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ACTIVATING PRO-ENVIRONMENTAL BEHAVIOUR AT THE WORKPLACE THROUGH GREEN HUMAN RESOURCE MANAGEMENT PRACTICES: THE ROLE OF PERCEIVED INNOVATION CHARACTERISTICS

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ABSTRACT

This study explores the influence of seven green human resource management (GHRM) practices and perceived innovation characteristics (PICs) on employees' pro-environmental behaviour (PEB) at the workplace. It bridges a gap in research that combines the Ability-Motivation-Opportunity (AMO) and Diffusion of Innovation (DOI) theories. Utilizing partial least squares structural equation modelling (PLS-SEM) and survey data of 366 employees from six Malaysian development financial institutions, the findings suggested that four out of seven GHRM practices have a positive direct effect on PEB. Additionally, PICs mediate the relationship between four GHRM practices and PEB, suggesting the importance of employee perceptions of GHRM practices in fostering workplace PEB.

Keywords: Pro-environmental behaviour, GHRM, perceived innovation characteristics, ability motivation opportunity theory

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1. INTRODUCTION

Over the last few decades, climate change has emerged as a critical global issue, leading to significant shifts in how organisations and individuals address environmental sustainability. The United Nations, recognizing the urgency, introduced the Sustainable Development Goals (SDGs) in 2015, aiming to mitigate the adverse effects of industrialization and economic growth on the environment. Research has consistently highlighted the negative impact of industrial and human activities on our planet, prompting a swift response in adopting sustainable practices (Suganthi, 2019; Wang et al., 2018). This global environmental crisis necessitates a collective effort from both developed and developing countries to adopt new methods, behaviours, and technologies to reduce greenhouse emissions and pollutants in our atmosphere and water systems (Carattini et al., 2020; Graves et al., 2013).

Central to this environmental shift are concepts like pro-environmental behaviour (PEB), green human resource management (GHRM), and perceived innovation in organisations. Studies indicate that GHRM can significantly influence employees' motivation and ability to engage in environmental activities, fostering a culture of sustainability within organizations (Renwick et al., 2012). The perception of GHRM has also been linked to employees' green innovative behaviours, influenced by factors such as behaviour intention, self-efficacy in environmental protection, and identification with the company's environmental protection system (Song et al., 2023). Furthermore, the impact of GHRM and perceived organisational support on organisational citizenship behavior towards the environment (OCBE) is a growing area of research, highlighting the need for more studies in this domain (Khalid et al., 2021). This study highlighted the importance of aligning organisational capabilities with sustainability and resilience to improve business continuity management is increasingly recognised, further advocating for the integration of sustainability into organisational strategies (Corrales-Estrada et al., 2021).

The Malaysian government intends to shift its conventional and costly economic practices from 'grow first, clean up later' to incorporate a greater focus on socio-economic development. In this context, all organisational practices must consider environmental issues to attain the proposed targets in the Eleventh and Twelfth Malaysian Plan trajectory. Malaysia has committed to reducing its greenhouse gas (GHG) emissions intensity by 45% before 2030 (MOE, 2017). Currently, Malaysia has managed its GHG emissions by 29.4% (TMP, 2021). The Green Technology Master Plan (GTMP) 2017-2030 focuses on the Malaysian government's first strategic direction to lead the way in green procurement that suggests green behaviour is an outcome of human behaviour. Green behaviour can be achieved through concurrent collaboration between the public sector, private sector, and individual citizens since it relies heavily on the human capability of innovating in each key sector. Nevertheless, with only seven years remaining, the adoption of sustainable development practices among Malaysian organisations is far from the initial target by the United Nations (UN) regarding sustainable development goals (SDGs) by 2030 and the Malaysian plan.

Several organisations in Malaysia have already begun incorporating SDGs into their business practices and operations to achieve sustainability and a more inclusive socio-economic development focus. Nevertheless, in striving for a prosperous nation following the nation's independence in 1957, the environment suffered due to industrial operations (Abdul Hamid, 2019). The Global Green Economic Index (GGEI) for 2014 to 2022 and the Environmental Performance Index (EPI) for 2014 to 2020 explore a country's commitment to environmental issues and its performance in green practices. The variation in Malaysia's ranking supports this assertion. This ranking illustrates that Malaysia remains in the early stages of identifying how to balance maintaining and safeguarding the environment and socio-economic growth. It represents Malaysian organisations' lack of interest in sustainable development and their incapacity to tackle environmental change, which may influence productivity.

The service sector is regarded as the largest gross domestic product (GDP) contributor to economic growth, followed by the Malaysian manufacturing sector (MOF, 2021). Besides that, GTMP 2017 – 2030 focuses on six key sectors. The first key sector is energy, where the plan focuses on electricity generation, which mixes renewable energy and energy efficiency that focuses on electricity consumption (MOE, 2017). Malaysian financial institutions (FIs) fall under energy, the major contributor to greenhouse gas emissions. They are crucial to the capital market's growth and the country's social security provision. The FIs comprise several banking types, including development financial institutions (DFIs) (BNM, 2009; Mohamad Puad et al., 2017). Malaysian Central Bank undertook several studies to identify issues within the financial industry, including a study on green practices in FIs. Although "green initiatives" integration into business strategies and sustainable development is gaining prominence and momentum among businesses, only 39% of Malaysian FIs have taken the initiative to reduce the consumption of energy, and only 9% of FIs have energy-saving policies (AIF, 2017; Ooi et al., 2017).

