

# Investigation on Sustainability through Human Resource Management (HRM) functions in Malaysian Manufacturing Industry by Firm Size

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Green Human Resource Management is an emerging concept to maintain environmental resources to create green strategies and resource productivity. Aligned with that concept, the green human resource management policies promote a resources optimization within the organization and more broadly. However, past researches justify that differences occur between smaller and larger companies in achieving sustainability goals. Therefore, the research objective is to investigate if the organization sizes supports the implementation of green human resources management practices to ensure environmental sustainability. To achieve the key objectives, the researcher obtained the total of 470 ISO 14001 certified manufacturing list from the Federation of Malaysian Manufacturer (FMM). The simple random sampling method was adopted to select the 212 samples on the sorted list. Finally, the researcher has successfully collected 221 samples from the respondents with 50% of estimated response rate. Surprisingly the results showed that although manufacturing companies in Malaysia are practicing green training and development and green work culture, they are still left behind in recruitment, reward and compensation practices, green assessment, and green empowerment practices. The future recommendations and limitations of the study have been discussed.

**Key words:** *Green Human Resource Management (GHRM), ISO 14001, Survey, Sustainable performance, Malaysia.*

## Introduction

Green Human Resource Management (HRM) has gained popularity among scholars, practicing managers and policy makers due to its impact on business sustainability. The issues related to ecosystem destruction, natural resources depletion, global warming, loss of biodiversity, waste production and disposal have pushed governments and organizations to seriously concerns in shifting their businesses towards meeting the sustainability values (Porter & Kramer, 2007; Charles, Schmidheiny, & Watts, 2017).

Green Human Resource Management is the use of green technology philosophy in managing the environment as defined by Wehrmeyer (2017). In addition, it can also be said as an accountability of organizations in forming green human resources that understand, appreciate and practice green initiatives as well as retain green objectives in all human resource management functions (Ahmad, 2015). Chuang and Huang (2018), define the management of green manpower as the involvement of activities such as development, execution and maintenance of management systems with the intention to make the organization's human resources as a green human resource.

Recently, researchers and practitioners have found that sustainability can be achieved through human resource management (HRM) functions which are also known as Green HRM (O'Donohue & Torungsa, 2016; Haddock-Millar, Sanyal & Muller-Camen, 2016; Jabbour & Jabbour, 2016; Guerci, et. al., 2015; Yusoff et al., 2015). Green HRM supports the concept of “triple bottom line”, which involves specific HR policies and practices that are aligned with three sustainability pillars: environment, social and economic balance (Yusoff, Ramayah & Othman, 2015). A recent survey conducted by PwC Global Investor Survey in (2017), revealed that manufacturing industries are still relying on traditional human resource practices and are not adjusting fast with advanced technologies and green principles which run the risk of losing the best and brightest talent to the faster moving organizations. The underlying reasons for these failures are due to a lack in management commitment, knowledge/expertise deficiency, cost involved, unfamiliarity, and an unwillingness to depart from the outdated ways of doing business which are purely dominated by economic performance (Aberdeen, 2015; Teles, Ribeiro, Tinoco, & Caten, 2015). The formation of the Ministry of Energy, Green Technology and Water in 2009, put significant pressures on the organizations to implement green practices in their business operations, however the readiness of adopting these practices among the manufacturing industries in Malaysia is still questionable (Seman, Zakuan, Jusoh, Arif & Saman, 2012).

