



When Digital Transformation Helps and Hurts: The Role Of Green HRM and Employee Green Behavior In Building Sustainable Workplaces

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ABSTRACT

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Research Aims: This study aims to examine the integration of GHRM and digital transformation (DT) in shaping a sustainable workplace in Indonesia. Specifically, it investigates the effects of GHRM on employee green behavior (EGB), the role of EGB in fostering workplace sustainability (SW), and the direct and moderating effects of digital transformation within these relationships.

Design/methodology/approach: A quantitative explanatory design was employed using survey data collected from 500 employees across Indonesian companies that have implemented GHRM and digital technologies. Data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) to test direct and moderating effects among the constructs.

Research Findings: Results indicate that GHRM significantly enhances employee green behavior, which positively influences workplace sustainability. Digital transformation shows a direct positive impact on sustainability; however, its moderating effect on the relationship between EGB and workplace sustainability is negative. This suggests that while digitalization improves efficiency and innovation, excessive reliance on technology may weaken the positive role of individual green behavior.

Theoretical Contribution/Originality: This study contributes to the literature by bridging two domains often studied separately GHRM and DT within the framework of the Triple Bottom Line (Planet, People, Profit). It highlights the paradoxical role of digitalization, demonstrating its enabling yet potentially diminishing effect on the EGB sustainability link, offering new theoretical insights and practical implications for sustainable HRM strategies in developing countries.

Keywords: GHRM, Employee Green Behavior, Digital Transformation, Sustainable Workplace, Triple Bottom Line

Introduction

The rapid expansion of the global economy has intensified environmental challenges, including climate change, pollution, and resource depletion. This condition has driven organizations to shift their focus from merely pursuing financial gains to achieving sustainable performance by strengthening their commitment to environmental responsibility and social accountability (Sobaih et al.,

2020). In developing countries such as Indonesia, industrial growth has increased pressure to transition toward sustainable practices (Banga & Gobind, 2025; Kutaula et al., 2025). Global agendas such as the *Sustainable Development Goals (SDGs)* and the growing emphasis on *Environmental, Social, and Governance (ESG)* highlight the expectation that businesses must contribute to sustainability, where human behavior in the workplace is regarded as a core element in achieving sustainable development targets and shaping ecological practices within organizations (Aust et al., 2020; Liu et al., 2022). In this context, human resource management must evolve by incorporating sustainability principles alongside digital technologies to enhance productivity, innovation, and environmental performance (Banga & Gobind, 2025; Papademetriou et al., 2025).

One of the approaches to address these challenges is the implementation of *Green Human Resource Management (GHRM)*, which refers to human resource practices oriented toward environmental concerns and designed to foster employees' green behavior (EGB), strengthen an environmentally friendly organizational culture, and enhance resource efficiency (Ren et al., 2018; Renwick et al., 2013). Recent studies in Indonesia and other emerging economies show that effective GHRM can enhance environmental performance, eco-innovation, and overall business sustainability by aligning employee capabilities and incentives with green objectives (Lashari et al., 2022; Renwick et al., 2013). However, despite its growing adoption in Indonesia, GHRM implementation still faces challenges, including limited environmental awareness, resistance to change, and resource constraints (Faeni et al., 2025; Faizal, 2024; Fazriyani et al., 2025; Sey & Rachmawati, 2025; Sulistiawan et al., 2025). To address these issues, organizations increasingly adopt the Triple Bottom Line (TBL) framework, which emphasizes that long-term business success must simultaneously account for economic (profit), social (people), and environmental (planet) outcomes in HR and broader management practices (Almici, 2023; Elkington, 1999; Yusliza et al., 2019).

