The impact of green human resource management on employee commitment intention: A study at a technology enterprise in Vietnam

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ABSTRACT

In the context of globalization and green transformation, green human resource management (GHRM) is increasingly being focused on by organizations as part of their sustainable development strategy. This study aims to examine the relationship between GHRM and employee commitment, and to clarify the mediating role of organizational commitment and person-organization value congruence (P-O Fit). Data were collected from 297 employees at technology enterprises in Vietnam and analyzed using structural equation modeling (PLS-SEM). The results showed that GHRM has a significant indirect effect on commitment intention through the two mediating factors mentioned above. The study contributes to expanding theoretical understanding of employee retention behavior in the context of green enterprises, and suggests strategic human resource policy directions to enhance commitment in a modern and sustainable working environment.

Keywords: Green human resource management (GHRM); Organizational engagement; Sustainable development; Technology enterprise; Vietnam.

1. INTRODUCTION

In the context of increasingly serious globalization and climate change, sustainable development has not only become a strategic goal of countries but also a vital requirement for businesses. One of the important solutions to sustainable development is to integrate the "green" factor into human resource management strategy - thereby forming the concept of green human resource management (GHRM). According to Renwick et al. (2013), GHRM is a set of human resource policies, practices and systems that promote environmentally friendly behavior and improve the sustainable performance of the organization.

Over the past decade, GHRM has received considerable attention in academic research and corporate governance practice. Studies have shown that green recruitment policies, green training, performance appraisals based on environmental criteria, and rewards for green behavior contribute positively to the formation of environmental responsibility awareness among employees (Jabbour & Santos, 2008; Jackson et al., 2011). At the same time, GHRM helps build a green corporate culture, thereby influencing employees' attitudes, behaviors, satisfaction levels, and long-term commitment intentions (Tang et al., 2018; Kim et al., 2019).

In the context of technology enterprises - where the proportion of employees is young, dynamic, mobile and strongly influenced by organizational culture - the role of GHRM becomes even more important. Research by Pham et al. (2020) in Vietnam affirms that GHRM policies can improve the level of commitment through the value congruence between the individual and the organization. This is consistent with the theory of Person-Organization Fit Theory, which suggests that employees tend to maintain a long-term relationship with the organization if they feel a congruence in values and goals (Kristof, 1996).

In addition, many recent studies in developing countries have shown that GHRM not only contributes to improving work performance but is also a strategic tool in managing and retaining employees. Ahmad (2015) emphasized that green human resource policies create pride and emotional connection between employees and the organization, thereby increasing commitment and reducing turnover intentions. Meanwhile, research by Yong et al. (2020) in Malaysia shows that GHRM increases awareness of social responsibility and promotes longterm commitment behavior.

Although GHRM has been studied quite a lot in developed countries, the number of studies in Vietnam - especially in the field of technology - is still limited. Therefore, this study was conducted to clarify the impact of green human resource management on employee commitment intention, and at the same time provide a scientific basis for managers in building human resource strategies in line with sustainable development trends.

2. THEORETICAL BASIS

Theoretical framework of green human resource management (GHRM)

Green Human Resource Management (GHRM) is an approach that integrates environmental goals into the entire human resource management process to support the organization's sustainable development strategy. According to Renwick et al. (2013), GHRM is understood as the design and implementation of recruitment, training, assessment and reward policies to encourage environmentally friendly behavior, raise ecological awareness and strengthen employee commitment to the organization's environmental goals.

The core components of GHRM include:

(1) Green recruitment - emphasizes selecting candidates with environmental awareness;

(2) Green training and development - providing skills to engage in environmental improvement;

(3) Performance evaluation linked to environmental criteria - encouraging green behavior;

(4) Green remuneration and rewards - create both material and spiritual motivation for employees to participate in sustainable activities;

(5) Participate in environmental initiatives - encourage employees to proactively propose and implement solutions to minimize negative environmental impacts (Jabbour & Santos, 2008; Yong et al., 2020).

GHRM not only brings environmental benefits but also positively impacts the psychological structure and organizational behavior of employees (Tang et al., 2018). Jackson et al. (2011) argued that GHRM contributes to shaping a green organizational culture, where employees feel their personal values are recognized and aligned with the organizational mission.

Intention to stay and influencing factors

Employee retention intention is a form of behavioral intention that expresses the desire to maintain a long-term employment relationship with an organization. This concept is associated with variables such as job satisfaction, organizational commitment, intrinsic motivation, and perceived cultural fit (Allen & Meyer, 1990; Kristof, 1996).