1.1 Statement of Problem

The use of energy, namely the production of electricity, transportation, energy used for heating and cooling, fuel conversion, and transportation, is the primary source of greenhouse gas (GHG) emissions and accounts for 69% of worldwide GHG emissions (Schwab, 2019). Malaysian Environmental Performance Index (EPI) experienced a drop in ranking between 2014 and 2018 indicating Malaysia as a laggard concerning outcomes regarding environmental and social elements in orienting its economy towards greener growth pathways. One way to safeguard the environment is to shape green behaviour, which will aid in accelerating green practice implementation nationwide, which includes individuals and private and public organisations (EMP, 2015). Subsequently, organisations have attempted to change employees' behaviour and reengineer business practices by transforming these practices into "green practices" by imposing formal policies, procedures and certain activities and adopting new technologies needed to be considered due to these changes (Ones & Dilchert, 2012b; Afsar & Umrani, 2019; Ojo & Raman, 2019; Saeed et al., 2019). Employees are required to reconsider

discretionary acts and the willingness to weigh these acts to the impact on the environment through employees' involvement (Boiral & Paillé, 2012; Robertson & Barling, 2013; Alt & Spitzeck, 2016). One way to achieve a low-carbon economy in the future is to shape employees' pro-environmental behaviour (PEB), which will aid in accelerating green practice implementation across organisations (Yong et al., 2020; 2019). Understanding employees' behaviour is essential as it contributes to organisational performance since they devote a vast amount of time to performing work (Wells et al., 2020).

According to a KPMG (2017) assessment on corporate responsibility, only 13% of Malaysia's top 100 firms have integrated their company responsibility in reporting by embracing the SDGs. Although 97% of Malaysian firms reported on sustainability performance, only 5% incorporated sustainability reporting into their annual report, compared to 10% of worldwide corporations. Merely 3% of Malaysian firms saw climate change as a danger to their operations, compared to 28% of worldwide companies, and only 10% reported having carbon reduction objectives, compared to 36% of global corporations. Hence, disseminating green information to employees and the general public is still at an early stage of development in the context of Malaysian companies.

Therefore, this study aimed to fill the gap by assessing key drivers that explain factors influencing employee PEB at the workplace. The findings will expand the body of knowledge on employees' PEB and environmental management.

2. LITERATURE REVIEW

This study established the theoretical, variable, and contextual gaps from previous studies. Before this study was conducted, the researcher first discovered that past literature attained mixed findings on whether green human resource management (GHRM) practices influenced employees' PEB at the workplace. Second, no studies examined perceived innovation characteristics (PICs) as a mediator in the relationship between GHRM practices and PEB. Third, very few studies have involved employees from Malaysian FIs, particularly employees from DFIs. Finally, only a few studies utilised amalgamated theories to explain employees' PEB. None of the past combined theories of Ability-Motivation-Opportunity (AMO) with Diffusion of Innovation (DOI) in explaining PEB at the workplace. Given the above gaps, this study assessed the relationship between GHRM practices and employees' PEB in six Malaysian development financial institutions (DFIs) by including relevant mediators through the amalgamated theories as a theoretical foundation. Figure 1 illustrates the study's theoretical framework.

2.1 Pro-Environmental Behaviour at the Workplace

The PEB at the workplace can be defined as a broader set of eco-friendly or environmentally responsible events, including comprehending more regarding the environment, providing insights to organisations to reduce the environmental impact on the business, initiating green

work processes, recycling, reprocessing and questioning practices or acts that could harm the environment (Graves et al., 2013). Ramus and Killmer (2007) separated PEB at the workplace into three dimensions (1) *Pro-social nature* of PEB in supporting the welfare of individuals and organisations (2) *Discretionary nature* where employees engage in PEBs voluntarily, such as turning the lights off or taking the stairs rather than catching the elevator and (3) The *extra-role nature* of PEB, where employees partake in environmental protection and improve environmental performance, stipulated position description. Nevertheless, the employees do so for the sake of the company's green image.

Bissing-Olson et al. (2013) conceptualised PEB in the workplace into two concepts. The first is *task-related PEB,* which explains employee behaviour to accomplish the work stipulated by the organisation and to what extent employees perform their work in an environmentally friendly manner. The second is *proactive PEB* which showcased employees' initiative to engage in environmentally friendly behaviours external to core work activities. For example, it includes adopting a self-approach to one's work by improvising or improving on performing work or inspiring others to act in an environmentally friendly manner, which is not formally required to improve the existing work process.

Robertson and Barling (2017) conceptualised PEB at the workplace under the OCBE framework comprising three OCBE dimensions which are (1) *Self-enacted OCBE* includes the employee's discretionary act in performing PEB at the workplace without any intention to influence others. , (2) *Co-workers-focused OCBE* that includes employees' discretionary PEB, where they encourage colleagues to integrate environmental considerations into work tasks not recognised through a formal reward system and (3) *Organisationally-focused OCBE* depicts employees' discretionary actions to perform PEB at the workplace to influence the organisation in performing in an environmentally-friendly manner, such as offering good ideas and encouraging the organisation to decrease environmental impact (Robertson & Barling, 2017; Pinzone et al., 2019). In sum, employees' PEB centered around the workplace was conceptualised as an outcome of implementing various environmental management initiatives.