According to PwC Global Investor Survey (2017), generation Y and the younger generations will constitute a significant proportion of the working-age population in the coming years. This generation is not only technology savvy, but they also prefer to leverage advanced

technology to demonstrate their knowledge and skills to potential employers, but and are also looking forward to joining organizations that are eco-friendly and keep them motivated towards environmentally friendly activities (Renwick, Redman & Maguire, 2013; Delai & Takahasi, 2013; Daily & Bishop, 2012). As a consequence, employers should expect talent shortages issues which will negatively impact their business, such as a reduction in market competitiveness and productiveness, an inability to serve customers, a lack of competency in innovation and creativity, low employee morale, high attrition rate, and higher compensation cost (Manpower Group, 2016). As organizations begin to respond to the demands of the modern workforce, talent management seems to be taking a step backwards and moving further away from corporate priorities. Thus, to support the country's economy growth and sustainable development, it is essential to incorporate the influencing aspects on green HRM practices adoption among manufacturing organizations in Malaysia.

## **Literature Review**

### ***The underlying Theory***

Considering the green HRM implementation is a process of managing resources, it is also can be analysed and determined by the Resource Based View (RBV) theory developed by Barney (1991). But this theory has been criticized as a static theory as it does not enlighten on how the organizations are using the available resources and capabilities to obtain the competitive advantage, and it also doesn't examine the effects of external environmental factors to manage the resources (Bettis & Hitt, 1995). While the RBV extensively considers external factors such as the political and economic conditions, and also focuses on the exploitation of organizational resources and efficiency, it fails to incorporate environmental factors to create a competitive advantage especially when markets are changing (Gabler, Richey & Rapp, 2015; Wiggins & Ruefli, 2002).

Consequently, these critiques led to the development of dynamic capabilities as a complimentary theory to RBV to fill the gap in ecological research (Eisenhardt & Martin, 2000; Teece, Pisano & Shuen, 1997). Many researchers have used RBV to understand how organizations are facing environmental imperatives, but there is still a lack of research about dynamic capability perspectives on organizational sustainability. This perspective explains the firm's ability to acquire and accumulate new capabilities and skills that helps firms in creating new paths, positions and asset bases that can lead to a sustainable competitive advantage (Amui, et al., 2017; Bhupendra & Sangle, 2015). This was further re-emphasized by Amui, et al. (2017), who explained that there is a linkage between dynamic capabilities and contribution of eco capability resources is still underdeveloped and is a new area of researchers' interest.