Digital transformation offers a strategic opportunity to strengthen GHRM and accelerate sustainability efforts (Strohmeier, 2020). Digital tools in human resource management such as e-recruitment platforms, online learning systems, digital performance appraisals, and human resource analytics, offer opportunities to increase efficiency, transparency, and data-driven decision-making while reducing resource use and paper consumption (Al-Ghalabi et al., 2024; Bos-Nehles et al., 2017). At the same time, digital workplace models, including remote work and virtual collaboration, can lower carbon footprints and expand employee participation in sustainability initiatives when supported by appropriate HR policies and leadership (Caligiuri et al., 2020). Despite this potential, existing studies largely examine GHRM and digital transformation separately, with limited research exploring their combined role in achieving TBL outcomes, particularly in developing-country settings such as Indonesia (Nugraha et al., 2024; Syahrudin, 2026; Yulianty & Senen, 2023). Moreover, empirical studies explicitly linking integrated GHRM-digital



initiatives to simultaneous economic, social, and environmental outcomes under the TBL framework remain scarce in Southeast Asia (Almici, 2023; Banga & Gobind, 2025; Papademetriou et al., 2025; Yusliza et al., 2019).

This study positions GHRM as the foundational mechanism for embedding sustainability values into organizational systems and digital transformation as the enabling factor that amplifies and scales these efforts (Chiappetta Jabbour & Renwick, 2020; Renwick et al., 2013). Specifically, it investigates how the alignment of green HR practices with digital HR tools can foster innovative sustainable workplaces in Indonesia that balance productivity, innovation, and environmental responsibility under TBL principles (Almici, 2023; Elkington, 1999). The findings are expected to extend the theoretical discourse at the intersection of GHRM, digitalization, and sustainability and to provide practical guidance for organizations seeking actionable strategies to achieve long-term sustainable performance in rapidly developing industrial contexts (Setyadi et al., 2025; Yang et al., 2026; Zihan & Makhbul, 2024).

Literature Review

The present study is primarily grounded in the Triple Bottom Line (TBL) framework, which posits that organizational success should be assessed not only through economic performance but also through social and environmental outcomes. Within the HRM domain, TBL has been widely used to conceptualize sustainable HRM practices that integrate financial productivity, employee well-being, and ecological stewardship (Westerman et al., 2020). In this study, a sustainable workplace is therefore understood as one that simultaneously contributes to profit, people, and planet. To explain how organizations can build such workplaces, the TBL framework is complemented by insights from the Resource-Based View (RBV), which emphasizes that internal resources and capabilities can generate sustained advantages when they are valuable, rare, inimitable, and well organized (Malomane et al., 2025). Accordingly, green HRM practices, employee green behavior, and digital transformation are conceptualized as strategic capabilities that enable organizations to realize TBL-oriented sustainable workplace outcomes.

GHRM practices, which encompass environmentally oriented recruitment, training, performance appraisal, and reward systems, are believed to shape employees' abilities, motivations, and opportunities to engage in environmentally responsible behavior, thereby fostering Employee Green Behavior (EGB) (Noor Faedah et al., 2024; Zacher et al., 2023). Comparative studies across sectors and countries on the implementation of GHRM practices Bindeeba et al (2025); Miah et al (2024) further demonstrate that consistently applied GHRM practices can predict pro-environmental behavior. Research trends indicate that the intensification of GHRM practices within organizations contributes to changes in both behavior and environmental performance. These effects can be assessed through additional factors such as green psychological climate/identity and green knowledge sharing



(Anshima et al., 2025; C. Li et al., 2025; Miah et al., 2024). Empirical studies conducted in higher education, service, and manufacturing sectors also affirm the direct impact of GHRM practices on EGB, while at the same time highlighting that EGB can be positioned as the “core” of sustainable organizations shaped by green human resource policies (Miah et al., 2024; Zacher et al., 2023; X. Zhang et al., 2024).

H1: Green human resource management affects employee green behavior

Employee Green Behavior (EGB) such as conserving energy, influencing colleagues to become more environmentally conscious, and initiating green improvements—directly contributes to the creation of low-emission work practices, efficient resource utilization, and the development of a workplace culture that promotes well-being and sustainability in line with the dimensions of the Triple Bottom Line (Zacher et al., 2023). Conceptual studies (Gao et al., 2025; Miah et al., 2024) emphasize that EGB plays a crucial role as a driver of organizational environmental performance and the achievement of sustainability goals, while also demonstrating that EGB enhances employee performance and well-being, ultimately supporting the establishment of a sustainable workplace. Carbone et al (2024) highlights that EGB not only encompasses conservation behaviors but also extends to process and product innovations as well as the ability to influence others in the workplace, all of which exert a direct impact on workplace sustainability.