2.2 Green Human Resource Management Practices and Pro-Environmental Behaviour

Past studies on PEB identified organisational-related factors, such as promoting employees' PEB (including EGB and OCBE) through GHRM practices, as the main variables influencing employees' PEB in the work environment (Dumont et al., 2017; Chaudhary, 2019a; Luu, 2019; Pham et al., 2019; Saeed et al., 2019; Zhang et al., 2019; Fawehinmi et al., 2020). Besides, GHRM practices reflect the intersection between strategic human resources management (HRM) practices and environmental management aspects in promoting environmental sustainability in a business (Renwick et al., 2013; Chaudhary, 2019b) by integrating environmental concerns, values and attitudes (Ciocirlan, 2020). Saeed et al. (2019), Dumont et al. (2017), and Fawehinmi et al. (2020) examined the effect of GHRM practices adopted by organisations to promote employees' PEB at the workplace.

Nevertheless, this study perceives the seven GHRM practices proposed by Shah (2019) as an organisational policy to stimulate employees' environmental consciousness and improve their behaviour towards the work environment (Saeed et al., 2019). As per the AMO theory (Appelbaum et al., 2000), Renwick et al. (2013) proposed a theoretical framework by employing the AMO theory in identifying key HRM zones impacting environmental management outcomes. In other words, it can be explained as the function of linking ability, motivation, and opportunity that optimally portrays PEB (Pham et al., 2019). Thus, by applying the AMO theory, seven GHRM practices (See Figure 1) tend to attract and enhance employees' ability (A) through motivation (M) and dedication through various practices, such as reward schemes and performance management and to present employees with opportunities (O) to partake in knowledge sharing and solving problems (Renwick et al., 2013). Seven GHRM practices are assumed to influence employee PEB at the workplace. Therefore, this study hypothesizes as below:

H1 to H7: Seven GHRM practices (green job design, green recruitment and selection, green training and development, green performance management, green reward and compensation, green health and safety and green labour relations) are positively and significantly influence employee PEB at the workplace.

2.3 The Mediating Role of Perceived Innovation Characteristics between Green Human Resource Management Practices and Pro-Environmental Behaviour

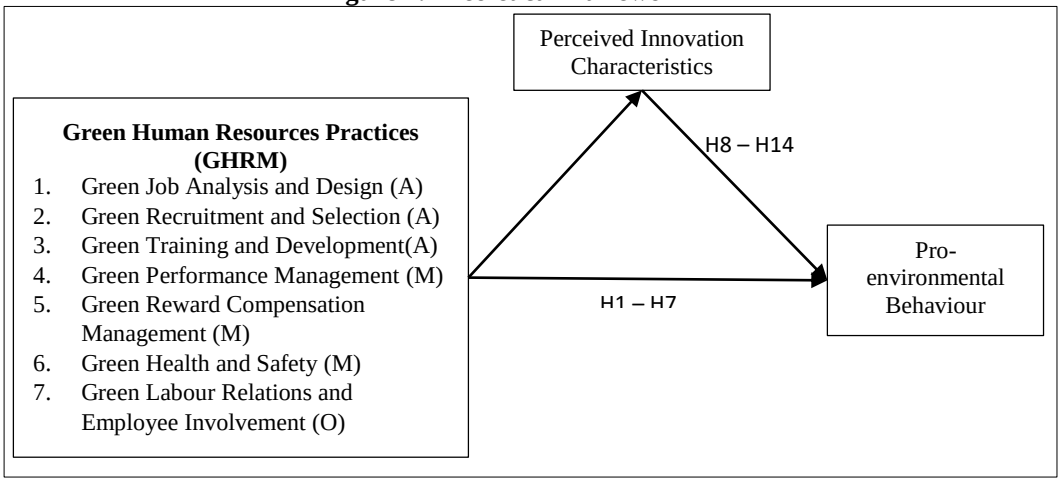
This study proposed innovation attributes, also known as PICs, in the study as the mediating variable founded on the DOI theory. Although several factors do not affect the adoption of innovative green practices (Chou et al., 2012), many factors encourage them, leading to PEB. Thus, the organisation should adopt various perspectives, including innovation costs, the need to achieve societal interests, or the extent of contextual assistance offered (Chou et al., 2012).

In addition, PICs are more concerned with adopting innovation either by an organisation or individual due to facilitation factors. Implementing organisational initiatives or policies will not be successful without employees adopting innovation (Talukder, 2014). Hence, an organisation should understand the employees' attitude gained through organisational policies, such as GHRM practices leading to environmental behaviour. Lo et al. (2012) and Ren et al. (2018) asserted the need to explore employees' PEB at the organisational and individual levels.

Although numerous studies have utilised the function of PICs and the intention to adopt and determine adoption behaviour at this stage, studies assessing PICs' role as a mediator are scarce (Zolkepli & Kamarulzaman, 2015). Most research has not endeavoured or attempted to employ PICs as a mediator between the relationship of GHRM practices and PEB in the work setting, making it non-existent. This study assumed that perceived innovation characteristics will mediate the relationship between seven GHRM and employee PEB at the workplace. Therefore, this study hypothesizes as below:

H8 to H14: Perceived Innovation Characteristics (PICs) mediate the relationship between seven GHRM practices and employee PEB at the workplace.