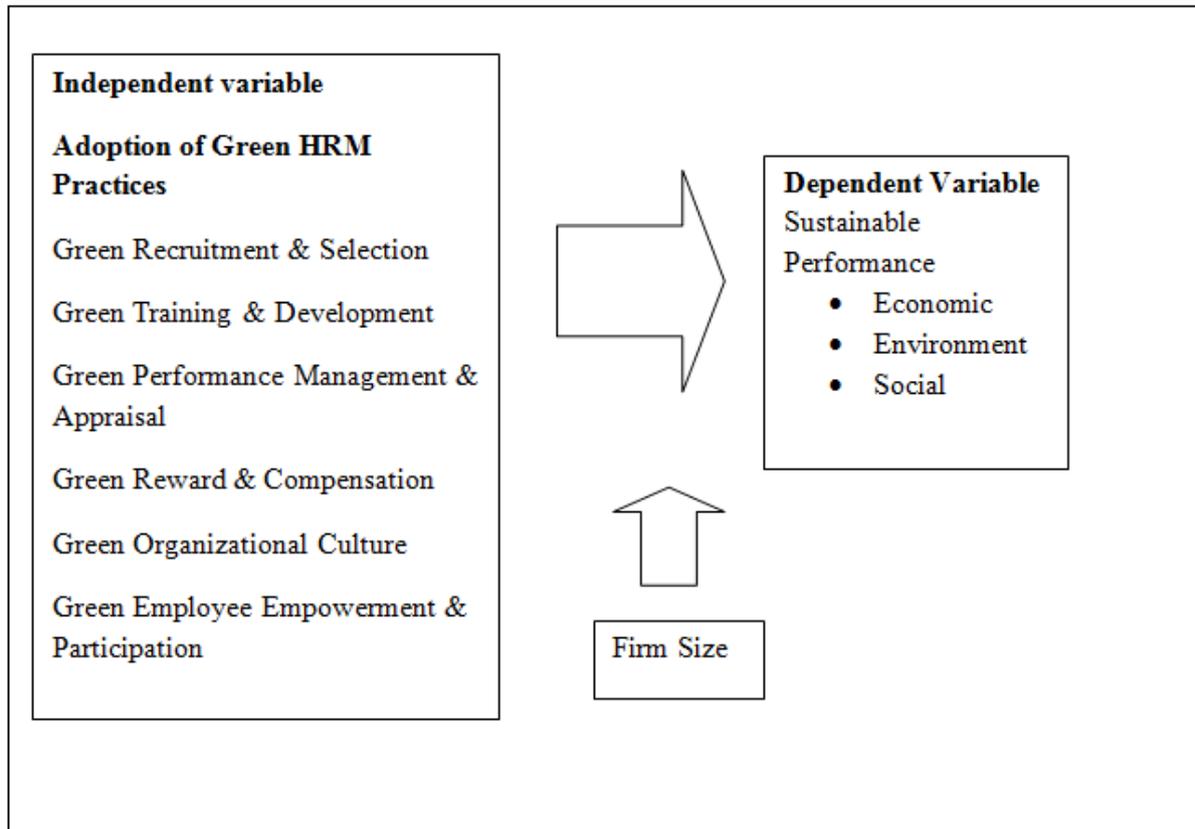


Dynamic capabilities theory explains on how firms assimilate, build and realign their internal and external capabilities in responding to the environmental changes (Teece et. al., 1997). Dynamic capabilities are different from organizational capabilities because these capabilities are focused on environmental change (Winter, 2003). According to March (1991), organizational capabilities refer to the efficient exploitation of existing resources, while dynamic capabilities refer to the efficient exploration and implementation of new opportunities. A capability is considered as dynamic when an organization enhances its ability to identify business opportunities, external threats and adjust existing resources, which turns into the optimization of productivity and can strengthen the firm's overall performance (Barreto, 2010).

The definition of dynamic capabilities is relatively diverse among past researchers. Teece, Pisano and Shuen (1997), introduced the three main capabilities known as sensing, seizing and reconfiguring/transforming. Sensing capabilities allow the organization to recognize opportunities and threats through competitors, customers, market intelligence availability and consequently the ability to predict customer's demands ahead of competitors in the operating environment. In other words, sensing capability enables manufacturing industries to scan, gather, filter and interpret valuable information related to internal and external environment as well as creating opportunities to meet customer's needs to attain a competitive advantage and superior performance (Olavarrieta & Friedmann, 2008). In addition, seizing capabilities is described as an organization's capacity to seize and adjust the emerging opportunities in pursant to environmental changes in recomposing business strategy and the acquirement of complementary assets such as enterprise structures, procedures, designs and incentives (Jiao, Alon & Cui, 2011). Reconfiguring (transformational) capabilities is a process of the firm's continuous activities on alignment and realignment of tangible and intangible assets, which helps the organization to adapt with external changes. All of these capabilities are suggested to build organization's overall dynamic capabilities and facilitate management to find new value in enhancing resource combinations.

## Conceptual Model

Figure 1. Research model



## Hypothesis Development

### *Green recruitment and selection towards Sustainable Performance*

Candidates who are willing to be involved in environmental management activities should be the focal point to hire during external recruitment (Renwick et al., 2013; Siyambalapitiya et al., 2018). According to Kapil (2015b; Masri et al., 2017), an environmental reputation should be established by the organizations that are concerned with the environmental issues. An organization's website and other social media can be utilised, the organisation can put up the post related with environmental sustainability agenda. This will help both the candidates and the organization with same greening goal to attract the environmentally aware talent easily. Based on Jabbour and Santos' work in 2008, the candidates with stronger engagement to the environmental issue will have a higher chance of being shortlisted when compared to other candidates. It is helpful in reinforcing the organization's green responsibilities (Siyambalapitiya et al., 2018). In general, smaller or larger size firms are relying on the environmental factors which have pushed these organizations to be environmentally accountable. When extensive pressure is placed on the firms, the organization will include the

elements of sustainability policies and values to manage the recruitment life cycles to achieve sustainable performance.