H2: Employee green behavior affects sustainable workplace

From the perspective of the Resource-Based View (RBV), capacities such as data utilization, AI-based analytics, digital platforms, and IoT integration have been proven to enhance energy efficiency, enable real-time emission monitoring, support more circular production processes, and foster employee engagement, ultimately improving environmental, social, and governance (ESG) performance as well as operational sustainability (Li & Lin, 2024; Sampene et al., 2024). Research (Li & Lin, (2024); Wang et al (2023) indicates that digital transformation contributes to the advancement of green innovation and ESG performance, which serve as indicators of an organization’s ability to manage and balance the three core dimensions of sustainability, and is positively correlated with corporate sustainability performance through green capabilities as a mediating factor. Digital transformation exerts a tangible impact on sustainability performance, as information technology and artificial intelligence capabilities can act as key enablers of environmental performance. Digital transformation can also be regarded as a primary driver in shaping a sustainable workplace, not only at the level of business processes but also in organizational culture and overall performance (Bindeeba et al., 2025; X. Zhang et al., 2024).

H3: Digital transformation affects sustainable workplace



Conceptually, digital transformation plays a crucial role in reinforcing the translation of individual green behavior into tangible outcomes for building workplace sustainability. Digital technologies are perceived to enhance visibility and accountability as they influence green actions, for instance through the use of digital collaboration platforms or distance learning systems that encourage participation. With the adoption of digitalization, the effect of employees' green behavior on achieving workplace sustainability becomes increasingly strengthened (Cheng et al., 2024; L. Li & Lin, 2024).

Existing research has revealed consistent patterns indicating that digital transformation strengthens the relationship between other green factors and various sustainability outcomes (Cheng et al., 2024; Degirmen et al., 2024). From a technical standpoint, digital transformation can be positioned as a moderator that amplifies the relationship between employees' green behavior and workplace sustainability, particularly within organizations that have adopted environmental information systems and green collaboration platforms (Bindeeba et al., 2025; Li & Lin, 2024).

H4: Digital transformation as a moderating variable in the relationship between employee green behavior and sustainable workplace

Method

The study employed a quantitative, causal (explanatory) research design to test the hypothesized relationships among the key variables in a measurable and objective manner. Data were collected via an online survey, yielding 500 valid responses from employees working in companies in Indonesia. The questionnaire comprised 24 items adapted from previously validated scales and was administered electronically to efficiently capture data from a large number of respondents. The main constructs measured were Green Human Resource Management (GHRM), Digital Transformation, Employee Green Behavior (EGB), and Sustainable Workplace, where GHRM captured environmentally oriented HR practices, Digital Transformation reflected the use of digital technologies in HR functions (such as e-learning platforms, hybrid work arrangements, and e-recruitment systems), EGB assessed environmentally friendly actions (e.g., energy saving, efficient resource use, and active participation in green initiatives), and Sustainable Workplace reflected organizational practices and conditions that support environmental, social, and economic sustainability.

The target population consisted of employees from companies in Indonesia that have implemented GHRM practices and adopted digital technologies in their HR processes. A purposive sampling technique was applied, with inclusion criteria specifying that respondents work in: (1) companies operating in sectors such as fast-moving consumer goods (FMCG), technology, finance, services, or sustainable manufacturing; (2) organizations with formal policies or programs related to GHRM; and (3) organizations that utilize digital-based human resource management systems. To analyze the data, Structural Equation Modeling (SEM) using the Partial



Least Squares approach (PLS-SEM) was employed, as this technique is suitable for examining complex models with direct, mediating, and moderating effects among latent constructs and is widely used in HRM and sustainability research. PLS-SEM allowed for the simultaneous evaluation of the measurement model (to assess reliability and validity of the constructs) and the structural model (to test the hypothesized relationships), thereby ensuring a comprehensive assessment of the proposed research model.

Result and Discussion

To address potential non-response bias, the researcher sent follow-up reminders to encourage participation from those who had not initially responded. The data collection period lasted two months (July to August 2025), providing ample time for respondents to complete the survey. Additionally, the researcher compared the demographic characteristics (e.g., gender, age, length of work) of the respondents with the broader employee population across several company sectors to ensure the sample was representative and minimize bias.

