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THE EFFECT OF GREEN HUMAN RESOURCE MANAGEMENT ON PERFORMANCE OF CERTIFIED ISO 14000 BUSINESSES IN THAILAND

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Abstract

The purpose in this study is to empirically examine the relationships between green human resource management (GHRM), namely: green recruitment & selection, green training & development, green compensation and green performance management and organizational performance via intellectual capital and environment performance. The sample in this research is certified ISO14000 businesses in Thailand. The model is empirically tested by using data collected from mail survey of 242 human resource managers of certified ISO14000 businesses throughout Thailand and using a questionnaire as the instrument. The Ordinary Least Squares (OLS) regression analysis is a method for testing the hypothesized relationships. The results revealed that four practices of green human resource management (green recruitment & selection, green training & development, green compensation & rewards and green performance management) have a positive effect on organizational performance both direct and indirect effect via green intellectual capital and environmental performance. The results strongly confirm that GHRM practices are consider as the key concept for every organization in real truth of the Green. Most importance, the motivation of employee is one of the crucial key factors for improving environmental performance. Theoretical and managerial contributions, conclusion and directions of the future research are further discussed.

Keywords : Green human resource management, Green intellectual capital, Environmental performance, Organizational performance

Introduction

In today's global economy, organizations are increasingly focused on wide-ranging management of economic, social and environmental issues. Nature is being destroyed by the businesses in order to fulfill the human needs so it is essential for all the companies to have a proactive approach towards the controlling of environmental activities all around the globe (Daily et al., 2007; Jabbour et al., 2010). In addition, firms need to emphasize the importance to social and environmental factors along with economical and financial factors in order to support the corporate success in the business (Cherian & Jacob, 2012). One of the major area that have gained standing as target for environment management in literature is human resource. Human resource management (HRM) plays the critical role in embedding sustainability strategy of the organization for creating the skills, motivation, values and trust to achieve a triple bottom line: people, planet and profit (Uddin & Islam, 2015). This process of support from human resource management to environmental management is called green human resource management (GHRM) (Anusingh & Shikha, 2015). GHRM is the use of HRM policies to support the sustainable use of resources within the organization and drive environmental management advantages. The GHRM practices are more powerful tools in making organizations and their operation of HRM green. It is argued that without facilitating the human resource and implementing sustainable policies, going green would be a hard to succeed. However, the green HRM literature is largely in the Western context (Renwick, Redman, & Maguire, 2013, p. 3). Very few studies in Thailand are presented to guide managers in considering the human resource practices in order to exploit in successful GHRM. Thus, the practices under GHRM are worth to be explored and developed for Thailand context.

The research question is how does GHRM have direct and indirect effect on organizational performance?. The main aim of this research is to explain the relationships between GHRM (green recruitment & selection, green training & development, green compensation & rewards and green performance management) and organizational performance via green intellectual capital, and green performance. This research is ordered as follows. The first part is literature survey. The second part details research methods. Next, the results are shown and discussed. Consequently, contribution, limitations, future directions, and conclusion are mentioned.

A brief survey of literature and conceptual development

The theory resourced-based view of the firm (RBV) describes how resources and capability which are values, rare, non-substitute and non-imitate is often treated as strategic tool to achieve competitive advantage (Barney, 1991). When the strategies are effective with rare, valuable and difficult-to-imitate resources, firm is probable to increase an advantage over its competitors and thus

have higher performance. In this study, RBV is explained GHRM as a strategic practices to achieve the competitive advantage of a firm. Similarly, several researches assert that the influence of GHRM has potential to develop organizational well-being, and change into employee values that create green intellectual capital, environmental performance and organizational performance. The research of Sudin (2011) claimed that GHRM practices play an important role in both increasing intellectual capital. Additionally, firms with GHRM as a key success factor to improve productivity tend to enhance environmental performance and lastly, achieve organizational performance (Elsayed & Paton, 2005; Jabbar & Abid, 2014; Masri & Jaaron, 2017). Accordingly, a conceptual model of this research is shown in Figure 1.