*H1: Green recruitment and selection has a positive effect on Sustainable Performance.*

*H7: Green recruitment and selection has a positive effect on Sustainable Performance for both smaller size firms and large size firms.*

### ***Green training towards Sustainable Performance***

Environmental training affects the employees significantly regarding the environmental awareness. Based on the article written by Opatha and Arulrajah (2014), environmental training encourages the green practice by creating the culture in an organization. The training programs are suggested to cover the issues on social and environmental issues (Mandip, 2012; Mehta & Chugan, 2015; Masri et al., 2017). Environmental performance can be achieved by the employees due to the necessary green knowledge and abilities that will be taught through green training and education (Arulrajah et al., 2016; Masri et al., 2017). Attaining optimum environmental benefits is an important way to provide environmental training. Liebowitz (2010) and Prasad (2013), proposed that environmental training should comprise of workshops, sessions, and programs to gain environmental management knowledge. The practices enable the training of employees on green analysis of workplace, waste management, energy efficiency, development of green personal skills, and recycling (Renwick et al., 2008, 2013; Masri et al., 2017). In Zoogah's study (2011), it was found that the employees should participate in problem solving in the environmental projects to utilize the knowledge that they have learned in the training (Masri et al., 2017). The adoption of green training and development practices require organizational resources such as financial and technical expertise to implement environmental training to the staff. It was found that organization size is significant factor to influence the adoption of Green HRM practices, larger organization have the capabilities of benefiting from optimum financial resources than the smaller organization which contributes to achieve superior organizational performance.

*H2: Green Training & Development have a positive impact on Sustainable Performance.*

*H8: Green Training & Development have a positive impact on Sustainable Performance for both smaller size firms and large size firms.*

### ***Green performance evaluation towards Sustainable Performance***

In Ahmad's study (2015), Performance Management Systems gives a measurement to the employees' contribution and the advancement of environmental performance by accomplishing the required environmental performance (Masri et al., 2017). It can track environmental audits and resource flows. Not only that, but it also evaluates the company's resource acquisition, usage, and waste to maintain high-quality green performance. Effective feedback should be delivered to the employees on fulfilling environmental goals to improve their green knowledge, ability and skills (Arulrajah et al., 2016; Jackson & Seo, 2010, Masri et al., 2017). A green work rating can be implemented as the standards of job performance. Employees are assessed through the achievement of environmental responsibilities, behaviours, and objectives (Sharma & Gupta, 2015; Kapil, 2015b; Masri et al., 2017). Following the latest trend, an online information system and audits are recommended to increase the participation of employees with the greener organization (Harvey et al., 2013; Kapil, 2015; Masri et al., 2017). Moreover, as organization grows, these organizations will adopt corporate wide metrics to assess environmental behaviour and technical competencies related to environmental sustainability which will eventually improve sustainable performance (Jabbour, 2013).

*H3: Green Performance Management & Appraisal have a positive impact on Sustainable Performance.*

*H9: Green Performance Management & Appraisal have a positive impact on Sustainable Performance for both smaller size firms and large size firms.*