The descriptive statistical results indicate that, in terms of gender, the majority of respondents were female for 62% of the total sample, while male respondents represented 38%. Most respondents were under the age of 25 for 51.4% of the sample, and the majority had 2–3 years of work experience 43.2%. Furthermore, 80.6% of respondents were employed in companies that had policies or programs related to environmental sustainability. In addition, 49.6% of respondents reported working in companies that actively utilize digital technologies in their daily operations to support environmental sustainability practices, and 49.8% were employed in companies that had already committed to creating a sustainable workplace. The detailed profile of respondents is presented in Table 1.

Table 1. Demographic Respondents

	Demographics Characteristics	Frequency	Percentage (%)
Age	< 25	257	51.4
	26 - 35	148	29.6
	36 - 45	71	14.2
	> 45	24	4.8
Length of work	6 months - 1 year	71	14.2
	2 - 3 years	216	43.2
	4 - 5 years	153	30.6
	> 5 years	60	12
Gender	Male	190	38
	Female	310	62
Total		500	
Employment in a	Yes	403	80.6



Demographics Characteristics		Frequency	Percentage (%)
company that has established policies or programs concerning environmental sustainability	No	97	19.4
The company actively employs digital technologies to support environmentally friendly practices	Yes, it is actively utilized	248	49.6
	Yes, but its use remains limited	152	30.4
	I am not sure	100	20
The company has established a commitment to creating a sustainable workplace	Yes, a commitment has already been established	246	49.8
	Yes, but it is still in the process of development	158	31.6
	I am not sure	96	19.2

Source: author's calculation, 2025

The analysis consisted of two main stages: evaluation of the measurement model (outer model) and evaluation of the structural model (inner model). In the first stage, the constructs utilized in the study are evaluated for validity and reliability, and in the second stage, the conceptual model's proposed links between latent variables are assessed.

Outer Model Analysis

The Loading Factor, Composite Reliability (CR), and Average Variance Extracted (AVE) for each latent variable in the study are used to evaluate the outer model, as indicated in Tables 2. The analysis results show that all of the indicators included in the study have loading factor values greater than 0.70, showing acceptable convergent validity. Each construct's Average Variance Extracted (AVE) values are greater than the required minimum of 0.50, indicating that the latent constructs, not error, account for a sizable portion of the variance in the indicators (Hair et al., 2019).

Table 2. Reliability and Validity

Variabel	Item(s)	Outer Loading	α	CR (rho_a)	CR (rho_c)	AVE
GHRM	GHRM1	0.840	0.899	0.900	0.922	0.664
	GHRM2	0.837				
	GHRM3	0.805				
	GHRM4	0.810				
	GHRM5	0.797				



Variabel	Item(s)	Outer Loading	α	CR (rho_a)	CR (rho_c)	AVE
EGB	GHRM6	0.800	0.904	0.906	0.926	0.677
	EGB1	0.833				
	EGB2	0.789				
	EGB3	0.829				
	EGB4	0.837				
	EGB5	0.838				
SW	EGB6	0.811	0.909	0.909	0.930	0.688
	SW1	0.847				
	SW2	0.821				
	SW3	0.825				
	SW4	0.833				
	SW5	0.819				
DT	SW6	0.830	0.910	0.910	0.930	0.689
	DT1	0.844				
	DT2	0.828				
	DT3	0.830				
	DT4	0.824				
	DT5	0.825				
	DT6	0.828				

Note(s): α =Cronbach's alpha, CR=composite reliability, AVE=Average variance extracted.

Source: author's calculation, 2025

This study evaluated discriminant validity using the Fornell-Larcker criteria (Table 3) and the heterotrait-monotrait ratio (HTMT) (Table 4).

Table 3. Discriminate Validity (Fornell-Larker criteria)

	DT	EGB	GHRM	SW
DT	0.830			
EGB	0.725	0.823		
GHRM	0.688	0.670	0.815	
SW	0.693	0.695	0.685	0.830

Note(s): Diagonal bold values are square roots of AVE.