Figure 1: Theoretical Framework



3. METHODOLOGY

3.1 Participants and Procedure

This cross-sectional study adopted the multi-stage sampling technique that combines non-probability and probability sampling (Saunders et al., 2019). The respondents hailed from six Malaysian DFIs. A self-administered survey distributed between February 2021 and April 2021 was used to collect data. The questionnaires were distributed through the intranet, and 1000 responses were targeted. In total, 640 valid responses were obtained from 646 returned responses (64.6% response rate). The gathered responses were treated as a sampling frame and ran through Statistical Package for the Social Sciences (SPSS) software using a simple random sampling technique to select 500 valid cases. After data screening and cleaning, 366 valid responses underwent primary data analysis. The respondents were required to answer the questionnaire to measure their PEB, PICs and the GHRM practices in Malaysian DFIs. The six DFIs were chosen according to the purposive sampling technique as the government created them to develop and publicise key sectors of strategic significance to the national socio-economic development objectives. The sustainability framework incorporating SDGs has been newly adopted by Malaysian DFIs to help them promote sustainability across their business operations.

3.2 Measurements

This study adapted demographic variables of education, age, gender, designation and years of working experience by referring to Fawehinmi et al. (2020), Graves et al. (2013), Kim et al. (2016) and Saeed et al. (2019) since demographic variables can impact individual green behaviour (Abrahamse & Steg, 2009). The survey's second part emphasised questions of PEB to assess employees' PEB at the workplace. The 13 items were modified from Saeed et al. (2019), where the instruments were found in Kaiser et al. (2007), Robertson and Barling (2013), and Kim et al. (2016). The third part of the survey emphasised the seven GHRM practices in Malaysian DFIs. The 23 items were adapted from Shah (2019). Subsequently, the fourth part of the survey comprised 13 items concerning PICs adapted from Zolkepli and Kamarulzaman (2015) and Van Ittersum and Feinberg (2010), where the instruments were developed initially by Moore and Benbasat (1991) and Prasad and Agarwal (1997). The responses for the second, third, and fourth parts were on a seven-point interval scale with answers ranging from 1 (Strongly Disagree) to 7 (Strongly Agree).

3.3 Data Analysis

The SPSS 26 and Smart PLS 3.0 were used to analyse the study model. Harman's single-factor test was used in this investigation to overcome CMV. If the single component contributes to more than 40% of the variation across variables, Harman's single-factor test suggests an issue with CMV (Babin et al., 2016). The unrotated component analysis revealed that the first factor accounted for 29.43% of the total variation explained, showing that CMV is not a significant concern in this research.

4. RESULTS

4.1 Demographic Profiles

The respondents' demographic profiles are reported in Table 1. Male respondents represent a slightly higher percentage within the workforce than female respondents. The respondents' mean age is around 39 years old. Approximately 61.8% of the respondents had completed at least an undergraduate degree, implying the samples' high literacy rate. Most respondents hold a managerial or professional level position with an average of 13 years of working in DFIs.

Table 1: Demographic Profiles of The Respondents

Variables (n=366)	Population (percentage)
Gender	
Male	194 (53)
Female	172 (47)
Age	
Mean	39.50 years
SD	0.986
Range	30 – 41 years
Education Level	
Postgraduate	130 (35.5)
Undergraduate	226 (61.8)
Position	
Managerial	180 (49.2)
Non-managerial	186 (50.8)
Years of Working	
Mean	13.25 years
SD	1.877
Range	11 - 15 years

4.2 Measurement Model

Confirmatory factor analysis (CFA) was employed to measure the relationship between latent variables and indicators assigned through the indicator loads (Ramayah et al., 2018). In order to confirm the CFA for the measurement model (outer model), this study employed matrices Hair et al. (2017) recommended, including convergent validity (loading and average variance extracted (AVE), discriminant validity and composite reliability (CR) for reflective indicators since this study employed reflective constructs. Table 2 indicates that almost all item factor loadings were more than 0.7. Additionally, AVE values for all items were more than 0.5, and all CR were more than 0.7. The convergent validity of the construct is satisfactory when AVE is above 0.5 and CR is greater than 0.6 (Ramayah et al., 2018).

Subsequently, the Fornell-Larker criterion was employed to undertake the discriminant validity test. The indicators should load more strongly on their own constructs than other constructs in the model. Besides, the shared variance between each construct and its indicators is greater than among other constructs (Fornell & Larcker, 1981; Ramayah et al., 2018). Either one of the discriminant validity tests (Fornell-Larker criterion, heterotrait-monotrait (HTMT) and cross-loadings) should be adequate to establish the discriminant validity for reporting (Ramayah et al., 2018). The discriminant validity for the first-order constructs was assessed in this study, followed by the second-order constructs. The result demonstrates that for first and second-order constructs, the square root of AVE as the diagonal elements is greater than the off-diagonal correlations in rows and columns. Hence, the square roots of AVE for each construct are higher than the correlations among the other latent variables. Thus, the discriminant validity at the construct level was established.