### ***Green reward system towards Sustainable Performance***

A green organization is able to be achieved with giving rewards to employees who commit highly in environment practices (Jabbour & Santos, 2008; Jabbour & Jabbour, 2016; Masri et al., 2017). Zoogah (2011), encouraged the green reward systems to implemented in an organization to motivate the eco-friendly behaviour among the employees (Masri et al., 2017). While developing their commitment, they would like to participate in more eco-initiatives and take more responsibilities in looking after the environment (Renwick et al., 2013; Daily & Huang, 2001; Masri et al., 2017). Four forms of reward systems are proposed which are monetary-based rewards, non-monetary based reward, recognition-based reward, and positive rewards. For example, monetary-based rewards include cash, premiums, and bonuses while recognition-based rewards can be dinners, daily praise, and awards (Renwick et al., 2013; Opatha, 2014; Masri et al., 2017). Reward systems represent the appreciation of contributing in environmental sustainability, which enhance the adoption of green practices in an organization (Renwick et al., 2013; Kapil, 2015; Arulrajah et al., 2016; Masri et al., 2017). To achieve the sustainable goals, the rewards system should be designed to mirror's

management commitment to the ecological performance and motivate the employees to adopt pro-environmental behaviours through the recognition rewards for both smaller and larger size organizations. This is an important factor that drives the sustainable performance in the organization.

*H4: Green Reward & Compensation have a positive impact on Sustainable Performance.*

*H10: Green Reward & Compensation have a positive impact on Sustainable Performance for both smaller size firms and large size firms.*

### ***Green Organizational Culture towards Sustainable Performance***

Communities formed from family units are an important asset to national development. The basic combination of this family unit will create a productive cultural community that can help in realizing the development of a country. Religious and socio-cultural institutions and social organizations such as community and welfare associations, are capable of creating a community of trust, cultural values and norms that enable sustainability to exist within a community (Teuku Afrizal & Abdul Rahman, 2013). Consequently, sustainable communities can be defined as communities inhabiting a common environment, in which the environment is able to provide to the needs of the community, while ensuring the safety, health and well-being of the community. Not only that, sustainable communities will appreciate and preserve the inhabited environment and strive to minimize any damage to nature, becoming a habitat for sustainable communities. The establishment of this sustainable community will stimulate sustainable economic growth through the provision of more competitive employment opportunities and to enhance the well-being of the local community by establishing a positive organizational culture. In addition, the organizations are guided by the environmental pressures such as economic, cultural, social and political which forced them to respond to the need to comply with external forces. Since these organization share the similar ethical values, norms, cultures and best practices of successful competitors in the market therefore both smaller and larger firms receptive to adopt green HRM practices to add values to the existing business models.

*H5: Green Organizational Culture have a positive impact on Sustainable Performance.*

*H11: Green Organizational Culture have a positive impact on Sustainable Performance for both smaller size firms and large size firms.*

### ***Green Employee Empowerment & Participation towards Sustainable Performance***

Through empowerment, individuals, groups or communities can control their own lives and try to shape the future according to their wishes. Empowerment is an important strategy to increase the role and opportunity of women in actualizing the potential of an organization to be motivated to be independent, and to able to be sustained. Empowerment of workers is also one of the alternative solutions to advance an organization towards Sustainability. The reality is that employee empowerment cannot be separated from human resource management. Human resource management plays a pivotal role in worker empowerment activities in addition to the factors of physically existing people, physically visible costs, and programs that systematically read as a measurement of empowerment. While employee empowerment and participation are linked with organizational culture that reflects the desire or necessity of being an environmental oriented organization due to the external forces, the smaller or larger firms are believed to emphasize sufficient attention to achieve greening goals by allowing the employees to participate and express ideas when formulating the environmental strategy. As a result, it will help the organization to achieve sustainability goals (Jepsen & Grob, 2015).

*H6: Green Employee Empowerment & Participation have a positive impact on Sustainable Performance.*

*H12: Green Employee Empowerment & Participation have a positive impact on Sustainable Performance for both smaller size firms and large size firms.*

### **Methodology**

The population of this study represents all ISO 14001 certified manufacturing firms registered in Federation of Malaysian Manufacturer (FMM) in 2017. FMM is an official authoritative publication and provides information over 3,000 manufacturing and industrial services companies in the country. The ISO 14001 certified manufacturing organizations are selected because they are expected to implement green initiatives within their business operations as part of certification requirements and are expected to have a high level of green awareness in facilitating green human resource practices (Abdul-Rashid, Sakundarini, Raja Ghazilla & Thurasamy, 2017; Azmawani & Khairul, 2014; Eltayeb, Zailani & Ramayah, 2011). FMM directory reported total of 470 firms that are certified with ISO 14001 in Malaysia.