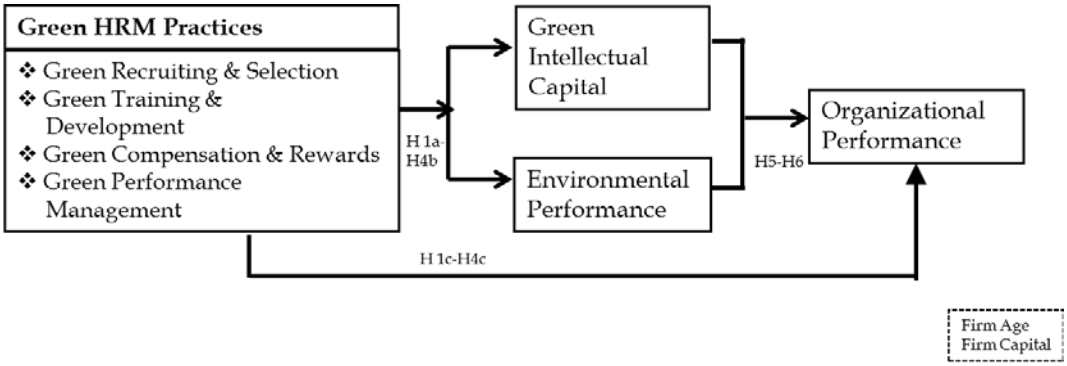

Figure 1 Conceptual framework of GHRM and outcomes

Green human resource management

Many researchers have quantified GHRM as having several meanings and dimensions. According to organizational perspective, GHRM is defined as all tasks and duties complicated in developing, following and creating a system at making the human resource of an organization environment aware of their private and professional lives (Aggarwal & Sharma 2015). Similarly, Marhatta & Adhikari (2013) stated that "*GHRM is the use of HRM policies to promote the sustainable use of resources within organizations and, more generally promotes the causes of environment sustainability*". On the word of Opatha and Arulrajah (2014), GHRM refers to "*the policies, practices and systems that make employees of the organization green for the benefit of the individual, society, natural environment, and the business*". In this research GHRM refers to all HR activities involved in development, implementation and maintenance of a system that intend to making employees green for the advantage of the individual, society, environment and business. The number of scholars broadly specified that distinguished policies in the field of HRM pracyices such as recruitment,

performance management and appraisal, training and development, employment relations and pay and reward are viewed as powerful tools for aligning employees with an organization's environmental strategy (Arulrajah et al., 2015). Likewise, Bangwal & Tiwari (2015) present GHRM processes such as green recruitment, performance management & appraisal, training & development, employee relation, pay & reward and employee exit. Moreover, Sharma (2016) proposed that GHRM practices are green recruitment, green training & development, green performance management and green employee relation. In summary, this research defines the GHRM in four practices: green recruitment & selection, green training & development, green performance management and green compensation & reward. The relationship between GHRM in four aspects and organizational performance are explained as follows:

Green recruiting & selection (RES) refers to the environmental strategy in its recruitment and selection practices by collaborating the employer's activity about greening through recruitment efforts and selection criteria, communicating the organizational preference to recruit candidates who have competency and attitudes to participate in corporate environmental management. Green recruitment performs as reducing paper in recruitment paper free recruitment, online application and online interview. The study of Bhutto & Auranzeb (2016) confirms that green recruitment is the ways to achieve organizational performance and make recruiting & selection process more efficient such as reducing traveling expense through video conferencing, take interviews online. In addition, Masri & Jaaron, (2017) indicated that the process of green recruitment increases their recruiting potential and attract talented employees. The study of Mandid (2012) finds that 47% of employees love to work in the organizations having green practices. Likewise, the study of Rewick et al., (2013) claims that green recruitment practices can increase effective environment management. Moreover, Ashraf, Ashraf & Anam (2015) demonstrate that green recruitment & selection increased effectiveness. The study of Obaid & Alias (2015) assert that the process of green recruitment can produce effective performance. Thus, the hypothesis is proposed as follows:

Hypothesis 1a-1c: Green recruitment & selection is positively related to (a) green intellectual capital, (b) environmental performance, and (c) organizational performance.