Table 2: Summaries of Confirmatory Factor Analysis

Construct/ Sub-Construct	Item label	Outer Loading		CR		AVE	
		Initial Model	**Modified Model**	**Initial model**	**Modified Model**	**Initial Model**	**Modified Model**
	Pro-environment Behaviour			0.946	0.956	0.594	0.647
EB1	PEB1: I suggest new practices that could improve the environmental performance of my organisation.	0.662	0.661	0.819	0.819	0.533	0.533
	PEB2: At work, I perform environmental tasks that are not required by my organisation.	0.739	0.739				
	PEB3: At work, I recycle (e.g., paper, ink pen, batteries).	0.699	0.700				
	PEB4: Compared to others at my work, I minimize and recycle waste.	0.812	0.812				
EB2	PEB5: I adequately complete assigned duties in environmentally friendly ways	0.880	0.880	0.882	0.882	0.789	0.789
	PEB6: I fulfill responsibilities specified in my job description in environmentally friendly ways	0.879	0.897				
EB3	PEB7: At work, I avoid wasting resources such as electricity or water.	0.736	0.744	0.623[a]	0.803	0.446[a]	0.673
	PEB8: At work, I take stairs instead of elevators to save energy.	**0.030[a]**	-				
	PEB9: I print double sided whenever possible.	0.893	0.891				
EB4	PEB10: I share my knowledge about the environment with co-workers.	0.849	0.849	0.865	0.865	0.762	0.762
	PEB11: In my work, I weigh the consequences of my actions before doing something that could affect the environment.	0.897	0.896				
EB5	PEB12: I make suggestions and bring new ideas about environmentally friendly practices to relevant committees to increase organisations environmental performance.	0.711	0.710	0.742	0.742	0.591	0.591
	PEB13: At work, I question practices that are likely to hurt the environment.	0.822	0.823				
	Green Job Design			0.840	0.840	0.640	0.640
	GJD1: My organisation has integrated several	0.663	0.662				

	environmental protection responsibilities in each position.						
	GJD2: My organisation has included green and social needs of the organisation in job description and specification.	0.854	0.854				
	GJD3: My organisation has incorporated green capabilities as a distinctive element in job specification.	0.868	0.868				
	Green Recruitment and Selection			0.824	0.823	0.705	0.705
	GRS1: My organisation has incorporated "green aware" criteria in HR staffing policy.	0.959	0.960				
	GRS2: My organisation appeal to green job applicants who practice green criteria to choose green employer (green employer branding).	0.700	0.699				
	Green Training and Development			0.849	0.849	0.587	0.587
	GTD1: My organisation assesses who need training in environmental management.	0.804	0.804				
	GTD2: My organisation evaluates whether the employee has manager and peer support to apply the learned content on the job.	0.620	0.620				
	GTD3: My organisation uses environmental protection elements as the central themes of green training.	0.799	0.799				
	GTD4: My organisation delivers environmental management training to improve employee awareness, skills, and know-how in environmental management	0.824	0.824				
	Green Performance Management			0.935	0.935	0.783	0.783
PM1	GPM1: My organisation establishes green targets, objectives, and duties for each employee across organisation.	1.000	1.000	1.000	1.000	1.000	1.000
PM2	GPM2: My organisation uses the green criteria to evaluate performance.	0.840	0.840	0.880	0.880	0.711	0.711
	GPM3: My organisation keeps track of non-compliance or not meeting green objectives.	0.904	0.904				

	GPM4: My organisation identifies "Green Superstars" (remarkably talented individuals who perform beyond the standards) and distribution of prizes based on their green contributions.	0.781	0.781				
	Green Compensation and Reward Management			0.938	0.938	0.791	0.791
CRM1	GRM1: My organisation rewards green skills acquisition.	0.901	0.901	0.887	0.887	0.797	0.797
	GRM2: My organisation uses non-monetary rewards for contributions in environment management such as paid time off, special leave, and gifts to employees and their families.	0.885	0.885				
CRM2	GRM3: My organisation reward system recognizes and rewards contributions in environmental protection.	0.882	0.882	0.879	0.879	0.785	0.785
	GRM4: My organisation rewards for learning a green curricular.	0.889	0.889				
	Green Health and Safety			0.866	0.866	0.685	0.685
	GHS1: My organisation provides green workplaces for all.	0.866	0.866				
	GHS2: My organisation takes green initiatives to decrease worker anxiety and work-related sickness instigated by harmful work setting.	0.727	0.727				
	GHS3: My organisation develops and executes strategies to sustain a favourable work setting to avoid several fitness problems to develop health and safety of workforce.	0.881	0.881				
	Green Labour Relation and Employee Involvement			0.824	0.824	0.610	0.610
	GLR1: My organisation emphasizes a culture of environmental protection. Offering green practices	0.821	0.821				
	GLR2: My organisation offers opportunities to individuals to take part in green suggestion schemes.	0.755	0.755				
	GLR3: My organisation presents green whistleblowing and helplines.	0.765	0.765				

