GREENING HUMAN RESOURCE MANAGEMENT AND EMPLOYEE COMMITMENT TOWARDS THE ENVIRONMENT: AN INTERACTION MODEL

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Abstract. In response to a greater environmental awareness, organizations are concerned more and more about the "greening" human resource management (GHRM). Although the literature on GHRM has been extending, published studies have paid little attention to the research of GHRM and its contribution to employee commitment towards the environment, especially the interactions of GHRM practices, so far. Thus, to bridge this research gap, this study extends the Ability-Motivation-Opportunity and the Social exchange theories in the green context by investigating a new conceptual framework, which explores the indirect and interactive effects of GHRM practices (training, reward, and organizational culture) on employee environmental commitment. A quantitative study is conducted through a survey involving 209 respondents. Findings suggest that: (1) three GHRM practices are important tools in stimulating directly employees to commit to the environmental activities, (2) a two-way interaction of green training and green organizational culture can unlock employee commitment for the environment, especially at the high and average levels of green organizational culture, (3) the commitment is also increased significantly through a three-way interaction, the two strongest effects are recognized with the conditions of high-green organizational culture and the average- and high-green reward, whereas (4) the interacting between green training and green reward is an unimportant factor in encouraging employee environmental attachment.

Keywords: Green human resource management, employee environmental commitment, interaction effect, Ability-Motivation-Opportunity (AMO) framework, Social exchange theory, PROCESS model.

JEL Classification: J24, M14, Q01, Q56.

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Introduction

In recent years, the environmental issue has emerged as one of the critical societal priorities (Howard-Grenville, Buckle, Hoskins, & George, 2014; Potocan, Nedelko, Peleckienė, & Peleckis, 2016) and as a new development strategy of organizations (Amui, Jabbour, de Sousa Jabbour, & Kannan, 2017). Thus, this subject has been attracting many management scholars (Pinzone, Guerci, Lettieri, & Redman, 2016) because of the strategic importance of developing a sustainable organization (Ren, Tang, & Jackson, 2018). The "green" human resource management (GHRM), known as "environmental" human resource management, is considered as an essential tool for the successful implication of the organization's sustainable development strategy (Renwick, Redman, & Maguire, 2013). In fact, the search for reaching a GHRM can be found at the global level since it brings not only benefits for organizations, such as environmental performance (Siyambalapitiya, Zhang, & Liu, 2018; Kim, Kim, Choi, & Phetvaroon, 2019) and sustainable performance (Zaid, Jaaron, & Bon, 2018), but it also motivates individuals to commit in green activities and produce green ideas (Jia, Liu, Chin, & Hu, 2018), in particular the employee commitment towards the environment at the workplace (Luu, 2018).

Employee commitment towards the environment reflects, at its core, individual's internal motivation (Perez, Amichai-Hamburger, & Shterental, 2009). The commitment of employees to the organization is linked with their attachment to the organization and it reflects more specifically the identification with the organizational values and the acceptance of organization's goals and targets (Paillé & Boiral, 2013). Therefore, when a person commits to the environmental goals, she or he has an appropriate change in attitudes and behavior to pursue the green value of the organization. Moreover, their belief towards the inherent benefit of environmental commitment is consolidated and, consequently, they are willing to exert extra effort to obtain the success of organization's green goals (Pinzone et al., 2016). Furthermore, employee environmental commitment is an important component of the whole business environmental commitment, which in turn contributes significantly to enhance the sustainable performance of the firm (Liu, Li, Zhu, Cai, & Wang, 2014).

In fact, the sense of commitment to a socially relevant work has attracted the consideration of scholars in social science (Raineri & Paillé, 2016). The concept of employee environmental commitment is regarded by few prior studies that advanced understanding in this research area, especially in the exploring the GHRM-employee environmental commitment (e.g. Pinzone et al., 2016; Luu, 2018). However, this paper is motivated by the following research gaps. First of all, based on the Social exchange theory (Emerson, 1976), we argue that the environmental policy of an organization may lead the reciprocate behavior of employees, such as their commitment to the environment at work. Yet, the priority of published studies in the field of GHRM has myopically focused on the role of these green practices in enhancing green behavior (e.g. Pham, Tučková, & Jabbour, 2019; Dumont, Shen, & Deng, 2017) and environmental performance (Guerci, Longoni, & Luzzini, 2016; Masri & Jaaron, 2017). Thus, the line of work about the effects of GHRM practices on the employee environmental commitment is still underdeveloped. Secondly, as affirmed by Blumberg and Pringle (1982), the Ability-Motivation-Opportunity (AMO) framework suggests multiple configurations to

investigate enhancements of interactions of GHRM practices including two-way and three-way effects (e.g. green training x green reward, green training x green reward x green organizational culture) to the employee environmental commitment. However, this process has not been fully comprehended by previous studies.

Consequently, the main objectives of this paper are to explore the GHRM-employee environmental commitment relationship by applying the quantitative approach in order to answer the main research questions driving this work:

– RQ1: Do GHRM practices affect employee commitment towards the environment or not?
– RQ2: Do interactions of GHRM practices affect employee commitment towards the environment or not?

Multiple contributions are expected from the research,

– The paper is the first to investigate two-way and three-way interactive influences of GHRM practices on employee environmental commitment at the workplace. The findings of this work partially call for AMO framework application, aiming to explore the role of interactions of GHRM practices within the organization's sustainability.
– This research also contributes to existing literature in the field of GHRM by employing Social exchange theory to understand the direct influences of GHRM practices on employee commitment to the environment.