Green training & development (TRD) refers to activities to fulfill environmental responsibilities that makes employees more aware of the need for environmental control, increase their ability to adapt to change, and develops a proactive attitude towards environmental issues for achieving environmental goals. Renwick et al, (2013) suggest specific green training and development practices such as training staff to produce green analysis of workspace, application of job rotation to train green managers of the future, provision of specific training on environmental management aspects of safety, energy efficiency, waste management, and recycling, development of green personal skills, and re-training of staff losing jobs in relevant

polluter industries. Therefore, it seems that certain companies have actually realized the importance of green training and development in their organizational for environment performance. Jabbour et al., (2013) indicated that the construct environmental training relates positively and significantly to the environmental management maturity. In addition, Sudin (2011) explained that green training & development is the stocks of intangible properties and capabilities of firm that generate intellectual capital. Likewise, Jabbar & Abid (2014) indicated that green training has a positive impact on environmental performance. Similarly, the study of Obaid & Alias (2015) asserted that green training is positively associated with firm performance. Thus, the hypothesis is proposed as follows:

Hypothesis 2a-2c: Green training & development is positively related to (a) green intellectual capital, (b) environmental performance, and (c) organizational performance.

Green compensation & reward (COR) is defined as performing reward systems for increasing performance by contribution employees a benefit package that rewards employees for green performance, the use of environmental rewards and providing incentives to inspire environmentally friendly activities and behaviors. In the context of GHRM, rewards and compensation can be assumed as potential tools for supporting environmental activities in organizations. Taylor et al., (1992) examined that the companies offer green rewards to their employees for their performance were more inclined to follow the green practices. The study conducted by Berrone & Gomez-Mejia (2009) found that the firms having eco-friendly performance paid their CEOs more than non- eco-friendly firms. Forman & Jorgensen (2001) observed that employee commitment to environment management programs was increased when they were offered compensation to take up duties in relation to environmental responsibility. Likewise the study by Forman & Jorgensen (2001) identified that the employee commitment increased toward the environment management program when they were offered compensation to take environmental responsibilities. Rewick et al., (2008) suggest some green reward management practices such as bonuses, premiums, gifts, publicity, external roles and daily praise increase employee awareness of environmental achievement. Likewise, the study of Arulrajah et al., (2015) indicated that the sustainability of organizational performance is highly dependent on the green reward system. Furthermore, Jabbar & Abid (2014) claimed that reward system significantly enhance employee motivation in environmental initiative that leads to environmental performance. Thus, the hypothesis is proposed as follows:

Hypothesis 3a-3c: Green compensation & reward is positively related to (a) green intellectual capital, (b) environmental performance, and (c) organizational performance.

Green performance management (PEM) is defined as the practice of improving capabilities of individuals and teams by enhancing their professional skills and environmental performance standards that help to achieve the organizational goal. The evaluation green performance of an employee is one

of critical function in successful GHRM in order to sustain environmental performance (Arulrajah et al., 2015). To success in global business strategy, green performance management is also being influenced by the green wave in a possible positive manner. HR department needs to develop the program for waste management, environmental audits, the decline of waste, green information systems and green audit program for green targets goals for measuring employee green performance. In addition, performance management improves the skill of an employee, behavioral competencies, teamwork, diversity, managing change, and collaboration to deal with different environmental problems which would support the company's core values and tend to enhance green intellectual capital (Chen, 2008). Moreover, firms deal with the issue of performance management into environmental responsibilities by concentrating corporate-wide environmental performance standards, and green information systems tend to gain positive environmental performance (Marcus & Fremeth, 2009). The study of Ashraf et al (2015) indicated that green performance management positively related to the firm competitive advantage. Thus, the hypothesis is proposed as follows