	Perceived Innovation Characteristics			0.973	0.973	0.666	0.666
Compatibility	CB1: Green practices are compatible with all aspects of my work.	0.879	0.879	0.899	0.899	0.691	0.691
	CB2: I think green practices fits well with the way I like to work.	0.783	0.783				
	CB3: Green practices fit into my work style.	0.876	0.876				
	CB4: Before deciding whether to apply or not any green practices, I was able to properly to try it out.	0.783	0.783				
Complexity	CPX1: My interaction with green practices is clear and understandable.	0.766	0.766	0.843	0.843	0.643	0.643
	CPX2: Overall, I believe that green practices would be easy to apply.	0.779	0.779				
	CPX3: The results of applying green practices are apparent to me.	0.858	0.858				
Relative Advantage	RA1: Applying green practices would make it easier to do my job.	0.898	0.898	0.852	0.852	0.743	0.743
	RA2: Applying green practices in my job would enhances my effectiveness on the job.	0.824	0.824				
Observability	OBS1: It would be easy for me to tell others about the results of applying green practices.	0.922	0.922	0.918	0.918	0.849	0.849
	OBS2: It would be easy for me to explain why applying green practices may or may not be beneficial.	0.921	0.921				
Trialability	TR1: Applying green practices would improve my job quality.	0.901	0.901	0.885	0.885	0.794	0.794
	TR2: Applying green practices in my job would give me a greater control over my work.	0.881	0.881				

[a]Outer loading < 0.6, CR < 0.7, AVE < 0.5; item deleted due to low factor loading.

4.3 Structural Model

Before the structural model is evaluated, ensuring that no lateral collinearity issue exists in the structural model is crucial. Table 3 presents the results of the lateral collinearity test. The findings demonstrate that all the inner variance inflation factor (VIF) values for all the exogenous constructs requiring multicollinearity examination are lesser than the suggested threshold value of 5.0 (VIF ≤ 5.0). Hence, no significant levels of collinearity exist among the study's exogenous constructs.

The acceptance of a hypothesis was established on the *t-value*, *p-value* and confidence interval bias corrected based on the hypothesis testing by undertaking a bootstrapping technique with a re-sampling of 5,000. Four hypotheses were supported by the seven hypotheses developed for direct effect. Table 3 demonstrates that the four relationships have a t-value ⩾ 2.33. Thus, the relationships are significant at a 0.01 level of significance. The predictors of green job design (GJD) (β = 0.235***, t = 4.365, LL = 0.149, UL = 0.321, p < 0.01), green recruitment and selection (GRS) (β = 0.097***, t = 2.381, LL = 0.028, UL = 0.164, p < 0.01), green training and development (GTD) (β = 0.221***, t = 3.696, LL = 0.122, UL = 0.310, p < 0.01), and green health and safety (GHS) (β = 0.136***, t = 2.621, LL = 0.052, UL = 0.219, p < 0.01) positively significantly influence PEB. Thus, H1, H2, H3 and H6 were supported. Nevertheless, contrary to the findings, the hypothesised relationships between green performance management (GPM), green reward management (GRM), and green labour relation (GLR) had no significant influence on PEB, with a p-value exceeding 0.1 (10% level). Therefore, H4, H5 and H7 were not supported. Figure 2 depicted the results of all path analysis.

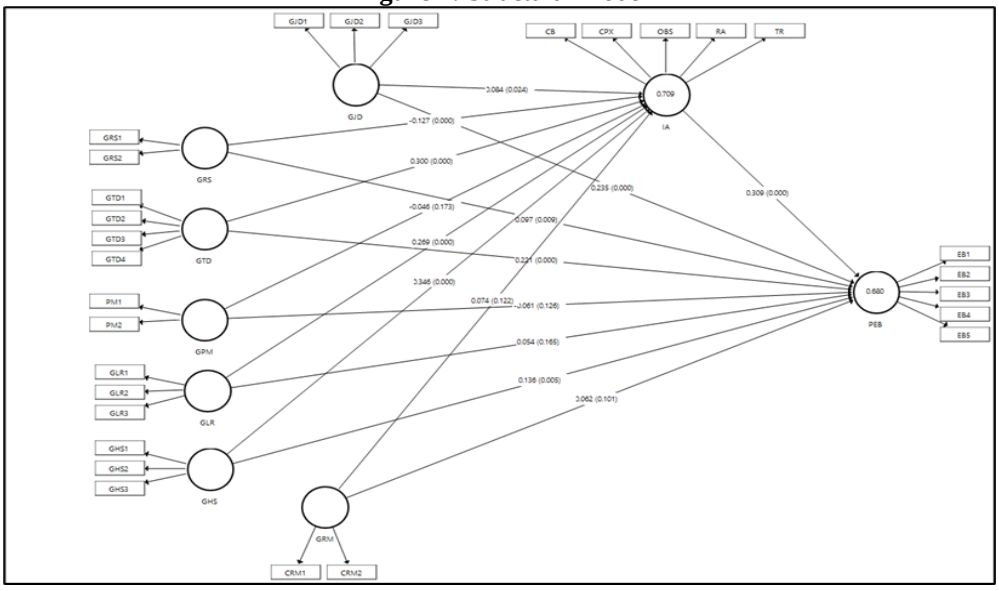
Table 3: Hypothesis Testing of Direct Effect