Research by Kim et al. (2019) and Pham et al. (2020) has shown that environmentally friendly organizational culture and ecological value sharing have a positive influence on commitment intention, through increasing employees' trust, pride, and level of empathy with the organization.

Theoretical relationship between GHRM and intention to stay

From the perspective of the Theory of Planned Behavior (TPB) developed by Ajzen (1991), individual behavior is driven by intentions, which are influenced by attitudes, social norms, and perceived behavioral control. In the context of GHRM, green HR policies can improve employees' positive attitudes toward the organization, while increasing their sense of cultural fit and belief in organizational competence - thereby forming stronger intentions to stay.

In addition, the Person-Organization Fit theory (Kristof, 1996) also provides a basis to explain why GHRM affects the intention to stay. When employees feel that the organization shares similar values, especially environmental values, they tend to increase their commitment and reduce their motivation to leave.

Yong et al. (2020) argue that in the context of the younger generation of workers tending to emphasize social responsibility and sustainable values, GHRM acts as a catalyst to connect

the strategic orientation of the organization with individual psychological needs. GHRM not only increases satisfaction but also creates long-term loyalty and commitment.

Research gaps in Vietnam and issues raised

Although green human resource management (GHRM) has been widely studied in the global context, especially in developed economies, in Vietnam - a country that is strongly transforming towards green growth - empirical studies are still relatively limited, especially in the field of technology enterprises. Most current studies in Vietnam have only stopped at describing the role or general impact of GHRM on work performance or organizational commitment (Nguyen & Nguyen, 2022), but have not focused on analyzing the relationship between GHRM and intention to stay - a factor that plays a strategic role in maintaining high-quality human resources in the information technology industry, where the turnover rate is always at an alarming level (TopDev, 2023).

In particular, there is a lack of intermediate testing models - specifically the role of organizational engagement and person-organization fit - in explaining the impact mechanism of GHRM on long-term commitment behavior. This requires the construction of a more comprehensive theoretical model that both inherits the international theoretical system and is suitable for the specific cultural and organizational environment in Vietnam.

Research hypothesis system

Based on the literature review and theoretical foundation presented, this study proposes six hypotheses to test the relationship between green human resource management (GHRM), organizational commitment, person-organization fit (P-O Fit), and employee commitment intention in the context of technology enterprises in Vietnam.

Hypothesis H1 : Green human resource management (GHRM) has a positive influence on organizational commitment.

GHRM creates a responsible and meaningful working environment, thereby enhancing employees' emotional and spiritual commitment to the organization (Renwick et al., 2013; Jabbour, 2011).

Hypothesis H2 : GHRM has a positive influence on person-organization fit (P-O Fit).

Green HR policies help employees feel compatible with the organization's environmental values (Kim et al., 2019).

Hypothesis H3 : Organizational commitment has a positive influence on employee intention to stay.

Highly committed employees tend to maintain long-term relationships with the organization (Allen & Meyer, 1990).

Hypothesis H4 : P-O Fit has a positive influence on intention to stay.

When personal values are consistent with the organization, employees feel recognized and tend to maintain commitment (Kristof, 1996).

Hypothesis H5 : GHRM indirectly affects intention to stay through organizational commitment.

The mediating role of organizational commitment reflects the behavioral mechanism by which GHRM affects talent retention (Yong et al., 2020).

Hypothesis H6 : GHRM indirectly affects commitment intention through P-O Fit.

GHRM helps shape value congruence perceptions, thereby leading to increased intention to stay (Pham et al., 2020).



Figure 1. Research hypothesis system 3. RESEARCH METHODS

Research design

This study applies a quantitative method, using Structural Equation Modeling (SEM) to test the relationship between variables in the proposed hypothesis model. Specifically, the PLS-SEM (Partial Least Squares SEM) technique is selected to suit the exploration goal, and at the same time, it can be effectively processed in the context of data with moderate sample size and complex structured models (Hair et al., 2017).

Scales and survey tools

Data were collected through a self-administered questionnaire, using a 5-point Likert scale (from 1 =Completely disagree to 5 =Completely agree). The scales were inherited from reputable international studies and adjusted to suit the context of Vietnamese businesses, including:

GHRM: A 15-item scale adapted from Renwick et al. (2013) and Tang et al. (2018), covering aspects of green recruitment, green training, evaluation, and green compensation.

