.86%); 32 (22.86%)
Tenure	Less than five years; more than five years	19 (13.57%); 121 (86.43%)

Source: Primary data processed in the thesis, 2026.

All four construct means fell within the thesis's "high" category. Psychological empowerment had the highest mean (4.07), followed by employee engagement (4.06), green behaviour (3.89), and green human resource management (3.79). Within employee engagement, pride in one's work was highest (Y4 = 4.16), while full concentration without distraction was lowest (Y7 = 3.96). For green human resource management, support from colleagues and supervisors for joint green behaviour was highest (X1.10 = 3.93), whereas environmental contribution in performance evaluation was lowest (X1.5 = 3.66). Competence was the strongest psychological-empowerment item (X2.4 = 4.14), while autonomy in selecting methods and approaches was lowest (X2.7 = 3.94). Resource conservation was the strongest green-behaviour item (Z1 = 4.08), while sharing environmental knowledge was lowest (Z5 = 3.79). These patterns suggest that individual confidence and routine conservation were more established than formal environmental performance evaluation, decision autonomy, and knowledge diffusion. Figure 2 consolidates the respondent composition and construct-level means.

Figure 2. Respondent composition and construct means.

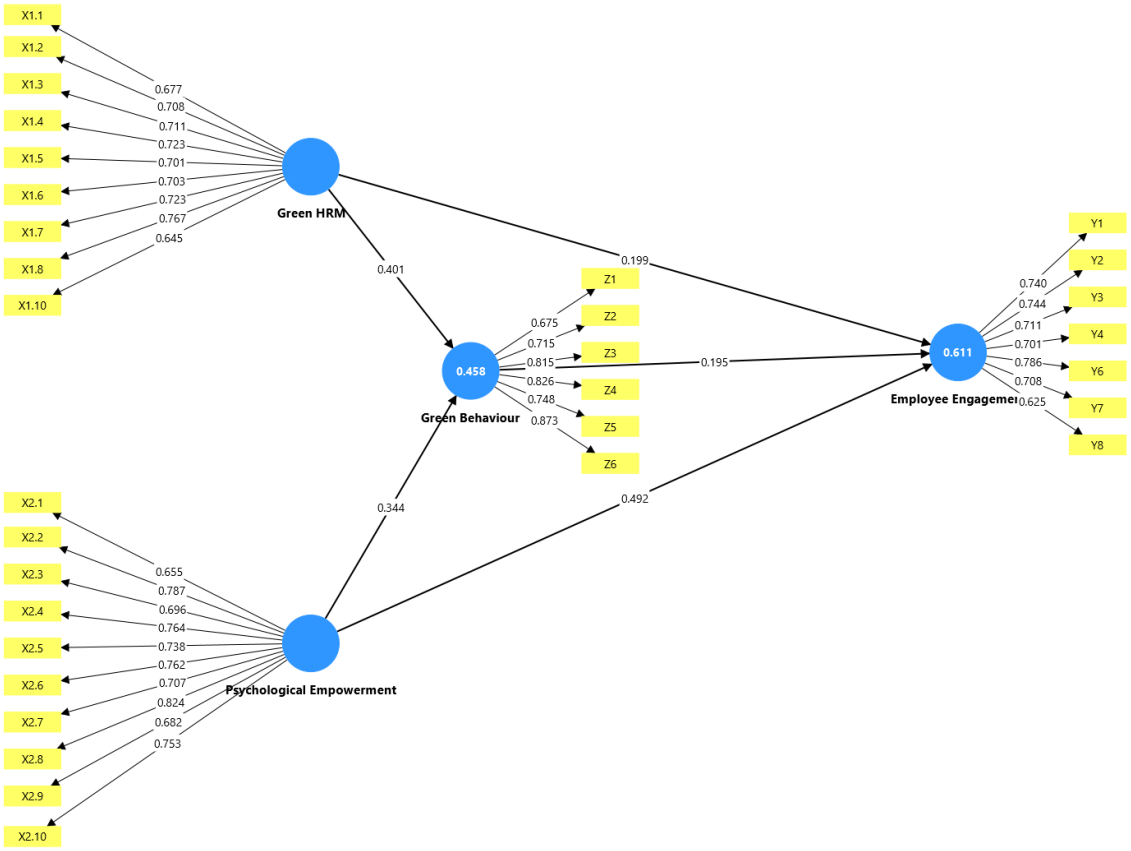


Source: Primary data processed in the thesis, 2026. The shaded band marks the thesis's high category (3.41-4.20).