The study is organized as follows. After the introduction, the literature review and hypotheses development are provided in Section 1. Section 2 illustrates the applied methodology through research design, sample size, data collection, data analysis, and measurement. Subsequently, the paper presents the empirical results in Section 3 and discuss the results in Section 4. Finally, authors conclude this study, providing both theoretical and practical implications, and it points out limitations, and further studies that may be useful for both academicians and practitioners.

1. Literature review

1.1. Green human resource management and employee commitment towards the environment

Green human resource management (GHRM) is generally defined as the HRM aspects of environmental management (EM) (Renwick et al., 2013). At the same time, GHRM can be seen as a new research aiming to understand environmental management through the deployment of HRM practices in organizations (Jackson & Seo, 2010; Jabbour, 2015). Currently, based on the AMO theory, GHRM application has been increasingly studied by scholars to (1) develop green abilities (A), such as green training; (2) motivate green employees (M), such as green reward; and (3) provide green opportunities (O), such as green organizational culture (e.g. Tang, Chen, Jiang, Paillé, & Jia, 2018; Pham et al., 2019; Masri & Jaaron, 2017). In this study, authors employ these three components – green training, green reward and green organizational culture – to gauge GHRM practices.

Employee commitment to the organization is an HRM outcome of the same organization, showing the interested attitude of an employee, his or her sharing the organization's values, the acceptance of its goals, and his or her significant efforts at the workplace (Paillé

& Mejía-Morelos, 2014). This reflects employee's internal motivation and responsibility, and is not mentioned in the requirements for jobs in the organization. In the green context, Perez et al. (2009) also addressed employee's internal motivation, defining employee environmental commitment "as an internal, obligation-based, motivation" towards the environment. Similarly, Raineri and Paillé (2016) denoted a sense of attachment and responsibility of employees to environmental issues. Thus, this concept reflects employee's internal motivation and it is viewed as employee's discretionary sense of commitment to the environmental aspect (Luu, 2018).

1.2. Impact of GHRM practices on employee commitment towards the environment

The paper employs the Social exchange theory (Emerson, 1976) to argue the direct effects of GHRM practices on employee commitment towards the environment. Following to this theory, an employee, who perceives benefits from their organization's actions, feels obligated to reciprocate them (Jiang, Lepak, Hu, & Baer, 2012), and this stresses the importance of studying the main effects of reciprocity on long-term relationships among stakeholders within an organization (Paillé & Mejía-Morelos, 2014). Employee attitude is an important part of HRM activities, and hence a good HRM strategy may result in positive and significant relations of employee reactions at the workplace, such as employee commitment (Nishii, Lepak, & Schneider, 2008; Katou, Budhwar, & Patel, 2014). In the environmental context, although GHRM-employee environmental commitment relationship has not been investigated by many empirical studies, Perez et al. (2009) argued that paying attention to develop an environmental management system can strengthen green attitudes of employees who are environmentally committed at work. This happens because employees working in green-oriented organizations, must change their norms, values, and mindsets changed to adapt to the organization's green culture and goals (Pinzone et al., 2016). Moreover, their active and regular participation to the environmental activities in the organization reinforces their understanding about corporate environmental targets and policies, which in turn result in the sense of attachment and responsibility as well as the commitment of the employee to the environmental issues (Jabbour & Santos, 2008). Thus greening HRM practices (e.g., green training, green reward) may stimulate employee environmental commitment thanks to the increase in knowledge sharing, and employee's perception of GHRM (Ren et al., 2018; Harvey, Williams, & Probert, 2013).

For instance, training for the environment gives employees the environmental understanding and helps them to absorb and adopt green mindsets and skills that yields enduring employee commitment for the environment (Perron, Côté, & Duffy, 2006). Empirically, Pinzone et al. (2016) pointed out the effect of green competence building (e.g., training) on collective green commitment. Similar to green reward, Ren et al. (2018) argued that compensation is viewed as a component in boosting green-specific outcome of the organization such as employee environmental commitment. Luu (2018) also found out that rewarding for employee's environmental behavior has a relation with the employee commitment towards the environment. With green organizational culture, namely when an organization pays attention to green culture development, their top management develops systems for training,

performance appraisals, and rewards (Jabbour & Santos, 2008), and provide green policies and practices to attract more employees with ecological orientation (Fernandez, Junquera, & Ordiz, 2003) and to encourage employees to make green suggestions (Renwick et al., 2013; Pham, Phan, Tučková, Vo, & Nguyen, 2018). This brings out positive changes to employee's green knowledge, awareness and skills, and consequently it leads to the adoption of green attitudes of employees at the workplace (e.g. employee environmental commitment). Therefore, the study hypothesizes that:

- H1a: Green training has a significant effect on employee commitment towards the environment
- H1b: Green reward has a significant effect on employee commitment towards the environment
- H1c: Green organizational culture has a significant effect on employee commitment towards the environment