Source: author's calculation, 2025

Table 4. Discriminate validity (HTMT-Matrix)

	DT	EGB	GHRM	SW	DT x EGB
DT					
EGB	0.798				
GHRM	0.760	0.741			



SW	0.761	0.766	0.758	
DT x EGB	0.526	0.512	0.563	0.570

Table 3 clearly shows that all of the values in bold on the diagonal, representing the square root of AVE values, are greater than the inter-construct correlation values. This meets the Fornell-Larcker criteria (Fornell & Larcker, 1981; Hair et al., 2019). Table 4 shows that all of the values in the HTMT matrix are less than 0.90. Hair et al. (2019); Henseler et al (2015), suggesting that the HTMT standards have been satisfied. As a consequence, the study indicates that the Fornell-Larcker criteria and the HTMT evaluation provide significant support for the discriminant validity of all dimensions contained in the proposed model.

Inner Model Analysis

The analysis of the inner model is assessed through the coefficient of determination (R-squared). The following are the results of the R-squared test (Table 5):

Table 5. R-square Values

Dependent Variabel	Independent Variabel	R Square (R2)	Predictive Validity
EGB	GHRM	0.449	Medium
SW	GHRM, EGB	0.588	Medium

Source: author's calculation, 2025

The model's explanatory capacity evaluated by calculating the explained variance (R-square) of all endogenous constructs, as shown in Table 5. Hair et al (2019) classified R-square values as considerable (0.75), medium (0.50), or weak (0.25). The table shows the R-square values for EGB (0.449), SW (0.588).

Hypothesis testing was performed with Smart PLS, with findings assessed by Original Sample (O), t-statistics, and p-values. The route coefficient values elucidate the direction and magnitude of the interactions among latent constructs. The majority of the proposed pathways exhibited statistical significance at the 5% threshold, evidenced by t-values exceeding 1.96 and p-values below 0.05.

Table 6. Hypothesis Testing

Hyp	Path Relationship	β	M	SD	T value	P values	Decision
H1	GHRM → EGB	0.670	0.672	0.041	16.314	0.000	Supported
H2	EGB → SW	0.353	0.354	0.055	6.413	0.000	Supported
H3	DT → SW	0.336	0.340	0.060	5.569	0.000	Supported
H4	DT x EGB → SW	- 0.153	- 0.150	0.030	5.088	0.000	Supported

Note(s): GHRM=Green HRM, EGB=Employee Green Behavior, SW=Sustainability Workplace, DT= Digital Transformation, β = Path Coefficient, M=Mean, SD=Standard Deviation