Measurement and structural model quality

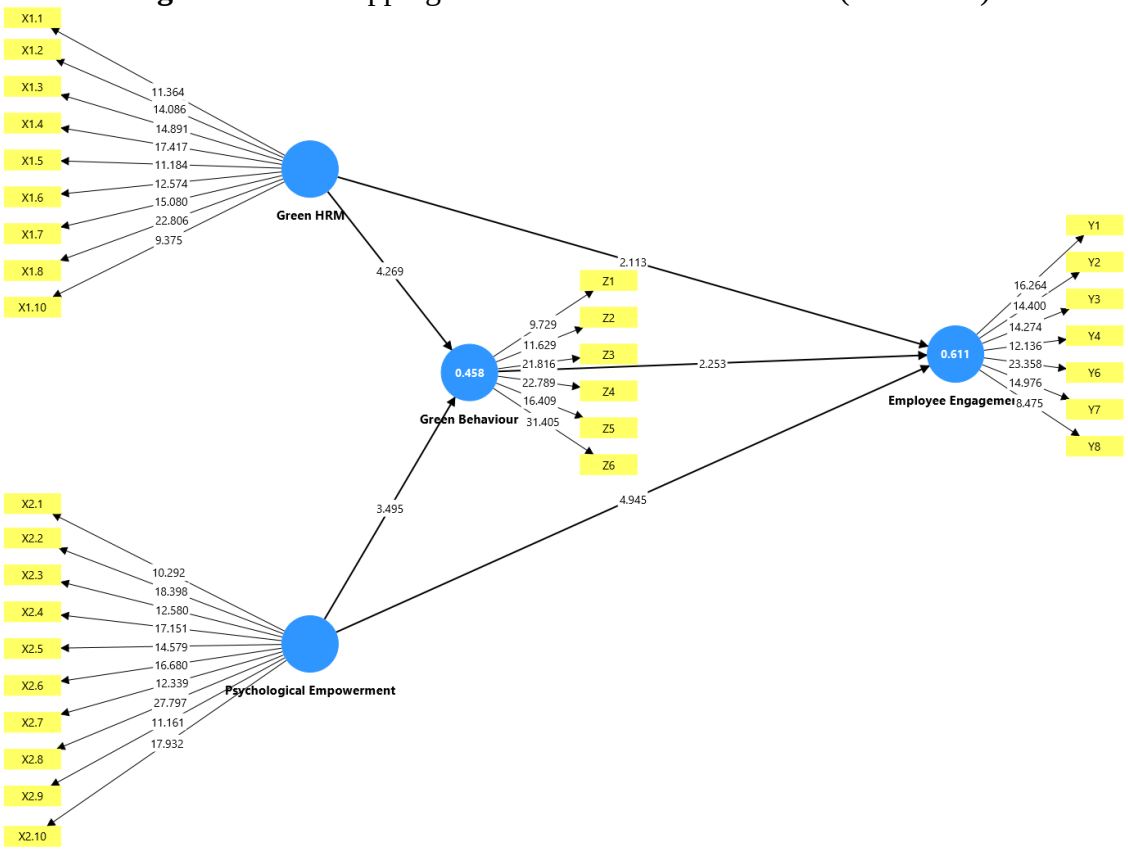
Figure 3 presents the final 32-indicator SmartPLS model. Outer loadings ranged from .625 to .873. Several indicators between .60 and .70 were retained because their constructs met the AVE and reliability requirements documented in the thesis. AVE values ranged from .500 to .606, Cronbach's alpha from .843 to .907, rho_A from .850 to .909, and composite reliability from .881 to .923. HTMT values ranged from .680 to .832, remaining below .90. These results indicate acceptable convergent validity, discriminant validity, and internal consistency for the final constructs.