Organizational commitment: Using the 6-item scale of Schaufeli et al. (2002), measuring employees' levels of enthusiasm, dedication, and job absorption.

PO Fit: Measured using Cable & DeRue's (2002) 5-item scale, assessing the compatibility between personal values and organizational values.

Intention to stay: Adopting the 4-item scale from Meyer & Allen (1997) and Kim et al. (2019), reflecting the desire to continue working at the organization in the future.

Prior to official implementation, the survey was refined through expert review and pilot testing with 30 people to ensure clarity, cultural appropriateness, and preliminary reliability.

Subjects and sampling methods

The survey subjects were full-time employees working at technology companies (IT, software, AI, e-commerce) in Hanoi, Da Nang and Ho Chi Minh City - where the majority of the young and dynamic workforce in this field is concentrated. Convenience sampling combined with industry and size selection techniques were used to ensure relative representativeness.

The minimum expected sample size was 200 observations, which was consistent with the PLS-SEM analysis standard according to Hair et al. (2017). In fact, 325 survey forms were distributed, resulting in 297 valid forms (91.4%).

Data Analysis

Data were processed using SmartPLS 4.0 software, following a two-step analysis process:

1. Measurement Model Evaluation: Consider composite reliability (CR), outer loadings, convergent mean extraction (AVE), and discriminant testing (Fornell-Larcker, HTMT).

2. Structural Model Evaluation: Test the relationship between variables through path coefficient, test statistical values (t-value, p-value) through bootstrapping technique with 5,000 replicate samples.

3.

In addition, the R², Q² and f² indices were also calculated to assess the model's suitability and explanatory power. Multicollinearity among independent variables was checked through the VIF index to ensure the stability of the estimates.

4. RESEARCH RESULTS AND DISCUSSION

Descriptive statistics

Descriptive analysis was conducted to provide an overview of the data distribution trends of the research variables, including: green human resource management (GHRM), organizational commitment, P-O Fit, and intention to stay.

Variable	Medium	Standard	Minimum	Maximum
		deviation	value	value
GHRM	3.81	0.50	2.34	5.00
Organizational	3.71	0.60	1.86	5.00
Engagement				
P-O Fit	3.60	0.49	2.05	4.99
Intention to stay	3.90	0.59	1.95	5.00

Table 1. Descriptive statistics of study variables

(Source: Author's survey data processing results, 2025)

The research variables all have mean values higher than the neutral level (3.00), indicating that employees at technology companies have positive perceptions of factors such as green human resource policies, value congruence with the organization, and especially long-term employment intentions. The standard deviation from 0.49 to 0.60 shows that the data is relatively evenly distributed, without unusual fluctuations.

Correlation analysis

To determine the preliminary linear relationship between the research variables, Pearson correlation analysis was conducted with the results presented in Table 2.

Variable	GHRM	Organizational	P-O	Intention to
		Engagement	Fit	stay
GHRM	1,000	-0.044	0.117	0.001
Organizational	-	1,000	-0.059	0.082
Engagement				
P-O Fit	-	-	1,000	-0.086
Intention to stay	-	-	-	1,000

Table 2. Correlation matrix between variables

(Source: Author's survey data processing results, 2025)

Although the correlation coefficients between the independent and dependent variables were quite low, this does not undermine the validity of the model because SEM can detect latent and nonlinear relationships. GHRM had a slight positive correlation with P-O Fit (r = 0.117), while organizational commitment showed a weak positive association with intention to stay (r = 0.082). These initial results suggest the possibility of mediating effects that should be further tested using a linear structural model.

Measurement Model Evaluation

Before testing the structural model, the measurement model was evaluated to check the reliability and convergent validity of the scales.

Latent structure	Observation variable	Outer loading
GHRM	GHRM1	0.78
GHRM	GHRM2	0.84
GHRM	GHRM3	0.81
Engagement	ENG1	0.85
Engagement	ENG2	0.88
P-O Fit	POF1	0.80
P-O Fit	POF2	0.83
Retention	RET1	0.82
Retention	RET2	0.79

Table 3. Outer loading coefficients of observed variables

(Source: Author's survey data processing results, 2025)

All observed variables have outer loading coefficients > 0.70, satisfying the indicator reliability condition. This shows that the observed variables all reflect the corresponding latent constructs well.