Hypothesis 4a-4c: Green performance management is positively related to (a) green intellectual capital, (b) environmental performance, and (c) organizational performance

Green intellectual capital (INC)

Green intellectual capital refers to the total stocks of all intangible assets, knowledge and capabilities of a firm such as green human capital, green physical wealth and green interpersonal wealth that can create environmental values or competitive advantage. Sheopuri & Sheopur (2015) proposed that specialized knowledge and produce high-quality intellectual output, build and sustain a competitive advantage over the long-term. The study of Rani & Mishra (2014) suggests that three types of green intellectual capital have positive effects on corporate environment citizenship as on essential factors of competitive advantages of organizations. Likewise, Sudin (2011) green intellectual capital increases company value and makes business operations more efficient. Thus, the hypothesis is proposed as follows:

Hypothesis 5: Green intellectual capital is positively related to organizational performance.

Environmental performance (ENP)

Environmental performance refers to the degree of protection for environment in terms of output of the firm such as cost saving, pollution reduction, reduce ill-effect and work security. It involves undertaking environment-friendly HR initiatives resulting in greater efficiencies, lower costs and better employee engagement and retention which in turn, help organizations to reduce employee carbon footprints by the likes of electronic filing, car sharing, job-sharing, teleconferencing and virtual interviews, recycling, telecommuting, online training, energy-efficient office spaces (Sheopuri & Sheopuri, 2015).

Moreover, the return of corporate environmental performance is positively associated with firm performance (Russo, 1997). In addition, Wong et al., (2013) indicated that HRM innovation and environmental performance will lead to organizational effectiveness for companies that maintain stability of the company. Thus, the hypothesis is proposed as follows:

Hypothesis 6: Environmental performance is positively related to organizational performance

Data and methodology

In this research, the total of 864 ISO 14000 certified companies in Thailand are a population for hypotheses testing because it helps organizations improve their environmental performance through the more efficient use of resources and reduction of waste, gaining a competitive advantage and the trust of stakeholders. The key participants are HR directors or HR managers of each company. By using Krejcie & Morgan's sample size, the sample size is 269 companies (Krejcie & Morgan, 1970: 607-610). With simple random sampling method, the questionnaires were sent by mail and of the surveys completed and received, only 242 surveys are usable. The effective response rate is approximately 89.95% which Aaker, Kumar and Day (2007) mentioned that 20% of response rate for a mail survey is considered acceptable for analyzing and testing hypotheses. In addition, the non-response bias was tested for two independent samples. A comparison of early responses and late responses data is recommended by Armstrong and Overton (1977). T-tests comparing the first 121 survey responses received with the last 121 survey responses across a firm's four characteristics (i.e. number of employees, number of years in business, amount of capital invested, and sale revenue per year) did not find any significant differences between the two groups. Thus, it appears that non-response bias does not pose a significant problem for this research.

Analysis & findings

Variable measurements

In the conceptual framework, all variables were measured on five point Likert scale, ranging from '1 = strong disagree' to '5 = strong agree', except control variables. The variable measurements of dependent, independent, and control variables are described as follow: *Organizational performance* is the dependent variables of this research. It is measured by sales growth, profitability, market share, performance over competitor and customer acceptance. This construct was adapted from Gilley et al., (2004). *Green recruitment & Selection* was developed from Arulrajah et al., (2015). It is measured by reducing paper in recruitment paper free recruitment, online application and online interview and attitudes to participate in corporate environmental management. *Green training & development* was developed from Arulrajah et al., (2015). *Green compensation & rewards* was developed from Arulrajah et al., (2015), *and Green performance management* was developed from Arulrajah et al., (2015). *Green intellectual capital* was measured by three attributes: green human capital,