Figure 3. Final PLS-SEM algorithm model with outer loadings, path coefficients, and R^2.



Source: SmartPLS algorithm output supplied by the researcher, 2026.

Figure 4. Bootstrapping results of the structural model (t-statistics).



Source: SmartPLS bootstrapping output supplied by the researcher, 2026.

Table 3. Descriptive statistics and construct quality

Construct	Mean	AVE	Cronbach's alpha	rho_A	Composite reliability	R^2	Adjusted R^2
Employee engagement	4.06	.515	.843	.850	.881	.611	.603
Green behaviour	3.89	.606	.868	.875	.901	.458	.450
Green human resource management	3.79	.500	.875	.878	.900	-	-
Psychological empowerment	4.07	.545	.907	.909	.923	-	-

Source: Primary data processed with SmartPLS in the thesis, 2026.

Inner VIF values ranged from 1.727 to 2.024, indicating that collinearity did not prevent interpretation of the structural paths. Green human resource management and psychological empowerment explained 45.8 per cent of the variance in green behaviour. Together with green behaviour, they explained 61.1 per cent of the variance in employee engagement. The thesis reported a model-level Q^2 calculation of .789 derived from the two R^2 values; because this was not a blindfolding output for each endogenous construct, it should be read as the study's aggregate calculation rather than as a separate predictive assessment. The saturated and estimated models both had an SRMR of .074, below the .08 criterion used in the thesis.

The measurement evidence warrants two caveats. HTMT peaked at .832 for psychological empowerment and employee engagement, below the .90 criterion but consistent with their conceptual proximity. Green human resource management's AVE was exactly .500 rather than comfortably above the threshold. It was retained because composite reliability was .900 and the convergent-validity criterion was met. The model is therefore adequate for the present analysis, while independent validation of the instrument remains warranted.

Direct relationships

All five direct hypotheses were supported (Table 4). Green human resource management had a positive association with green behaviour ($\beta = .401$, $t = 4.269$, $p < .001$) and employee engagement ($\beta = .199$, $t = 2.113$, $p = .035$). Psychological empowerment had a positive association with green behaviour ($\beta = .344$, $t = 3.495$, $p < .001$) and employee engagement ($\beta = .492$, $t = 4.945$, $p < .001$). Green behaviour was also positively associated with employee engagement ($\beta = .195$, $t = 2.253$, $p = .024$). Psychological empowerment was the strongest direct predictor of engagement, whereas green human resource management was the stronger predictor of green behaviour.

Table 4. Direct path results

Hypothesis and path	β	t	p	f^2	Decision
H1: Green human resource management → Green behaviour	.401	4.269	< .001	.172	Supported
H2: Psychological empowerment → Green behaviour	.344	3.495	< .001	.126	Supported
H3: Green human resource management → Employee engagement	.199	2.113	.035	.050	Supported
H4: Psychological empowerment → Employee engagement	.492	4.945	< .001	.321	Supported
H5: Green behaviour → Employee engagement	.195	2.253	.024	.053	Supported

Source: Primary data processed with SmartPLS in the thesis, 2026.

The H1 result shows that coherent environmental human resource practices are reflected in employee action. Training, performance expectations, recognition, and participation can translate sustainability from an institutional value into routines such as conservation, environmental participation, and collaboration. This interpretation is consistent with (Chen & Wu, 2022), who linked green human resource management with employee green behaviour through green mindfulness, and with Veerasamy et al. (2024), who found positive relationships for several green human resource practices. The medium f^2 of .172 also makes this the most substantial path to green behaviour in the model.

H2 indicates that green action is not produced only by formal policies. Employees who experience meaning, competence, autonomy, and impact are better positioned to notice environmental opportunities and act on them. The result complements Din et al. (2025), who showed that psychological empowerment supported green voice behaviour. The present study covers both daily conservation and social actions, suggesting that empowerment can support routine and proactive forms of environmental contribution.