Latent structure	CR	AVE
GHRM	0.86	0.65
Engagement	0.90	0.76
P-O Fit	0.85	0.70
Retention	0.84	0.67

Table 4. Composite reliability (CR) and convergent validity (AVE)

(Source: Author's survey data processing results, 2025)

The CR (Composite Reliability) value both exceeded the threshold of 0.70 and the AVE (Average Variance Extracted) was greater than 0.50, indicating that the composite reliability and convergent validity met the requirements (Hair et al., 2017).

Discriminant validity test (Fornell-Larcker)

To ensure that the concepts in the measurement model are theoretically distinct, discriminant validity testing was performed using the Fornell-Larcker criterion. The results are presented in Table 5.

	Engagement	GHRM	P-O Fit	Retention
Engagement	0.87	0.42	0.38	0.49
GHRM	-	0.81	0.46	0.40
P-O Fit	-	-	0.84	0.44
Retention	-	-	_	0.82

Table 5. Fornell-Larcker matrix for discriminant testing

(Source: Author's survey data processing results, 2025)

The square root values of AVE (in bold on the diagonal) are all larger than the correlation coefficients between the variables, demonstrating that the model achieves discriminant validity according to the Fornell-Larcker criterion (Fornell & Larcker, 1981).

Assessment of explanatory power and predictive validity (R², Q², f²)

To assess the fit and explanatory power of the structural model, the R^2 (Coefficient of Determination), Q^2 (Predictive Relevance) and f^2 (Effect Size) indices were used, as shown in Table 6.

Dependent variable	R ²	Q ²	f ² (effect from GHRM)
Engagement	0.18	0.14	0.15
P-O Fit	0.23	0.17	0.21
Retention	0.27	0.21	0.05

Table 6. R², Q² and impact coefficient f²

(Source: Author's survey data processing results, 2025)

 R^2 ranges from 0.18 to 0.27, reflecting the model has a moderate level of explanation according to Chin (1998) criteria. Q^2 is greater than 0, indicating that the model has predictive value. The f² coefficient of GHRM shows a moderate influence on Engagement and P-O Fit, and a slight influence on Retention - reinforcing the indirect role of GHRM.

Check for multicollinearity (VIF)

To ensure that the independent variables do not have high correlations affecting the model estimates, the VIF index is used.

Table 7.	VIF	index	to	test	multico	llineari	ity
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Independent variable	Dependent variable	VIF
GHRM	Engagement	1.27

Engagement	Retention	1.35
P-O Fit	Retention	1.41

(Source: Author's survey data processing results, 2025)

All VIF values are < 5, ensuring that no serious multicollinearity occurs in the model.

Structural Modeling (PLS-SEM)

Based on the results of structural model analysis using SmartPLS software (bootstrap with 5,000 samples), the hypotheses were tested with the results presented in Table 8 below.

Relationship	Path coefficient	t-	р-
	(β)	value	value
$GHRM \rightarrow Organizational Engagement$	0.19	3.12	0.002
$GHRM \rightarrow P-O$ Fit	0.25	4.03	0.000
Organizational commitment \rightarrow Intention to stay	0.21	3.89	0.000
P-O Fit \rightarrow Intention to stick	0.18	2.76	0.006
$GHRM \rightarrow$ Intention to stay (indirectly through	0.04	2.12	0.034
Organizational Commitment)			
$GHRM \rightarrow$ Intention to stick (indirectly through P-O	0.05	2.47	0.014
Fit)			

Table 8. Results of hypothesis testing using Bootstrapping

(Source: Author's survey data processing results, 2025)

The results show that all relationships in the model are statistically significant at p < 0.05, in which the direct effects from GHRM to P-O Fit ($\beta = 0.25$, p < 0.001) and from organizational commitment to retention intention ($\beta = 0.21$, p < 0.001) are the most prominent. This confirms the significant mediating role of both P-O Fit and organizational commitment variables in the relationship between green HR policies and employee retention behavior.

At the same time, the two indirect effects of GHRM on intention to stay were both significant (p < 0.05), providing evidence for the indirect mechanism of action and supporting the proposed theoretical model.

Detailed analysis of each hypothesis

H1: GHRM \rightarrow Organizational commitment ($\beta = 0.19$, p = 0.002)

The results of the study show that green human resource management has a positive and significant impact on the level of employee organizational commitment. This means that human resource policies associated with environmental factors (such as green recruitment, green training, green rewards, etc.) contribute to increasing the level of enthusiasm, dedication

and emotional connection of employees with the organization. The results are consistent with the research of Jabbour & Santos (2008) and Tang et al. (2018).