In order to argue the interactive effects of GHRM practices on employee commitment towards the environment, the AMO framework (Blumberg & Pringle, 1982) is employed. Siemsen, Roth, and Balasubramanian (2008) also suggested the existing interactions of three dimensions (ability, motivation, and opportunity) that should be theoretically supported by AMO theories. Following to this framework, HRM practices to develop employee's ability (e.g. training), to motivate employees (e.g. reward), and to create opportunities for them (e.g. organizational culture) that can occur contemporaneously to explain the organizational performance. Thus, interactions such as (ability x motivation), (ability x opportunity), and (ability x motivation x opportunity) contribute to enhance the organizational performance. Here, organizational performance is a multidimensional conceptualization (Jiang et al., 2012). Others are likely to view the HR outcomes, such as employee's attitude and behavior (e.g. employee commitment), as part of the organizational performance (Jiang et al., 2012). There are prior studies that apply the AMO framework to investigate interactive effects of HRM practices on HR outcome, such as, commitment, knowledge sharing, organizational citizenship behavior, etc., (e.g. Siemsen et al., 2008; Reinholt, Pedersen, & Foss, 2011). For example, Reinholt et al. (2011) provided a theoretical framework based on AMO theories to explore the two-way and three-way interactions of knowledge-sharing ability (ability), autonomous motivation (motivation), and network centrality (opportunity) that influence employee's knowledge of sharing behavior. However, the interactive effects of HRM practices on the organizational performance, in particular the HR outcome, lack of prior studies in the green context. Thus, following the aforementioned reasoning, it is expected to discover the interactions of GHRM practices-green training (ability)-green reward (motivation)-green organizational culture (opportunity) related to the improvement of employee commitment to the environment.

Specifically, green training helps employees receive and sustain the environmental knowledge and skills (Jabbour, Santos, & Nagano, 2010; Govindarajulu & Daily, 2004). Based on Macduffie's (1995) argument, besides the learned knowledge and skills, if employees are stimulated by organizations (e.g. green reward policy) and have the interest to involve green practices, they are more concerned in the discretionary efforts, for example, in the commitment towards the environment at work. Since HRM tries to motivate employees, for example with a green reward policy, it is seen as extrinsic factor that influence positively employee's

intrinsic motivation (Bos-Nehles, Van Riemsdijk, & Kees Looise, 2013). Similarly, following to Lepak, Liao, Chung, and Harden (2006), the lack of creating opportunities for employees (e.g. developing green organizational culture) will put a limit on their potential, it will impact negatively employee's willingness and environmental commitment at the workplace even though they are trained in favor of the environment. Moreover, if a company focuses on green-oriented management, it makes opportunities for employees and encourages them to involve into environmental activities (Renwick et al., 2013), and to build green systems (e.g. training, appraisal, reward, etc.) (Jabbour & Santos, 2008). This boosts employees who have enough green knowledge and skills through training program to be more responsible and attached to environmental issues. Thus, interactions of GHRM practices, including (green training x green reward) and (green training x green organizational culture), may influence employee commitment towards the environment. Consequently, this paper hypothesizes that,

– H2a: There is a two-way interactive effect of green training and green reward on employee commitment towards the environment.

– H2b: There is a two-way interactive effect of green training and green organizational culture on employee commitment towards the environment.

Based on Blumberg and Pringle's (1982) argument, if one of the three dimensions (green training, green reward, green organizational culture) is absent or has a lower value, employee environmental commitment may decrease. For instance, green training provides the necessary environmental knowledge and skills to employees, consequently, it pursues the green initiative and activities and motivates them to participate responsibly in the environmental projects. At the same time, trained knowledge and skills help employees understand how to participate effectively in green opportunities at work. Thus, training program may stimulate employees to commit to the environmental project at the workplace. Moreover, this commitment may be boosted when a green reward policy and a green culture are established simultaneously. We, therefore, hypothesize that

– H2c: There is a three-way interactive effect of green training, green reward, and green organizational culture on employee commitment towards the environment.
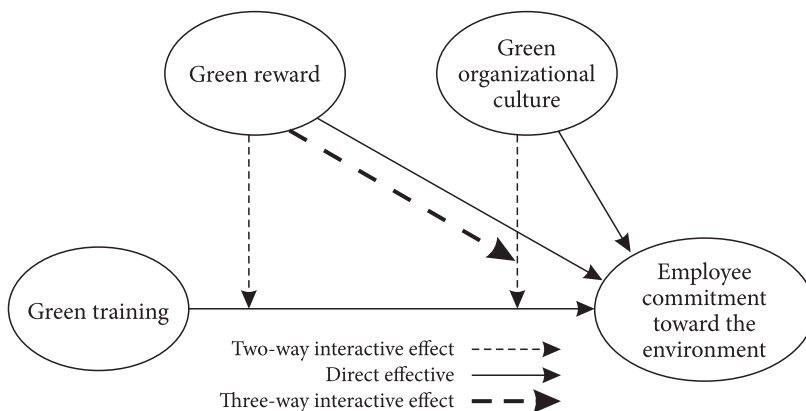

Figure 1. The research model

2. Method

2.1. Research design, data collection and analysis

A quantitative approach was applied in this study aiming to infer the population's characteristic, attitude, or behavior from a sample (Creswell, 2003). The main objective of the research is to evaluate the direct and interactive effects of GHRM practices on employee commitment towards the environment. Thus, the authors employed the survey strategy and the questionnaire technique, and, in light of this strategy, it is appropriate to apply a quantitative study and to test the relationships between variables (Saunders, Lewis, & Thornhill, 2009). Participants work in 4–5 star hotels in Vietnam and have at least one working experience year in his/her hotel. The "Strategy on green growth in the period of 2011–2020 and vision to 2050" was approved by Prime Minister of Vietnam to implement a sustainable development. Pham et al. (2019) state that tourism companies, such as hotels in Vietnam, have been following the environmental regulations and have been strictly monitored by authorities. In fact, the environmental policies have been highlighted in 4–5 star hotels where the corporate social responsibility (CSR) policies are addressed with the aim of protecting the environment. These hotels also follow ISO:14001 and TCVN: 4391–2015 (Vietnamese hotel classification standard) (Pham et al., 2019). Therefore, managers and employees working in these hotels have more opportunities for being involved in green activities.