H3 shows that green human resource management also relates directly to employee engagement. Environmentally responsible practices may communicate institutional purpose

and support, enabling employees to identify with the organisation and take pride in its values. The result aligns with Noor et al. (2023) in an Indonesian green-banking context. Its effect size was small (.050), however, so green human resource management should be understood as one contributor to engagement rather than as a dominant explanation.

H4 was the strongest direct path in the model and had a medium effect size (.321). The finding indicates that employees' experience of meaningful work, capability, discretion, and impact is especially relevant to their energy and dedication. It supports Juyumaya (2022) and Monje-Amor et al. (2021), who linked psychological empowerment with work engagement. In Bank Indonesia, understanding how one's work contributes to an institutional mandate, being trusted with responsibility, and having bounded discretion may create a more immediate engagement response than an environmental behaviour sequence.

H5 demonstrates that green behaviour still matters. Employees who conserve resources, share environmental knowledge, and collaborate on green improvements may experience a visible contribution to organisational purpose. This can reinforce pride, participation, and attachment to work. The finding is compatible with Composto et al. (2023), who associated workplace pro-environmental behaviour with positive job outcomes. Yet its small f^2 (.053) indicates that green behaviour complements rather than replaces broader organisational and psychological resources.

The effect-size pattern distinguishes the model's principal managerial levers. Psychological empowerment made the largest contribution to engagement ($f^2 = .321$), whereas green human resource management made the largest contribution to green behaviour ($f^2 = .172$). Other paths were smaller but still supported. Interventions should therefore be selected for their intended outcome rather than assumed to improve engagement and environmental conduct equally.

Green behaviour as a mediator

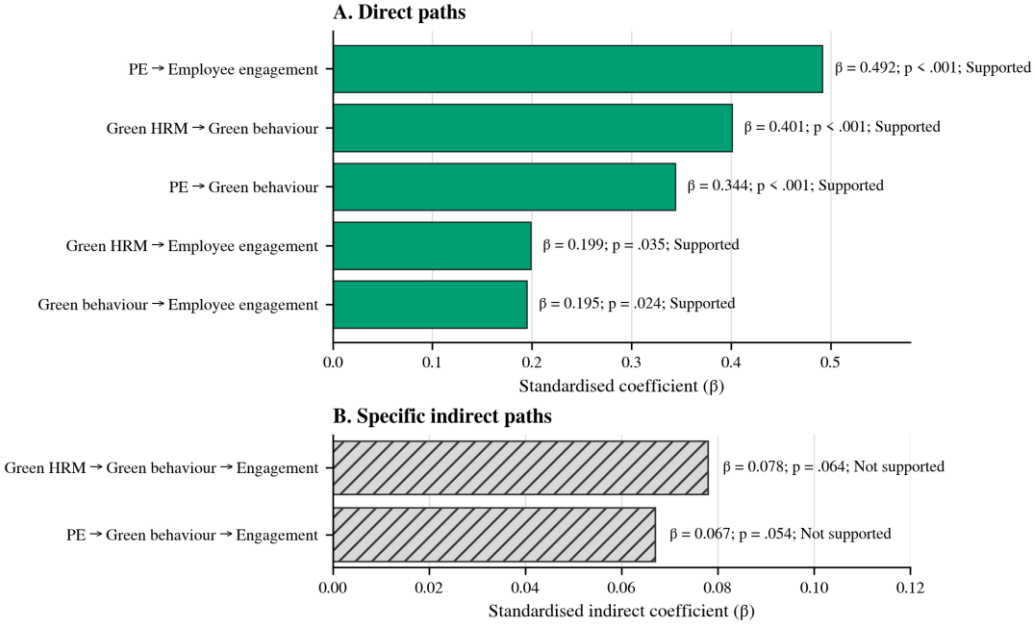
Neither mediation hypothesis reached the .05 significance threshold (Table 5). The indirect association between green human resource management and employee engagement through green behaviour was positive but not significant ($\beta = .078$, $t = 1.850$, $p = .064$). The indirect association between psychological empowerment and employee engagement through green behaviour was also positive but not significant ($\beta = .067$, $t = 1.930$, $p = .054$). H6 and H7 were therefore not supported. Figure 5 contrasts the five supported direct paths with the two unsupported indirect paths.