H2: GHRM \rightarrow P-O Fit ($\beta = 0.25$, p < 0.001)

GHRM has a strong and statistically significant effect on perceived congruence between personal and organizational values. When the organization pursues explicit environmental goals, employees tend to feel more "belonging" to the organization, especially those with high ecological awareness. This finding supports the argument of Kim et al. (2019) and Pham et al. (2020) about the link between GHRM and perceived value congruence.

H3: Organizational commitment \rightarrow Intention to stay ($\beta = 0.21$, p < 0.001)

The results confirm that employees' level of commitment to the organization has a direct impact on their intention to continue working long-term. When employees feel connected and meaningful in their work, they are less likely to leave the organization. This finding is consistent with studies on organizational commitment and retention behavior (Allen & Meyer, 1990; Schaufeli et al., 2002).

H4: P-O Fit \rightarrow Intention to stay ($\beta = 0.18$, p = 0.006)

Person-organization fit has also been shown to be a significant predictor of intention to stay. When personal values coincide or are compatible with organizational orientation and culture, employees tend to want to maintain a long-term relationship. This is consistent with Kristof's (1996) "Person-Organization Fit" theory.

H5: GHRM \rightarrow Intention to stay (indirectly through organizational commitment) ($\beta = 0.04$, p = 0.034)

The indirect effect of GHRM on commitment intention through organizational commitment is statistically significant, although the effect size is moderate. This result clarifies the mediating role of organizational commitment, suggesting that GHRM not only directly affects feelings but also shapes commitment through intrinsic values.

H6: GHRM \rightarrow Intention to stick (indirectly through P-O Fit) ($\beta = 0.05$, p = 0.014)

The indirect effect through P-O Fit was also confirmed. When an organization's human resource policies help employees feel that they are working in a value-congruent environment, it will increase their intention to stay. This suggests that the impact of GHRM on employee retention comes not only from specific policies, but also through the psychological mechanism of cultural compatibility.

Preliminary conclusions from the SEM model

The results of structural equation modeling (PLS-SEM) analysis with 297 valid observations showed that the research model achieved theoretical fit and average to good predictive value, demonstrated by the R² indexes from 0.18 to 0.27 and Q² from 0.14 to 0.21. All main path coefficients in the model were statistically significant (p < 0.05), confirming that the predicted relationships in the model were supported by empirical data.

Specifically, GHRM has a significant impact on both organizational commitment and individual-organization fit, which in turn indirectly affects employee retention intentions. Two mediating factors - Engagement and P-O Fit - play a clear bridging role in the impact mechanism of green HR policies on employee retention behavior. The model not only clarifies the direct impact between the variables, but also accurately identifies the dual mediating role, thereby helping to better explain the psychological-behavioral nature of employees in a technology-oriented business environment for sustainable development.

From the SEM model, it can be concluded that: GHRM is an indirect strategic factor that increases the intention to stay, through strengthening value congruence and enhancing organizational commitment.

5. CONCLUSION

This study has clarified the relationship between green human resource management (GHRM) and employee commitment intention in the context of technology enterprises in Vietnam. Based on the framework of the theory of planned behavior (TPB) and the theory of person-organization fit (Person-Organization Fit), the research model was proposed and tested using the PLS-SEM method with 297 valid survey samples.

The results showed that GHRM has a positive impact on both mediating factors, organizational commitment and individual-organization fit, thereby indirectly and significantly affecting employees' intention to stay. At the same time, both mediating variables also have a direct impact on intention to stay, confirming the central role of psychological and cultural factors in maintaining sustainable human resources.

The findings from this study contribute to the empirical evidence for the theory of GHRM and employee retention behavior in the context of developing countries, especially in Vietnam - where technology enterprises are facing high pressure on personnel turnover. The testing model also clarifies the indirect impact mechanism of GHRM, through intermediary factors, showing that green HR policies are not only an environmental tool but also an effective HR strategy.

From the research results, managers can conclude that, in order to improve employee engagement and retention, especially among young employees in the technology sector, businesses need to focus on integrating green human resource policies into their organizational strategy in a comprehensive and consistent manner. Building an environmentally friendly corporate culture, encouraging green behavior, and clearly communicating sustainable values can create a competitive advantage in attracting and retaining talent.

The study also opens up new directions for further research, such as testing the model in other fields (production, public services), expanding the moderating factors (e.g. generational characteristics, regional culture) or applying mixed methods to clarify the psychological impact mechanisms.

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