Authors conducted a questionnaire survey. The original questionnaire was developed in English based on the literature. In this study, however, data collection was performed through a Vietnamese questionnaire. To ensure the semantic equivalence between the English and the Vietnamese versions, two native researchers translated the English questionnaire into Vietnamese as well as cross-checked the translated versions. Later, the updated and modified Vietnamese questionnaire was back-translated into English by those researchers. Finally, we compared the original English version and the back translation version to find out and eliminate inconsistencies in order to obtain the final English questionnaire. Data collection was conducted by distributing the structural questionnaire with closed questions to the respondents both in paper and via e-mail. After having checked carefully the received questionnaires, 209 valid responses became the dataset for the analysis. According to the number of the structural paths shown in Figure 1, the sample size of 209 is consistent with Hair, Hult, Ringle, and Sarstedt's (2014) argument that suggests the sample size should be calculated more than 10 times the largest number of structural paths directed at a particular construct in the structural model. Table 1 shows the profiles of the sample.

Concerning the data analysis, the authors first employed SMART-PLS to assess internal consistency, reliability, convergent validity, discriminant validity of the measurement, correlation matrix, structure model, and the test three hypotheses H1a, H1b, and H1c. Later, the PROCESS model was utilized to investigate the interactive effects of GHRM practices on employee environmental commitment in order to test hypotheses H2a, H2b, and H2c. The application of both the PLS and the PROCESS model had already been employed by other published studies which utilized moderation and moderated-mediation models (e.g. Nguyen, Mia, Winata, & Chong, 2017). The PROCESS model was first developed and added to SPSS and SAS software by Hayes (2013). It is easier to estimate the regression equation because

Table 1. Sample demographics

		Frequency	Percentage
Type of hotel	Hotels managed by Vietnamese organization	166	79.4
	Hotels managed by international organization	43	20.6
Business year	1 to under 10 years	109	52.2
	10 to under 20 years	78	37.3
	20 years and over	22	10.5
Gender	Male	84	40.2
	Female	125	59.8
Position	Employee	95	45.5
	Group leader, senior employee	77	36.8
	Department manager	37	17.7
Working experience	1<5 years	125	59.8
	5<10 years	72	34.5
	≥10 years	12	5.7

of its convenience and its easy-to-use compared to the popular models like the structural equation modeling (SEM) (Hayes & Rockwood, 2017). Moreover, the PROCESS model is consistent with those studies focusing on the interactive effects like this work. This requires the application of the conditional process analysis with combinations of many equations in the model to test the hypotheses (Hayes, 2018). Consequently, both SMART-PLS and PROCESS model can be applied in this study.

2.2. Measurement

All constructs applied were measured with five-point Likert scales. These measures were adapted from previous studies published in prestigious journals such as the Journal of Cleaner Production, the Journal of Business Ethics, and the International Journal of Operations & Production Management.

Authors used seven items developed by Raineri and Paillé (2016) to measure Employee commitment towards the environment (EEC). The exemplary question items are the following: "I really care about the environmental concern of hotel", "The environmental concern of hotel means a lot to me", and "I feel a sense of duty to support the environmental efforts of hotel".

Green training (TRA), measured by an index advanced by Daily, Bishop, and Massoud (2012) and Jabbour (2015), has six items such as "An adequate amount of environmental training is provided to employees", "Employees can have opportunities to be trained on environmental issues", and "Employees receive environmental training frequently". Green reward (REW), measured by the scale of Jabbour et al. (2010), Masri and Jaaron (2017), includes four items, e.g. "Link suggestion schemes into reward system by introducing rewards for innova-

tive environmental initiative/performance", and "Hotel has non-monetary rewards for the environmental achievements". Similarly, five items cited from the measurement of Jabbour et al. (2010) and Masri and Jaaron (2017) were employed to measure Green organizational culture (OGC), such as "Environmental dimension is considered as one of priorities", "Hotel's vision/mission statements include environmental improvement".

Authors applied the SMART-PLS software to assess the measurement. The assessment of the measurement model was analyzed through a confirmatory factor analysis. Necessary indicators, for example factor loading, composite reliability and Cronbach's alpha (Table 2), and average variance extracted (EVA) and discriminant validity (Table 3), are chosen to measure the model. Firstly, the composite reliability and Cronbach's alpha values suggest reasonable reliability as that values of all constructs are greater than 0.7 (Nunally & Bernstein, 1994). Secondly, the factor loadings are higher than the rule of thumb of 0.7, and all AVE values exceed the 0.5 threshold (Hair, Ringle, & Sarstedt, 2011). Thus, the convergent validity is acceptable for this study. Moreover, authors tested the discriminant validity for all latent variables by utilizing the Fornell-Lacker criterion. Fornell and Larcker (1981) stated that the square root of AVE for each construct is greater than the correlations of all other constructs. Table 3, thus, concludes that there is an adequate level of discriminant validity.