Table 5. Specific indirect effects through green behaviour

Hypothesis and indirect path	β	t	p	Decision
H6: Green human resource management → Green behaviour → Employee engagement	.078	1.850	.064	Not supported
H7: Psychological empowerment → Green behaviour → Employee engagement	.067	1.930	.054	Not supported

Source: Primary data processed with SmartPLS in the thesis, 2026.

Figure 5. Magnitude and statistical decision for direct and specific indirect paths.



Source: Path coefficients and bootstrapping results reported in the thesis, 2026.

These results refine the direct-path findings. Green human resource management can stimulate green behaviour and engagement, but the data do not show that employees must first change their green behaviour before becoming engaged. Employees may respond directly to responsible human resource practices through perceived organisational support, value alignment, and pride. Likewise, psychological empowerment can generate engagement directly because meaning, competence, autonomy, and impact are themselves engagement-relevant experiences. It can simultaneously encourage green behaviour as another positive response. Social exchange theory permits this parallel pattern: one organisational resource may produce multiple reciprocal attitudes and behaviours without requiring a fixed causal chain.

The distinction between component paths and an indirect effect is material. The two component paths for each proposed mediation were supported, but mediation depends on the bootstrapped product of those paths. The resulting probabilities of .064 and .054 remained above the prespecified .05 criterion; they therefore cannot be reported as significant or treated as proof of mediation. Their positive direction is appropriately described as suggestive within this sample, not as an established pathway. This distinction protects the substantive conclusion from a common overreach: a predictor may be related to a mediator and the mediator to an outcome while the estimated indirect relationship remains too uncertain to support the proposed sequence.

The non-significant mediation differs from Din et al. (2025), who found a mediating role for employee green behaviour when the outcome was engagement in environmental initiatives among healthcare employees. The difference is substantively plausible because engagement in a specifically environmental initiative is closer to green behaviour than general employee engagement. Ababneh (2021) also tested the opposite sequence, with engagement preceding green behaviour. Taken together, these studies and the present findings indicate that the ordering of engagement and green behaviour depends on how engagement is defined, the

sector, and the study design. The present study does not diminish green behaviour; it shows that green behaviour is a directly beneficial and parallel response, not the principal transmission route from green human resource management or psychological empowerment to employee engagement.

CONCLUSION

This study tested an integrated model of green human resource management, psychological empowerment, green behaviour, and employee engagement among 140 Bank Indonesia employees. All five direct relationships were positive and statistically supported. Green human resource management was associated with both green behaviour and employee engagement. Psychological empowerment was also associated with both outcomes and was the strongest direct predictor of engagement. Green behaviour had a positive direct association with employee engagement. However, the two specific indirect effects through green behaviour were not significant. The evidence therefore supports a parallel-response interpretation: organisational green practices and psychological empowerment can strengthen engagement directly while also encouraging environmental conduct, but green behaviour is not the main mediation pathway.

The findings suggest a dual strategy combining coherent green human resource management with stronger psychological empowerment. Organisations can integrate environmental goals into training, performance discussions, recognition, participation, and unit plans, while leaders support autonomy through clear decision boundaries, task ownership, coaching, accountability, and alignment with institutional sustainability priorities in practice.

The study is bounded by a single institution, a cross-sectional design, and self-reported data collected from one source. These features limit generalisation and prevent strong conclusions about temporal causality. The final measurement model also excluded Y5, Y9, and X1.9 and retained several indicators with loadings between .60 and .70 because construct-level validity and reliability remained acceptable. Future research should compare several financial institutions or sectors, use time-lagged or longitudinal designs, and combine employee responses with supervisor assessments, environmental activity records, or interviews. It may also test environmental organisational support, green culture, environmental knowledge, and individual green values as alternative mediators or moderators. Such designs would clarify when green behaviour becomes a stronger pathway and when engagement emerges primarily from direct organisational and psychological resources.

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