green structural capital and green relational capital adapted from Jirawuttinunt (2012) . *Environmental performance* was measured by cost reduction, job security, balance of work-life quality, well- being and satisfaction of worker, and quality of work, adapted from Paille, Chen and Boira (2013). The control variables are also likely to affect the relationships. In this research, there are two of them comprising firm age and firm capital; because different age may present different firm characteristics and resource placement (Chen and Huang, 2009). This study defines firm age as the number of years that the firm has been established. Also, firm capital may impact the capacity of a firm to implement business strategies in order to achieve superior performance (Ussahawanitchakit, 2005) . It is measured by the amount of capital invested.

Validity and reliability test

Confirmatory factor analysis has a high potential to inflate the component loadings. According to the rule-of-thumb of (Nunnally & Berstein, 1994), all factor loadings that are greater than the 0.40 cut-off are statistically significant. Besides, the IOC technique is employed, 3 experts in related field are checked content validity. In this study, the value of IOC is ranged more than 0.6, thus, is considered acceptable (Hair et al., 2010). Furthermore, regarding scale reliability, the cronbach alpha coefficients should be higher than 0.80, as recommended by Hair et al., (2010). The scales for all measurements represent internally consistent results; therefore, they are considered acceptable for analysis due to indicating an accepted validity and reliability. Table 1 indicates the results for both factor loadings, being between 0.699-0.929 thus indicating that there is construct validity. As for reliability testing, Cronbach alpha coefficients for all variables between 0.783-0.937 are considered acceptable.

Table 1 Results of measure validation

Items	Factor Loadings	Cronbach Alpha	Number of Items
Organizational Performance (PER)	0.863-0.900	0.911	6
Green Recruitment & Selection (RES)	0.710-0.881	0.783	4
Green Training & Development (TRD)	0.816-0.882	0.920	6
Green Compensation & Reward (COR)	0.699-0. 857	0.866	6
Green Performance Management (PEM)	0.845-0.929	0.935	5
Green Intellectual Capital (INC)	0.747-0.910	0.921	6
Environmental Performance (ENP)	0.768-0.906	0.937	5

Statistic test

In this research, the Ordinary Least Square (OLS) is employed to analyze all hypotheses because both dependent and independent variables were neither nominal data nor categorical data, OLS is an appropriate method for examining the hypothesized (Hair et al., 2010). After all is said and done, the model of the relationships mentioned above is shown below.

$$\textbf{Equation 1: } INC = \beta_{01} + \beta_1 FA + \beta_2 FC + \beta_3 RES + \beta_4 TRD + \beta_5 COR + \beta_6 PEM + \varepsilon$$

$$\textbf{Equation 2: } ENP = \beta_{02} + \beta_7 FA + \beta_8 FC + \beta_9 RES + \beta_{10} TRD + \beta_{11} COR + \beta_{12} PEM + \varepsilon$$

$$\textbf{Equation 3: } PER = \beta_{03} + \beta_{13} FA + \beta_{14} FC + \beta_{15} RES + \beta_{16} TRD + \beta_{17} COR + \beta_{18} PEM + \varepsilon$$

$$\textbf{Equation 4: } PER = \beta_{04} + \beta_{19} FA + \beta_{20} FC + \beta_{21} INC + \beta_{22} PEM + \varepsilon$$

Results and discussions

Result of descriptive statistics

In this research, about 51.65 percent respondents are male. The span of age of respondents approximately the half is 41-50 years old (42.56 percent). Most of respondents are married (65.29 percent). The majorities of the education level of respondents obtain bachelor's degrees or lower (56.20 percent). For working experiences, approximately 39.67 percent of respondents have been working with the firms for more than 15 years and 27.27 percent has 10-15 years of experience. Moreover, most of respondents received the salary is 70,000-90,000 Baht per month (40.08 percent). The current position of respondents, 48.76 percent is HR manager, 37.66 percent is HR director, 10.74 percent is general manager, and 3.31 percent is others. Most of business types are limited company (67.71 percent). The operation capital is more than 100,000,000 Baht (62.81percent). Most of employees in the organization are more than 200 persons (76.86 percent). The average sales revenues per year are more than 250,000,000 Baht (80.58 percent). The period of time in operation, are mostly more than 15 years (84.71 percent). For environmental reward, 82.23 percent have received reward.