3. Results

3.1. Hypotheses testing

After the confirmation of the reliability and validity of the model by the authors, the next step consists in assessing the model and testing the hypotheses. Firstly, this work evaluates the collinearity of the model. The recommended VIF values should be less than 5 (Hair, Black, Babin, Anderson, & Tatham, 2006). The results range from 1.583 to 1.818 showing that there are no collinearity problems interfering with these results (Table 4). Furthermore, the coefficient of determination (R^2 value) is used to evaluate the model. In Table 4, the results show that employee commitment towards the environment (EEC) can be explained with 52.26% of the amount of variance by the predictor variables (green training-TRA, green reward-REW, and green organizational culture-OGC).

As illustrated in Table 4, TRA (b = 0.294; p = 0.000), REW (b = 0.148; p = 0.023), and OGC (b = 0.209; p = 0.001) have positive and significant effects on EEC. Thus, hypotheses H1, H2, and H3 are supported (at the p = 0.05 level). Based on the analysis in Table 4, the interaction of TRA and OGC (b = 0.281; p = 0.000) influences positively EEC, supporting the hypothesis H2b. However, the interactive effect of TRA and REW (b = 0.082; p = 0.306) on EEC does not occur. This means that the hypothesis H2a is rejected. Furthermore, the three-way interaction of TRA, REW, and OGC (b = 0.204, p = 0.014) has a positive and significant influence on EEC. Therefore, the hypothesis H2c is totally supported.

3.2. The conditional effects at the values of the moderator(s) and visualization

The hypotheses testing shows two-way interactive effect of (green training x green organizational culture), and three-way interactive effect of (green training x green reward x green

Table 2. Factor loading, Composite reliability and Cronbach's alpha assessment

Constructs/ Items	FL	CR	CrA
Green training (TRA)			
An adequate amount of environmental training is provided to employees	0.863		
Employees can have opportunities to be trained on environmental issues	0.775		
Employees receive environmental training frequently	0.807	0.926	0.904
Employees use their environmental training effectively	0.829		
Employees have opportunities to use environmental training	0.821		
An adequate assessment of employee's green performance after training	0.839		
Green reward (REW)			
Link suggestion schemes into reward system by introducing rewards for innovative environmental initiative/performance	0.832		
Hotel has non-monetary rewards for the environmental achievements	0.807	0.905	0.861
Hotel has monetary rewards based on the environmental achievements	0.825		
Environmental performance is recognized publically	0.893		
Green organizational culture (OGC)			
Environmental dimension is considered as one of hotel's priorities	0.872		
Hotel's vision/mission statements include environmental improvement	0.753		
Top management clarifies information and values of environmental management through the organization	0.815	0.910	0.887
Top management provides punishment system and penalties for noncompliance in the environmental management	0.793		
Top management actively supports environmental practices	0.857		
Employee commitment towards the environment (EEC)			
I really care about the environmental concern of hotel	0.830		
I would feel guilty about not supporting the environmental efforts of hotel	0.798		
The environmental concern of hotel means a lot to me	0.769		
I feel a sense of duty to support the environmental efforts of hotel	0.722	0.912	0.887
I really feel as if my hotel's environmental problems are my own	0.799		
I feel personally attached to the environmental concern of hotel	0.721		
I strongly value the environmental efforts of hotel	0.766		

FL – Factor loading, CR – Composite Reliability, CrA – Cronbach's Alpha

Table 3. Correlations, AVE, and Discriminant validity of constructs

	Mean	S.D	AVE	TRA	REW	OGC	EEC
TRA	3.52	0.80	0.677	0.823			
REW	3.55	0.70	0.706	0.582**	0.840		
OGC	3.58	0.78	0.671	0.588**	0.496**	0.819	
EEC	3.62	0.70	0.597	0.608**	0.541**	0.608**	0.773

The inter-construct correlations are presented in the off-diagonals while the values for the square root of the AVE are placed in the main diagonal in the matrix in bold font. ** p_value < 0.001.

Table 4. Direct and interactive effects, and VIF values

Predictors	EEC				VIF values	Conclusions
	Coefficient (b)	S.E	T	P_values		
Intercept	3.558	0.041	86.016	0.000		
TRA	0.294	0.061	4.850	0.000	1.818	H1a supported
REW	0.148	0.064	2.296	0.023	1.583	H1b supported
OGC	0.209	0.062	3.381	0.001	1.606	H1c supported
TRA × REW	0.082	0.080	1.026	0.306		H2a rejected
TRA × OGC	0.281	0.078	3.616	0.000		H2b supported
TRA × OGC × REW	0.204	0.082	2.482	0.014		H2c supported
F value	31.428					
P value	0.000					
R^2(%)	52.26%					

organizational culture) on employee environmental commitment. In order to understand better these interactions, the paper should estimate the conditional effects at moderator(s) and test whether those conditional effects are different (Hayes & Rockwood, 2017).

3.2.1. Two-way interactive effect (green training and green organizational cuture)

As illustrated in Table 5, there are strong and significant effects of TRA on EEC at high value of OGC (b = 0.479, p = 0.000) and average value of OGC (b = 0.404, p = 0.000), which have very high slopes (see two broken lines, Figure 2). Meanwhile, a weaker effect is supported under the condition of low OGC (b = 0.278, p = 0.000), where its slope is rather low (see bold line, Figure 2).