Hypothesis	Path	β	SE	t-value	p-value	VIF	LL	UL	Decision
H1	GJD→PEB	0.235	0.054	4.365	0.000***	2.172	0.149	0.321	Supported
H2	GRS→PEB	0.097	0.041	2.381	0.009***	1.496	0.028	0.164	Supported
H3	GTD→PEB	0.221	0.06	3.696	0.000***	3.905	0.122	0.31	Supported
H4	GPM→PEB	0.061	0.054	1.145	0.126	2.354	-0.147	0.029	Not supported
H5	GRM→PEB	0.062	0.049	1.275	0.101	2.276	-0.016	0.142	Not supported
H6	GHS→PEB	0.136	0.052	2.621	0.005***	2.342	0.052	0.219	Supported
H7	GLR→PEB	0.054	0.056	0.977	0.165	3.2	-0.045	0.146	Not supported

*** Significant at 1% p<0.01 (one-tailed)

PEB – Pro-environmental Behaviour, GJD – Green Job Design, GRS - Green Recruitment and Selection, GTD – Green Training and Development, GPM - Green Performance Management, GRM - Green Compensation and Reward Management, GHS - Green Health and Safety, GLR - Green Labour Relation and Employee Involvement.

Figure 2: Structural Model



This study employed the guideline by Cohen (1988) for effect size (f^2), which indicates that the values of 0.02, 0.15 and 0.35 represent small, medium, and large effects, respectively. This study found that GJD ($f^2 = 0.085$), GRS ($f^2 = 0.019$), GTD ($f^2 = 0.045$) and GHS ($f^2 = 0.026$) have a small effect size on PEB. On the other hand, the result revealed no effect size for GPM ($f^2 = 0.006$), GRM ($f^2 = 0.003$) and GLR ($f^2 = 0.002$), which is consistent with the path coefficient results for those three constructs.

The last step in assessing the structural model is examining the predictive relevance value (Q^2) using the blindfolding procedures. According to Hair et al. (2017), the model has predictive relevance for a specific endogenous construct if the Q^2 value is larger than 0. The Q^2 value for PEB ($Q^2 = 0.339$) is more than 0, indicating an acceptable predictive relevance. Table 4 depicted the results of all coefficient of determination.

Table 4: Coefficient of Determination

Construct	R^2	Q^2	f^2	Decision
GJD→PEB	0.684	0.339	0.085	Small
GRS→PEB			0.019	Small
GTD→PEB			0.045	Small
GHS→PEB			0.026	Small

4.3.1 Results for Mediating Effect of Perceived Innovation Characteristics

Mediation analysis was undertaken to determine the mediation type in the model (Awang, 2015). Two types of effects may occur, namely full mediation and partial mediation. Two types of partial mediation exist: complementary and competitive (Ramayah et al., 2018). The mediation results of seven hypotheses for PICs are presented in Table 5. The bootstrapping analysed the mediating effect of PICs, which showed that four of the seven indirect effects (β = -0.035, β = 0.082, β = 0.094 and β = 0.072) are significant with t-values of 2.803, 3.341, 3.555, and 3.486. The indirect effects of 95% Boot CI Corrected ([LL = -0.062, UL = -0.013], [LL = 0.043, UL = 0.138], [LL = 0.047, UL = 0.151], and [LL = 0.036, UL = -0.117]) do not straddle a 0 in between, indicating the presence of mediation (Preacher & Hayes, 2004, 2008). Specifically, the results show that PICs partially mediate the relationship between GRS, GTD, GHS, and PEB ($p < 0.01$). A significant effect was still found in the direct effect for the three independent variables.

On the type of partial mediation, PICs were found to have a competitive partial mediation effect (β = -0.035) on the relationship between GRS and PEB. The findings indicate that the effect of the direct path and indirect effect are pointed in different directions. Besides, PICs were found to have a complementary partial mediation effect on the relationship between GTD (β = 0.082), GHS (β = 0.094) and PEB. These findings indicate that the effect of the direct path and indirect effect are pointed in the same direction. On the other hand, the complete mediation of PICs was found between GLR and PEB, $p < 0.01$, as no direct effect was found between GLR and PEB. Therefore, H9, H10, H13 and H14 were supported.

Table 5: Mediation Hypothesis Testing

Hypothesis	Path	β	SE	t-value	p-value	LL	UL	Decision	Mediation
H8	GJD → PIC → PEB	0.023	0.014	1.68	0.094	-0.003	0.051	Not Supported	
H9	GRS → PIC → PEB	-0.035	0.012	2.803	0.005***	-0.062	-0.013	Supported	Competitive Partial Mediation
H10	GTD → PIC → PEB	0.082	0.025	3.341	0.001***	0.043	0.138	Supported	Complementary Partial Mediation
H11	GPM → PIC →PEB	-0.013	0.014	0.949	0.343	-0.042	0.012	Not Supported	
H12	GRM→PIC→ PEB	0.021	0.019	1.138	0.256	-0.007	0.065	Not Supported	
H13	GHS → PIC → PEB	0.094	0.026	3.555	0.000***	0.047	0.151	Supported	Complementary Partial Mediation
H14	GLR → PIC → PEB	0.072	0.021	3.486	0.001***	0.036	0.117	Supported	Full Mediation

5. DISCUSSIONS AND CONCLUSION

This study intended to examine and determine factors influencing employee PEB in the six Malaysian DFIs. In addition, an effort was made to investigate the nature of the abovementioned correlations by investigating the underlying internal mechanisms by not only paying attention to the organisational factors but also focusing on employee perception towards the implementation of the organisational green strategy. The previous studies on PEB have not proposed any theoretical framework that explains employee perceptions towards green organisational practices, which will assist organisations in identifying which green practices will influence employees' PEB. The PICs were investigated to mediate the previously described relationship.