Based on this proposition, the researcher used a well-known formula available on the internet to calculate the sample size which represents the minimum sample size of 212 (Raosoft, 2004; survey monkey, 1999). This result is consistent with Krejcie and Morgan (1970), for the decision on sample size. With minimum sample size of 212 and 50% estimated response

rate, the actual sample size to invite for the survey is 424. To achieve the objective of this study, the researcher selects 212 sample to survey from a list of 470 by using the Excel (RAND) function to generate the random numbers for each of the 470 manufacturing industries on the list and finally selected the 221 sample on the sorted list.

The green HRM scale was established and validated by Masri and Jaaron (2017), and it was used to measure green HRM practices employed in this research. Masri and Jaaron (2017), have successfully piloted, refined and tested this instrument for validity and reliability. This research includes sustainable performance as the outcome variables where it measures the impacts of green HRM practices on organizational sustainable performance such as reduction in air emissions, compliance to environmental standards, resource and hazardous materials consumption. The scale was adapted from Zhu, Sarkis and Lai (2008); Pietro (2012) which was tested and the measurement suggested adequate reliability (exceeded 0.70).

## Data Analysis

**Table 1:** Demographic profiles.

Description		Frequency	Percent
Gender	Male	116	52.5
	Female	105	47.5
	Total	221	100
Age (years)	25-35	18	8.1
	36-45	125	56.6
	46-55	61	27.6
	More than 55	17	7.7
	Total	221	100
Race	Malay	43	19.5
	Chinese	90	40.7
	India	75	33.9
	Others	13	5.9
	Total	221	100
Level of Education	Bachelor's degree	84	38
	Master's degree	100	45.2
	PhD/Doctorate	17	7.7
	Others	20	9.0
	Total	221	100
Length of Service	1-5 years	18	8.1
	6-10 years	39	17.6
	11-15 years	59	26.7

	16-20 years	49	22.2
	More than 20 years	56	25.3
	Total	221	100
Current Position	Director/Head of HR	66	29.9
	HR Manager/ Assistant	88	39.8
	Section Head/Senior Executive	51	23.1
	Others	16	7.2
	Total	221	100
Number of employees	Less than 50	17	7.7
	51-150	28	12.7
	151-250	14	6.3
	251-500	32	14.5
	More than 500	130	58.8
	Total	221	100
Year of Establishment	5-10 years	11	5.0
	11-15 years	15	6.8
	16-20 years	40	18.1
	More than 20 years	155	70.1
	Total	221	100
Ownership	Local/Joint Venture	80	36.2
	Multinational Company (MNC)	139	62.9
	Others	2	0.9
	Total	221	100
Type of Industry	Automotive and components part	14	6.3
	Iron, Steel products	8	3.6
	Plastic and rubber products	13	5.9
	Food, beverages and Tobacco	9	4.1
	Machinery and Equipment	13	5.9
	Electrical and electronics	94	42.5
	Chemical and petroleum	12	5.4
	Packaging, labelling and printing	11	5.0
	Pharmaceutical, medical equipment, cosmetics, household	17	7.7
	Others	30	13.6
	Total	221	100

### ***Measurement model***

The measurement models for this research have been tested for reliability, discriminant validity and the validity of convergence before the researcher tests the hypothetical models

for both first and second order constructs. As suggested by Hair, Hult, Ringle and Sarstedt (2013), factor loadings, AVE and reliability were examined to assess the convergent validity. The ideal value proposed by Hair et al. (2013) is 0.70 or higher and any items below 0.70 should be dropped. In this study, the results showed that loads are higher than 0.70, Average Variance Extracted (AVE) have achieved the value of 0.5 and above (Bagozzi & Yi, 1988) and the composite reliability scope (CR) is higher than 0.70 which indicates that convergent conclusions are achieved. Table 2 summarizes the results derived from the measurement model.