3.2.2. Three-way interactive effect

Based on the analysis in Table 6, TRA's effects on EEC are not significant at three conditions of low-OGC and high-REW (b = 0.019, p = 0.863), average-REW (b = 0.058, p = 0.491), and low-REW (b = 0.136, p = 0.109). Moreover, these results are clearer when visualizing very low slopes of its effects at three conditions (Figure 3a). Meanwhile, the positive effects are supported under other conditions.

Specifically, in Table 6, at both conditions of high-OGC and high-REW (b = 0.698, p = 0.000) and of high-OGC and average-REW (b = 0.574, p = 0.000) TRA has two strongest positive influences on EEC. These results are visualized in Figure 3c (see broken lines), where the slopes are highest. Moreover, TRA's positive effects on EEC are shown under conditions such as average-OGC and high-REW (b = 0.444, p = 0.000), and average-OGC and average-REW (b = 0.381, p = 0.000) which slopes are neither high or low (see broken lines, Figure

3b). By contrast, there are weaker effects of TRA on EEC at the remaining conditions including high-OGC and low-REW (b = 0.325, p = 0.017), and average-OGC and low-REW (b = 0.254, p = 0.008), where its slopes are rather low (see bold lines in Figure 3b, 3c).

Table 5. Conditional effect at the values of OGC

Moderators	The focal predictors				
OGC	Effect (b)	T	P_value	LLCI	ULCI
LOW	0.278	4.589	0.000	0.158	0.397
AVERAGE	0.403	6.411	0.000	0.279	0.528
HIGH	0.479	5.600	0.000	0.310	0.647

Table 6. Conditional effects at values of OGC and REW

| Moderators		The focal predictors				
OGC	REW	Effects (b)	T	P_value	LLCI	ULCI
LOW	LOW	0.136	1.612	0.109	−0.030	0.302
LOW	AVERAGE	0.058	0.691	0.491	−0.108	0.224
LOW	HIGH	0.019	0.172	0.863	−0.203	0.242
AVERAGE	LOW	0.254	2.665	0.008	0.066	0.442
AVERAGE	AVERAGE	0.381	5.555	0.000	0.245	0.516
AVERAGE	HIGH	0.444	4.915	0.000	0.266	0.622
HIGH	LOW	0.325	2.399	0.017	0.058	0.593
HIGH	AVERAGE	0.574	5.804	0.000	0.379	0.769
HIGH	HIGH	0.698	5.517	0.000	0.449	0.948
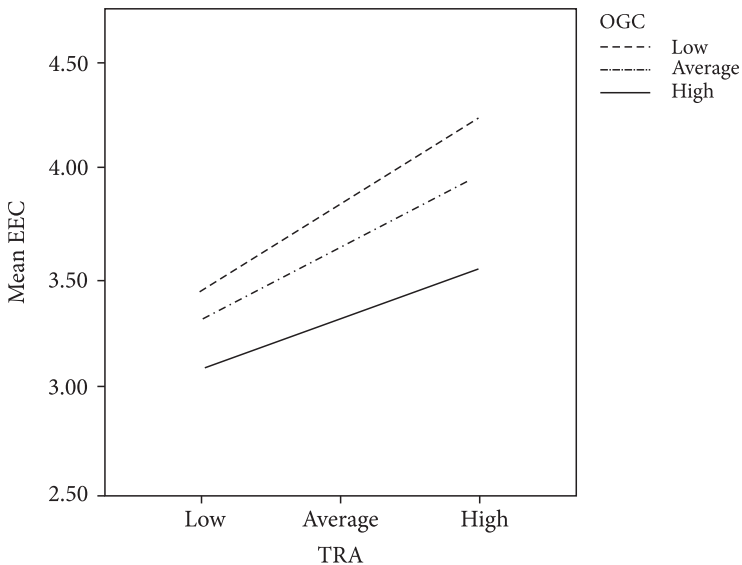
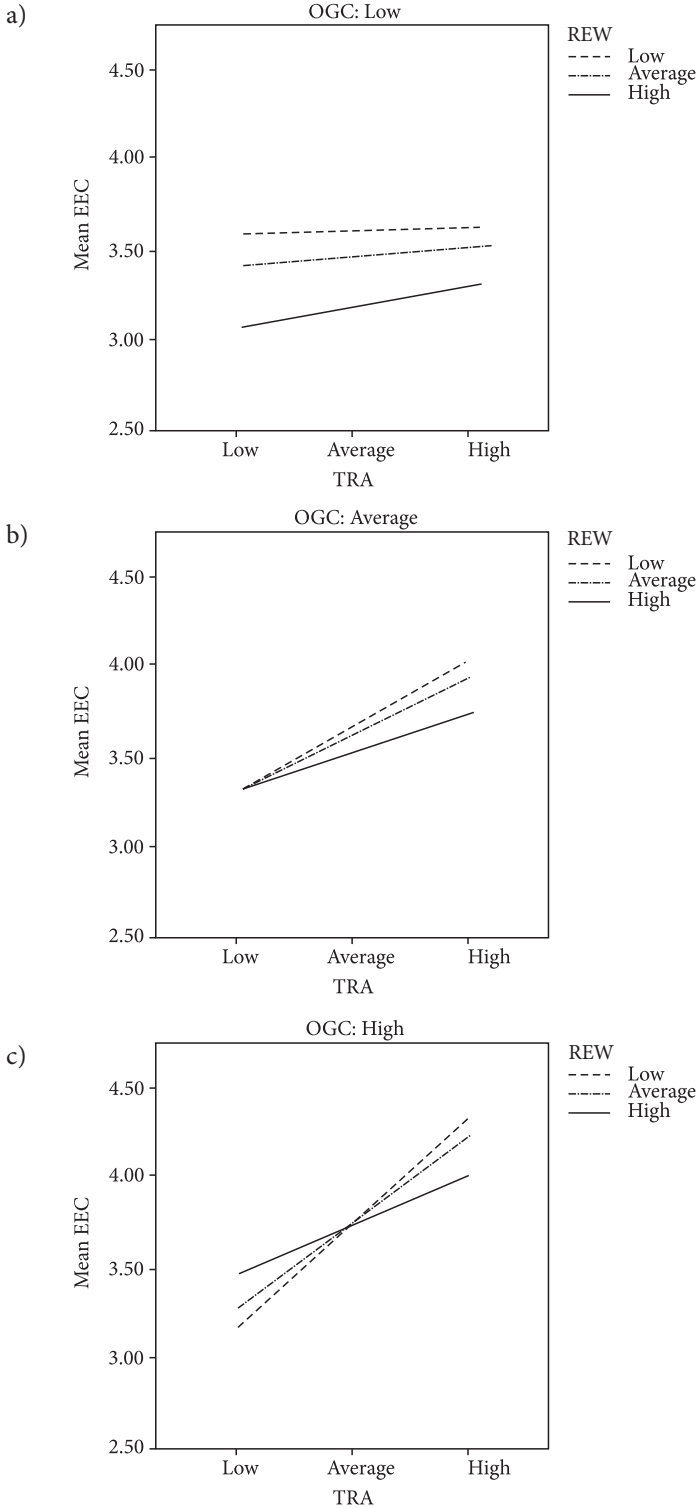Figure 2. The conditional effect in OGC