The descriptive statistics and correlation matrix for all variables are shown in Table 2. The research verifies possible multicolinearity problems by studying correlation between the variables included in the regression analysis. In this way, by means of Pearson's correlation coefficient, we can measure the degree of linear association between every pair of variables as shown in Table 2. With respect to possible problems relating to multicolinearity, all the correlation coefficients of independent variables are smaller than 0.8, and all the Variance Inflation Factor (VIF) values are smaller than 10. The problem of multicolinearity of independent variables in this model is therefore not significant (Hair et al., 2010). The VIF ranged from 1.056 – 3.194 are below the cut-off value of 10 recommended by Hair et al. (2010), meaning that the independent variables are not correlated with each other.

Therefore, there are no substantial multicolinearity problems encountered in this study. In addition, Table 2 shows the correlation matrix for all variables used in the regression analysis.

Table 2 Descriptive statistics and correlation matrix for all constructs

Variables	RES	TRD	COR	PEM	INC	ENP	PER
MEAN	3.761	4.145	4.084	4.126	3.855	4.159	3.844
S.D	0.681	0.590	0.627	0.676	0.644	0.584	0.621
RES							
TRD	0.485**						
COR	0.552**	0.653**					
PEM	0.653**	0.696*	0.756**				
INC	0.633**	0.555**	0.686**	0.684**			
ENP	0.550**	0.707**	0.661**	0.657**	0.786**		
PER	0.529**	0.630**	0.666**	0.637**	0.786**	0.782**	

***. p <0.01, * p < 0.05*

The result of GHRM and the outcomes

Table 3 exhibits the OLS regression analysis of GHRM in green recruitment & selection (Hypotheses 1a-1c). The findings show that green recruitment & selection has significant positive effects on green intellectual capital (b_3 = 0.250, p < 0.05), environmental performance (b_9 = 0.133, p < 0.05) and organizational performance (b_{15} = 0.130, p < 0.05). The result is similar to Obid & Alias (2015) indicated that the green recruitment has an impact on firm performance. In addition, Brekke & Nybord (2008) revealed that talent preferred green companies more than brown companies. It can be a central view of maintaining and developing the skills, knowledge and abilities of both individual employees and the organization as a whole. Also, Masri & Jaaron, (2017) confirmed that there is a statistically positive and significant relationship between the green recruitment & selection and environmental performance. Therefore, green recruitment & selection is an essential factor which provides firms to obtain continuing competitive advantage. Thus, ***Hypothesis 1a, 1b and 1c is supported***.

Accordingly, the results in Table 3 relate to green training & development (Hypotheses 2a-2c). The findings reveal that green training & development has significant positive effects on environmental performance (b_{10} = 0.386, p < 0 .05) and organizational performance (b_{16} = 0.269, p < 0 .01), consistent with prior literature. ***Thus, Hypothesis 2b and 2c are supported.*** However, the findings reveal that green training & development has no significant effects on green intellectual capital (b_4 = 0.095, p > 0 .05). This result

can argue by the study of Nolan (2002) who found that training activities appear limited for multi-skills development depend on employees' ability to deal with each situation at work after training and motivation. In addition, a great deal of time and effort have been expended on measuring intellectual capital, on developing systems and tools to manage it, and, to a more limited extent, estimating the impact of training & development on intellectual capital may appear in the long run. (Sheopuri1 & Sheopuri, 2015). ***Therefore, Hypothesis 2a is not supported.***