5.1. Key Takeaways

Organisations are increasingly adopting green initiatives like creating green work-settings (GHS) to enhance employee health and safety. Past studies (Dumont et al., 2017; Saeed et al., 2019) indicate a positive relationship between green human resource management (GHRM) practices and employees' pro-environmental behaviour (PEB). This trend is evident in six DFIs, where GJD (A), GRS (A), GTD (A), and GHS (M) show a significant direct impact on employee PEB. Organisations recruit environmentally conscious employees (GRS), emphasizing green values in job designations (GJD). These employees actively support and contribute to environmental management initiatives (Jia et al., 2018; Shah, 2019). Furthermore, well-trained employees (GTD) become more knowledgeable about addressing environmental degradation, turning into champions of green initiatives.

Nevertheless, the hypothesised direct effects found no significant direct relationship between GPM, GRM, and GLR with PEB. These results opposed previous studies by Saeed et al. (2019) and Shah (2019). The insignificant result might be attributed to three GHRM practices in the DFIs being improperly applied or lacking an excellent platform to exhibit environmental behaviour (Fawehinmi et al., 2020). According to studies, when GHRM practices are not effectively integrated with an organisation's environmental management system, they are ineffective in influencing PEB (Mazzi et al., 2016).

Based on the mediation analysis, this study found that PICs mediate GRS, GTD, GHS and GLR, which corroborated with Saeed et al.'s (2019) findings. PICs were found to partially mediate the impact of Green Recruitment and Selection (GRS), Green Training and Development (GTD), Green Health and Safety (GHS), and Green Learning and Research (GLR) on PEB. Employees perceive GRS, GTD, and GHS as aiding efficiency and compatibility with their work. These practices are viewed as easy to implement in daily tasks, allowing employees to test their effectiveness. Importantly, PICs fully mediate the relationship between GLR and PEB, indicating that the effectiveness of GLR depends entirely on employee perceptions. GLR practices should thus be designed to actively engage and involve employees in green initiatives. Afsar et al. (2018) and Cheema et al. (2019) concluded that employees'

attitudes and behaviours depend on their perceptions of how organisations engage in numerous actions. The study, contributing a novel perspective in the Malaysian context, is the first known to use PICs as a mediator between multi-dimensions of GHRM practices and PEB.

5.2 Theoretical Implications

This study significantly advances the understanding of PEB in Malaysian DFIs by combining the Ability-Motivation-Opportunity (AMO) framework with the Diffusion of Innovations (DOI) theory. It explores the impact of organisational green practices, employee perceptions of these practices, and environmental knowledge on PEB. The study uses AMO theory to critically analyse Green Human Resource Management (GHRM) practices and PEB, guiding organisations in addressing climate change. It also critiques the AMO framework's perceived managerial bias by integrating employee perspectives and environmental awareness, suggesting a transformative framework. Empirically, the study validates the AMO framework's effectiveness in various industries and countries, uniquely combining it with DOI to evaluate environmental behaviour in Malaysian DFIs. This study fills a gap regarding employee perceptions in this area, blending different theories and empirically testing them in DFIs, challenging existing AMO constraints, and offering new insights into refining PEB measurement tools.

5.3 Managerial Implications

This study on Malaysian DFIs offers important insights into promoting PEB in the financial sector, emphasizing the need for a green workforce to address global climate issues. It points out the limitations of non-probability sampling and diverse organisational practices, advocating for the integration of Green Human Resource Management (GHRM) into organisational strategies for sustainable growth. The research highlights that while GHRM positively affects PEB, the impact is moderate, suggesting a need for organizational alignment with green objectives and context-specific GHRM adaptations. A comprehensive GHRM approach is recommended, tailored to employee capabilities and environmental awareness, including job design, recruitment, training, and incentivising environmental performance. The study also underscores broader societal implications, where effective GHRM can shape workplace behaviour and extend to societal practices. Collaboration with government and NGOs to promote environmental awareness is suggested to enhance societal wellbeing. Cultivating a green workplace culture is proposed as beneficial for organisations and as a means to encourage employees' commitment to environmental sustainability.

5.4 Limitations and Avenues for Future Study

The study on green behaviour in Malaysian DFIs has limitations that open avenues for future research. The use of convenience sampling limits the generalisability of the findings to the broader financial sector in Malaysia and other countries, due to different organisational structures and cultural contexts. Future studies should expand the sample to include various

financial institutions like investment and commercial banks to enhance generalisability. Data collection could be biased due to self-report methods, but Common Method Variance (CMV) was not a significant issue. The study, based on the Ability-Motivation-Opportunity (AMO) theory, focused on seven GHRM practices, finding that four significantly influenced PEB. Future research should consider additional variables (e.g., organisational culture) and explore other mediators and moderators (e.g., green self-efficacy) to understand the full impact of GHRM practices on PEB. The current study's quantitative approach, constrained by time and pandemic-related limitations, could be enhanced with mixed-method strategies, including structured and semi-structured interviews, for deeper insights. Additionally, future research should investigate a broader spectrum of organisational green practices, addressing the challenges in implementing environmental policies and considering the diversity in employees' environmental awareness and responsibilities, to provide more effective strategies for greening workplaces.

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