a)

b)

c)

Figure 3:
a) The conditional effect in LOW-OGC;
b) The conditional effect in AVERAGE-OGC;
c) The conditional effect in HIGH-OGC

4. Discussion

By applying the Social exchange theory and the AMO framework, this study investigates the relationships between GHRM practices (green training, green reward, and green organizational culture) and employee commitment towards the environment, especially the interactions of these green practices, through a quantitative research in the hotel industry. The results of the analysis aim to answer two research questions.

The first research question considered the hypothesis of GHRM practices influencing directly employee environmental commitment at work. The findings provide convincing evidence to support hypotheses H1a, H1b, and H1c, and thus, green training, green reward, and green organizational culture are necessary factors to enhance employee commitment in the environmental activities in organizations. These results are consistent with the Social exchange theory and arguments of Nishii et al. (2008) and Katou et al. (2014), in which proposing a suitable HRM policy may lead to positive employee reactions such as their commitment. Results are also in line with Perez et al. (2009) argument who emphasized the importance of the environmental management system in boosting green attitudes of employees. Although there are very few published studies that explore effects of these GHRM practices on employee environmental commitment, the findings support their suggestions. For instance, the research conducted by Pinzone et al. (2016) who pointed out that developing green competence (e.g., green training) positively influence collective green commitment in organizations, and by Luu (2018) that results show that reward policy for green performance can stimulate employees to commit to environmental activities at work. Thus, the findings suggest that a possible way to strengthen employee environmental commitment at work is to provide green policies such as training and reward programs to employees, and to develop a green culture in their hotels and in organizations in general.

The second research question was related to whether there are interactive effects of three GHRM practices on employee commitment towards the environment or not. The findings bring evidence to support hypotheses H2b and H2c. These results are appropriate within the AMO framework (Blumberg & Pringle, 1982) and with the argument of Siemsen et al. (2008) which suggested the interactions of three dimensions (ability – green training, motivation – green reward, and opportunity – green organizational culture) should be applied to explain HR outcomes such as employee commitment. Moreover, the findings of this study emphasize the importance of green organizational culture in two-way interactive effect (TRA x OGC) and three-way interactive effect (TRA x REW x OGC) on the dependent variable. This supports the suggestion of Lepak et al. (2006) who implied that the lack of providing opportunities for employees, such as green organizational culture, leads to a negative influence on their attitude and behavior, especially on environmental commitment. However, the strength of interactive effects on employee environmental commitment depends on the different level of the moderator(s). Specifically, in the two-way interaction model, the influence of green training on employee commitment for the environment, at both levels of high and average green organizational culture, is much greater than at the low level. Similar to the three-way interaction model, the significant interactive influences are recognized if green organizational culture is applied at the average and high levels. For instance, at the conditions of high green organizational culture and high/or average green reward, the effects will be

undoubtedly remarkable. Nevertheless, this study provides no evidence to support hypothesis H2a. This means that the relationship between green training and employee environmental commitment is not moderated by green reward policy. The finding contradicts Macduffie's (1995) suggestion, which argued that individuals should be stimulated by organizations (e.g. though green reward policy) who should encourage them to be more concerned in discretionary efforts (e.g. the environmental commitment in the workplace) even though they are entirely equipped with the necessary knowledge and skills (e.g. through training). Thus, a green reward is recognized as a direct predictor variable in enhancing significantly the environmental commitment of employees, but this green practice is not a strong catalyst to lead a change of green training's effect on employee commitment in green activities. We argue that the enhancement of employee environmental commitment, by training the environmental knowledge and skills of employees, will be greater if the green reward policy is applied in organizations which have a clear green strategy, vision, and culture. Since the green reward policy may be seen as top management's respect to subordinate, this motivates employees to learn actively and voluntarily what they are taught in order to improve their green ability and to change their attitude in line with the pursued organizational culture. The results in Table 5 and 6 also support the argument highlighting the importance of green organizational culture in interacting with green reward and green training to boost employee commitment towards the environment. Consequently, to improve employee environmental commitment at work, organizations should concentrate on interactions of the aforementioned GHRM practices, especially the essential role of green organizational culture development.