Next, the results in Table 3 relate to compensation & reward (Hypotheses 3a-3c). The findings show that compensation & reward has significant positive effects on green intellectual capital (b_5 = 0.346, p < 0.01), environmental performance (b_{11} = 0.251, p < 0.01), and organizational performance (b_{17} = 0.340, p < 0.05), consistent with prior studies. Thus, ***Hypotheses 3a, 3b and 3c is supported.***

Following, the results in Table 3 relate to green performance management (Hypotheses 4a-3c). The evidence indicates that green performance management has significant positive effects on green intellectual capital (b_6 = 0.181, p < 0.05), consistent with prior literatures. To sum up then, ***Hypothesis 4a is supported.*** However, the results show that green performance management has no effect on environmental performance (b_{12} = 0.069, p > 0.05) and organizational performance (b_{18} = 0.097, p > 0.05). One potential explanation for this unexpected finding is performance management is considered as evaluating and controlling of the employee may not increase environmental values if the valuation of green performance management does not enhance the company book values, marketability, and create additional profit to the company (Ashraf et al., 2015). Besides, the results of Bloom et al., (2012) show that the use of performance management measures is not a direct predictor of firm performance. Thus, ***Hypotheses 4b*** and ***4c is not supported***. However, this result is consistent with Ashraf et al., (2015) suggesting that green performance management has no direct effect on firm performance but is mediated by competitive advantage construct.

In Table 3, the empirical results significantly support the hypothesized effect of green intellectual capital, environmental performance on organizational performance. The result shows that green intellectual capital has a significant positive effect on organizational performance (b_{21}= 0.477, p< 0.01), according to Sudin (2011) and Erinos & Kahmawati (2017). ***Thus, Hypothesis 5 is supported.*** Then, the finding shows that environmental performance has significant positive effect on sustainable business performance (b_{22}= 0.400, p< 01). These results are consistent with prior studies which indicate that environmental performance has an impact on firm performance. ***Therefore, Hypothesis 6 is strongly supported.***

According to firm age and firm size as control variables, the findings show that firm age and firm capital have no effect on the relationships.

Table 3 Results of OLS regression analysis[a]

Independent Variables	Dependent Variable			
	1	**2**	**3**	**4**
	INC	**ENP**	**PER**	**PER**
H1 : Green Recruitment & Selection (RES)	0.250** (0.005)	0.133* (0.049)	0.130* (0.058)	
H2 : Green Training & Development (TRD)	0.095 (0.069)	0.386* (0.062)	0.269** (0.070)	
H3 : Green Compensation & Rewards (COR)	0.346** (0.069)	0.251** (0.062)	0.340** (0.070)	
H4 : Green Performance Management (PEM)	0.181* (0.073)	0.069 (0.065)	0.097 (0.074)	
H5 : Green Intellectual Capital (INC)				0.477** (0.062)
H6 : Environmental Performance (ENP)				0.400** (0.068)
FA	0.145 (0.085)	-0.048 (0.075)	-0.037 (0.086)	0.015 (0.070)
FC	-0.034 (0.057)	0.110 (0.050)	0.104 (0.058)	0.478** (0.127)
F	55.931	59.382	46.113	131.362
Adjusted R^2	0.578	0.592	0.529	0.684
VIF	3.341	3.341	3.341	1.056

*[a]Beta coefficients with standard errors in parentheses, **. p <0.05, * p < 0.10*

Table 4 The result of hypothesis testing

Item	Hypotheses	Result
H1a-1c	Green recruitment & selection has significant positive effects on green intellectual capital, environmental performance and organizational performance.	H1a Accepted H1b Accepted H1c Accepted
H2a-2c	Green training & development is positively related to (a) green intellectual capital, (b) environmental performance, and (c) organizational performance.	H2a Not Accepted H2b Accepted H3b Accepted
H3a-H3c	Green training & development is positively related to (a) green intellectual capital, (b) environmental performance, and (c) organizational performance.	H3a Accepted H3b Accepted H3c Accepted
H4a-H4c	Green training & development is positively related to (a) green intellectual capital, (b) environmental performance, and (c) organizational performance.	H4a Accepted H4b Not Accepted H4c Not Accepted
H5	Green intellectual capital is positively related to organizational performance.	H5 Accepted
H6	Environmental performance is positively related to organizational performance	H6 Accepted