Source: author's calculation, 2025

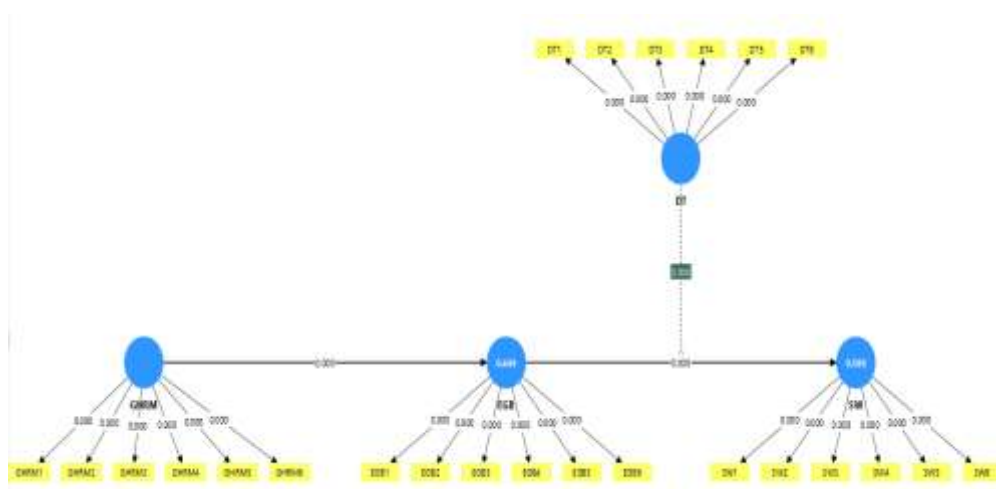


Figure 1. Measurement Model

The results of the structural model evaluation are presented in Table 6. The results indicate that all the proposed research hypotheses are supported. However, GHRM on EGB ($\beta=0.6701$; t value= 16.314 ; $p < 0.000$), EGB on SW ($\beta=0.353$; t value= 6.413 ; $p < 0.000$), DT on SW ($\beta=0.336$; t value= 5.569 ; $p < 0.000$), DT moderated EGB on SW ($\beta= -0.153$; t value= 5.088 ; $p < 0.000$). The results indicate strong support for H1, H2, H3 and H4.

Table 7. Moderated Effect Results

Linear Model Estimates	Coefficients	Confidence Interval	
		Min.	Max.
Main Effect	0.353	0.249	0.466
(b ₁):			
Moderator	0.336	0.226	0.466
(b ₂)			
Interaction	-0.153	-0.209	-0.093
(b ₃)			
DT	β		
Low:	0.134		
Middle:	0.237		
High:	0.340		

Note(s): β = Path Coefficient

Source: author's calculation, 2025

Based on the responses of several research participants, the implementation of Green Human Resource Management (GHRM) practices by companies—such as reducing paper usage in daily tasks, designating smoking areas, and ensuring that electricity in workspaces is turned off when not in use or after working hours—



reflects tangible green initiatives. This finding is further supported by the analysis results, which demonstrate that GHRM practices significantly enhance employees' green behavior (EGB), as indicated by $\beta = 0.670$, $p < 0.001$. This means that the more effectively companies adopt GHRM policies and practices, such as green recruitment, environmental training, and green reward systems, the greater the likelihood that employees will engage in environmentally friendly behaviors (H1). Moreover, this finding is consistent with Ababneh (2021) who emphasized that GHRM significantly fosters employees' green behavior. Similarly, Yong et al (2020) reported that GHRM encourages employee involvement in sustainable practices through the provision of green training and rewards.

The significant positive relationship between EGB and sustainable workplace (SW) ($\beta = 0.353$; $p < 0.001$) confirms that employees' green behavior plays an essential role in creating a sustainable workplace, for instance through energy efficiency, waste reduction, and responsible resource utilization (H2) (Unsworth et al., 2021). Zhang et al (2024) also highlighted that EGB functions as a critical link between organizational sustainability strategies and their actual implementation at the individual level. Other studies further argue that employee well-being fostered through green behavior contributes to cultivating a supportive work environment and a positive organizational culture, thereby enhancing innovation and optimal performance. For example, providing opportunities for skill development in green technologies can empower employees and increase their job satisfaction by aligning personal values with organizational objectives (Sampene et al., 2024).

The adoption of digital technologies such as Human Resource Information Systems (HRIS), e-learning, e-recruitment, and hybrid working systems supports efficiency, transparency, and more effective resource management. The results of this study indicate that digital transformation (DT) has a positive effect on the creation of SW ($\beta = 0.336$; $p < 0.001$). Through DT, organizations can monitor, measure, and integrate sustainability practices into daily work processes, which not only enhances productivity but also serves as a driver to strengthen sustainability practices (H3). These findings align with Kim et al (2021) who identified DT as an enabler of sustainability through resource efficiency, transparency, and digital automation. Furthermore, Xie et al (2024) confirmed that firms with higher levels of digitalization are better positioned to achieve environmental and social targets. Similarly, Nguyen et al (2025) found that the application of HRIS and e-recruitment systems contributes to sustainable human resource practices.