Conclusions

This research aims to exam the effects of GHRM practices (green training, green reward, and green organizational culture) on employee commitment towards the environment. In this study, authors emphasize especially the role of interactions of these green practices to answer the argument of Blumberg and Pringle (1982) by extending the AMO framework in the green context. Based on the Social exchange theory and the AMO framework, authors expect employee environmental commitment to be influenced by (1) the direct effects of abovementioned GHRM practices, (2) two-way interactive effects (green training x green reward, green training x green organizational culture), and (3) three-way interactive effect (green training x green reward x green organizational culture). A quantitative study is applied by collecting data from employees working in 4–5 star hotels in Vietnam. The SMART-PLS and PROCESS model are utilized for data analysis to answer research objectives. The findings confirm direct and interactive effects of three practices with an exception of a two-way interactive effect of green training and green reward.

The main theoretical contribution of this paper is to provide the body of knowledge about GHRM practices and their important roles by investigating the relationships between GHRM practices and employee environmental commitment, especially the interactions of these practices. Furthermore, this work gives practitioners a guidance in the development of GHRM practices to contribute to the enhancement of the environmental commitment of employees at work.

The contributions are the following. Firstly, by using the Social exchange theory, this study provides a better understanding of GHRM application and it extends the existing literature by investigating the direct effects of GHRM practices on employee environmental commitment in organizations. Published studies have focused on HRM practices that facilitate employee attitude and reactions (Nishii et al., 2008; Katou et al., 2014; Hitka, Kozubíková, & Potkány, 2018). In the green perspective, there few prior study explored this relationship (e.g. Pinzone et al., 2016), even though Ren et al. (2018) argued in the literature that GHRM practices may enhance the environmental commitment at the employee level. The research recognizes the direct effects of green training, green reward, and green organizational culture on employee commitment for green activities. For the practical implication, the findings give insights for organizations in the developing of GHRM practices for employees. Particularly, it is worth noting that developing the environmental training system and environment-oriented culture may stimulate employees to commit the green project. For instance, companies provide frequently the environmental training for employees and create opportunities for them to apply what trained. Also, top management should have policies to support actively environmental activities and translate green target, information, and values of the organization to managerial and employee levels. Moreover, rewarding employee's green performance, such as recognition, non-monetary and monetary rewards, is an important practice to boost employee environmental responsibility at work.

Secondly, exploring the interactive effects of GHRM practices on employee commitment for the environment is a first research which applies AMO framework in green context. This study bridges a gap in the limited literature. As prior studies have not paid attention yet to interactions of GHRM practices, even though a growing number of GHRM-related studies has attracted management scholars, the research was conducted to investigate effects of GHRM practices on employee workplace green behavior (Dumont et al., 2017; Pham et al., 2018; Saeed et al., 2018), and green performance (Guerci et al., 2016; Masri & Jaaron, 2017). The research identifies a two-way interactive effect of green training and green organizational culture and a three-way interactive effect of green training, green reward, and green organizational culture that influence significantly and positively employee commitment towards the environment. Moreover, authors find out the key role for developing green organizational culture in organization. As for the practical aspect, Corporate Social Responsibility has been investigated by business and management scholars (Mercadé-Melé, Molinillo, Fernández-Morales, & Porcu, 2018; Wang et al., 2016), especially in the environmental perspective. It can be seen that going green with HRM practices is an extra responsibility for the corporate, which in turn obtains a competitive advantage in the long-term. Thus, hotels/organizations should concentrate on GHRM practices. Specifically, these green practices can be applied simultaneously to stimulate employee attachment in the environmental project. In other words, the result suggests to the companies that interacting GHRM practices should represent the basis of development of green culture and training program.

Like many other studies, our research also has certain limitations. First of all, this study underlines the Social exchange theory and the AMO framework to support direct effects and interactive effects of GHRM practices on employee environmental commitment. Three GHRM practices including green training, green reward, and green organizational culture

are employed to gauge three GHRM components in order to develop green ability, motivate green employees, and provide green opportunities for employees respectively. However, This research lacks of GHRM practices which should be applied to explore the two abovementioned research questions, such as green recruitment, green performance management, green employee involvement (Renwick et al., 2013; Zaid et al., 2018). Therefore, it would be worth to conduct a further study which may apply these GHRM practices to explore these influences. Secondly, this study provides an insight into GHRM practices and employee commitment for the environment in the hotel industry. This study may have a limitation in generalizing the findings for other industries. The thought of the environmental issue in multi-industries has been addressed by some published papers (e.g. Guerci et al., 2016; Alt & Spitzeck, 2016), but a further study conducted with a bigger sample size, data collected in multi-industries will bring out a better understanding of GHRM application and its roles.

Acknowledgements

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