Next, Multicollinearity was assessed using the Variance Inflation Factor (VIF) to test the possible issues of collinearity. If the VIFs are less than 10, it is an indication that multicollinearity is not a serious concern (Yong & Pearce, 2013). The results indicated that value range of below 3.3 confirmed sufficient construct validity (Table 2.0). As suggested by Fornell, Larcker and Cha (1994) and Fornell and Larcker (1981), AVE for each development should be higher correlations between the variables and all constructions meet this criterion indicates that the construction model has the validity of discrimination. According to Hair et al. (2013), the measured variable load of items should be higher than cross load value of at least 0.1 to indicate the legality of discrimination. The results of this study have contributed to the sufficient validity of discrimination. Moreover, past researchers have demonstrated the superior performance of discriminant validity through the Monte Carlo simulation study (Henseler, Ringle & Sarstedt, 2015). As a result, the discriminant validity was also tested using this method and the results are shown in Table 3. There are two ways of using the Heterotrait-Monotrait ratio of correlations (HTMT) to assess discriminant validity known as (1) criterion and (2) statistical test. According to Kline (2015) and Gold and Arvind (2001), if the HTMT value is below 0.85, discriminant validity is achieved between two constructs.

**Table 2:** Convergent validity

No	Variables	Items	loadings	Cronbach's Alpha	CR	AVE
	ECP	ECP1	0.763	0.928	0.941	0.664
		ECP2	0.854			
		ECP3	0.848			
		ECP4	0.789			
		ECP5	0.788			
		ECP7	0.823			
		ECP8	0.838			
		ECP9	0.813			
	EP	EP1	0.914			
		EP3	0.874			
		EP4	0.868			
		EP5	0.892			