Implication

Based on the results, this study expands our knowledge of GHRM and organizational performance**.** First, these findings contribute to generate new fact that firms can increase environmental performance by adopting GHRM practices**.** More specially, the findings show that HRM with green practices is the way for firm success**.** Therefore, firm should emphasis on aligning HR activities with environmental strategy to complete superior performance**.** Second, this study considers green intellectual capital as in mediating effect in GHRM-organizational performance relationship which few studies actually link GHRM to intellectual capital**.** As expected, the results report that green intellectual capital mediates the relationship between green GHRM and organizational performance**.** These findings confirm the important role of green intellectual capital in the workplace for organizational achievement**.** Third, this study increases our knowledge of the positive role of environmental performance, especially in the relationship between GHRM and organizational performance**.** Based on the results, environmental performance mediates the relationship between GHRM and organizational performance**.** Our findings suggest that when managers focus on environment issues, firm needs to motivate employees through the implementation of GHRM practices and creating a sense of responsibility among human resources toward the environment performance**.** According to these three main contributions, green intellectual capital and environmental performance are two important mediating variables in the effect of GHRM and organizational

performance**.** In addition, the findings also provide that firms must be aware of the importance of GHRM practices**.** This highlights the importance of taking into environmental behaviors at work**.** Employee may be trained workshop to educate environmental issues**.** Recruitment and selection should place focus on the fit between candidates' personal values regarding to the environment**.** Likewise, employees could be rewarded for motivating the firm to be involved in protecting environment**.** Finally, the study indicates that adopting GHRM practices at strategic level is essential to the achievement of organizational performance under the condition that all staffs are engaged in environmental sustainability**.**

Summary

The findings illustrate partial support for hypotheses from the conceptual framework. In general, it shows empirical suggestion that green recruitment & selection, green training & development and green compensation & rewards have strong direct effect on environmental performance and organizational performance. However, green performance management has an indirect effect on organizational performance via green intellectual capital. It is evident that organizations with green HRM are likely to improve green intellectual capital, environmental performance and organizational performance. This research is intended to expand the theoretical contributions of prior knowledge and literatures of GHRM practices. Moreover, the resource-based view of firm is integrated explaining the overall link between variables in the model. In addition, this research provides some relevant managerial implications. The results suggest that firms focus on GHRM as a strategy can increase organizational performance. Therefore, the executives must put more emphasis on factors of GHRM that aligns with a strategic goal by concentrating on GHRM ever more. In this research, the most interesting aspect of these results of firms is the conducts in which green recruitment & selection, green training & development and green compensation & rewards are direct links to organizational performance. Thus, the executives should clearly understand and enhance them within the organization for gaining GHRM as a strategy. As such, this research has presented successful GHRM associate with organizational performance in Thailand context.

Limitation and direction for future research

Regarding to the research methodology, this research has some limitations that should be presented. Firstly, this research collecting data by questionnaire from a whole ISO certified business, thus, future research should focus on specific business type which might provide different results from this research. Secondly, based on the finding, some constructs found no relationships supporting hypothesis, further study may find practical reasons by reviewing various literatures. In addition, to better clarifying un-expectation relationship of the model, an in-depth interview with manager/director in future research

would be helpful to understand in GHRM phenomenon completely.

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Sumittra Jirawuttinunt is currently assistant professor and lecturer in Management and researcher in Management Research Unit of Mahasarakham Business School, Mahasarakham University. She would like to thank Mahasarakham Business School, Mahasarakham University for funding this research.

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