The results of H4 analysis reveal a negative moderating effect of DT on the relationship between EGB and SW ($\beta = -0.153$; $p < 0.001$). This suggests that employees' green behavior influences environmental sustainability, for example, a clean environment can improve the quality of community life. However, the negative moderating effect indicates that when organizations place excessive emphasis on digital transformation, employees' environmental concern tends to decline. Although digitalization provides numerous benefits, it can also lead to "social disconnect,"



where traditional face-to-face interactions commonly practiced in organizations are increasingly replaced by digital interactions, thereby weakening social bonds (Cao et al., 2025; Qadri et al., 2022; Szalkowski & Johansen, 2024). Overuse of technology may also trigger “technostress,” arising from the intensive application of digital technologies, thereby reducing the effectiveness of individual green behaviors (Tarafdar et al., 2019). Degirmen et al (2024) similarly observed that digital transformation does not always strengthen the relationship between green culture and job satisfaction; rather, it may weaken positive effects if not accompanied by appropriate change management strategies. Hence, although digital transformation can directly enhance environmental sustainability, it may also limit employees’ interactions in fostering environmental sustainability if not balanced with adequate change management approaches (Zacher & Rudolph, 2024; Q. Zhang et al., 2025).

The findings of this study can be more comprehensively understood through the perspective of the Triple Bottom Line (TBL), which emphasizes sustainability across the dimensions of Planet, People, and Profit. Within the Planet dimension, the results indicate that Green Human Resource Management (GHRM) significantly influences Employee Green Behavior (EGB). This suggests that green-oriented HR practices, such as e-recruitment, e-learning, and green rewards, are effective in encouraging employees to engage more actively in pro-environmental behaviors. The implications of this condition include a reduction in the company’s ecological footprint, improved energy efficiency, and the development of an organizational culture that supports environmental sustainability (Ababneh, 2021; Yong et al., 2020).

In the People dimension, the results demonstrate that EGB positively affects the Sustainability Workplace (SW). This underscores the critical role of individual green behavior in fostering a sustainable workplace. Employees’ daily actions, such as conserving energy, utilizing resources efficiently, and actively participating in green programs, not only reflect their personal environmental awareness but also strengthen social relations and organizational culture. Unsworth et al (2021) highlight that EGB serves as a key driver in achieving sustainability at the organizational level. Furthermore, employees’ active involvement in environmental initiatives is an essential factor in shaping workplace sustainability, as it bridges organizational policies with practical sustainability outcomes (Zhang et al., 2024).

From the Profit dimension, this study finds that Digital Transformation (DT) has a positive effect on SW, indicating that digital technologies enhance process efficiency, transparency, and resource management, thereby generating economic benefits for organizations. The adoption of technologies such as Human Resource Information Systems (HRIS), e-learning, e-recruitment, and digital work applications not only increases productivity but also creates added value by reducing operational costs, driving business innovation, and improving organizational competitiveness and performance (Kim et al., 2021; Xie et al., 2024).

However, the significant negative moderating effect of DT on the relationship between EGB and SW suggests that, although employees’ green behaviors contribute



to environmental sustainability, intensive use of digital technologies may reduce social interaction. While digitalization can directly strengthen the profitability of sustainability, it may simultaneously weaken employees' connection with the environment due to the burden of technological adaptation or "techno-stress" (Tarafdar et al., 2020), particularly if not accompanied by appropriate corporate strategies or readiness in workplace culture (Degirmen et al., 2024; Zafarina & Nururly, 2025; Tarafdar et al., 2019).

Conclusion

Sustainability achievement in this study is framed through the Triple Bottom Line (TBL), which emphasizes the balanced pursuit of environmental (planet), social (people), and economic (profit) outcomes. The findings demonstrate that Green Human Resource Management (GHRM) practices significantly enhance employees' green behavior, which then supports workplace sustainability through energy conservation, waste reduction, and the strengthening of environmentally oriented organizational culture. Green behavior thus emerges as a critical behavioral mechanism that translates organizational green policies into concrete sustainability practices at the individual level, positioning employees' active engagement as a key driver of sustainable workplaces.

The study also reveals that digital transformation has a dual role: it positively contributes to environmental sustainability by improving efficiency, transparency, and organizational competitiveness, yet it can weaken the positive influence of green behavior on workplace sustainability when it intensifies techno-stress and reduces social interaction in the absence of proper strategic management. Based on these results, this research contributes theoretically by extending TBL-based sustainability discussions to the integrated role of GHRM, employee green behavior, and digital transformation in shaping sustainable workplaces. Practically, it offers organizations actionable insights to design green HRM systems and manage digital transformation in ways that strengthen, rather than erode, employees' green behavior and, ultimately, long-term sustainable performance.

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