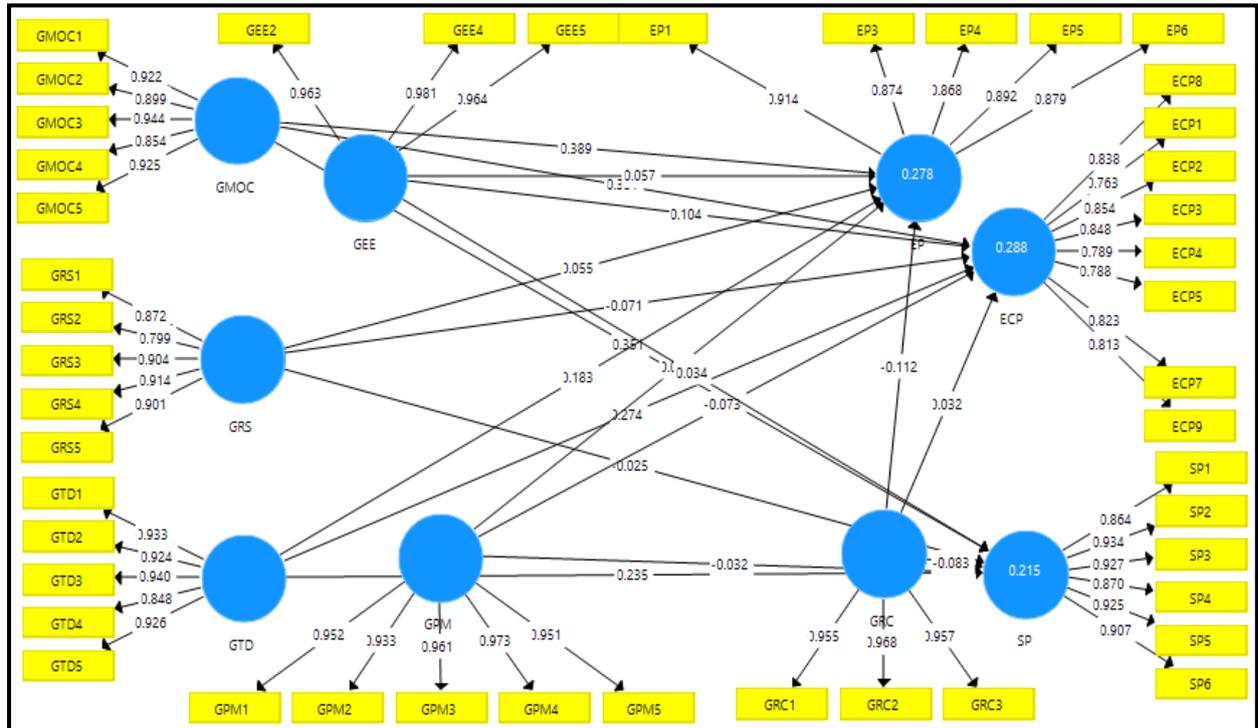
		EP6	0.879				
	GEE	GEE2	0.963	0.968	0.979	0.939	
		GEE4	0.981				
		GEE5	0.964				
	GMOC	GMOC1	0.922	0.947	0.96	0.826	
		GMOC2	0.899				
		GMOC3	0.944				
		GMOC4	0.854				
		GMOC5	0.925				
	GPM	GPM1	0.952	0.975	0.981	0.91	
		GPM2	0.933				
		GPM3	0.961				
		GPM4	0.973				
		GPM5	0.951				
	GRC	GRC1	0.955	0.958	0.972	0.921	
		GRC2	0.968				
		GRC3	0.957				
		GRS1	0.872	0.928	0.944	0.773	
	GRS	GRS2	0.799				
		GRS3	0.904				
		GRS4	0.914				
		GRS5	0.901				
	GTD	GTD1	0.933	0.951	0.962	0.837	
		GTD2	0.924				
		GTD3	0.94				
		GTD4	0.848				
		GTD5	0.926				
	SP	SP1	0.864	0.956	0.964	0.819	
		SP2	0.934				
		SP3	0.927				
		SP4	0.87				
		SP5	0.925				
		SP6	0.907				
		Second order					
<b>No</b>	<b>Variables</b>	<b>Types</b>	<b>Loadings</b>	<b>Outer weights</b>	<b>CR</b>	<b>AVE</b>	<b>VIF</b>
1	SP	Formative	0.812	0.08	N/A	N/A	3.409
2	ECP	Formative	0.945	0.515	N/A	N/A	2.488
3	EP	Formative	0.929	0.483	N/A	N/A	1

**Note:** GRS: Green Recruitment & Selection, GTD: Green Training & Development, GPM: Green Performance Management & Appraisal, GRC: Green Reward & Compensation, GMOC: Green Organizational Culture, GEE: Green Employee Empowerment & Participation, ECP: Economic Performance, EP: Environmental performance SP: Social performance, CR: Composite reliability, AVE: Average Variance Extracted, VIF: variance inflation factor.

**Table 3:** HTMT

No first order measurement		ECP	EP	GEE	GMOC	GPM	GRC	GRS	GTD	SP
1	ECP									
2	EP	0.825								
3	GEE	0.35	0.288							
4	GMOC	0.502	0.525	0.368						
5	GPM	0.344	0.32	0.834	0.465					
6	GRC	0.3	0.237	0.819	0.355	0.846				
7	GRS	0.304	0.324	0.618	0.46	0.735	0.747			
8	GTD	0.47	0.423	0.693	0.54	0.706	0.624	0.687		
9	SP	0.834	0.721	0.216	0.451	0.234	0.166	0.226	0.367	

**Figure 1. Measurement Model**



### Structural Model

Figure 2. Structural Model

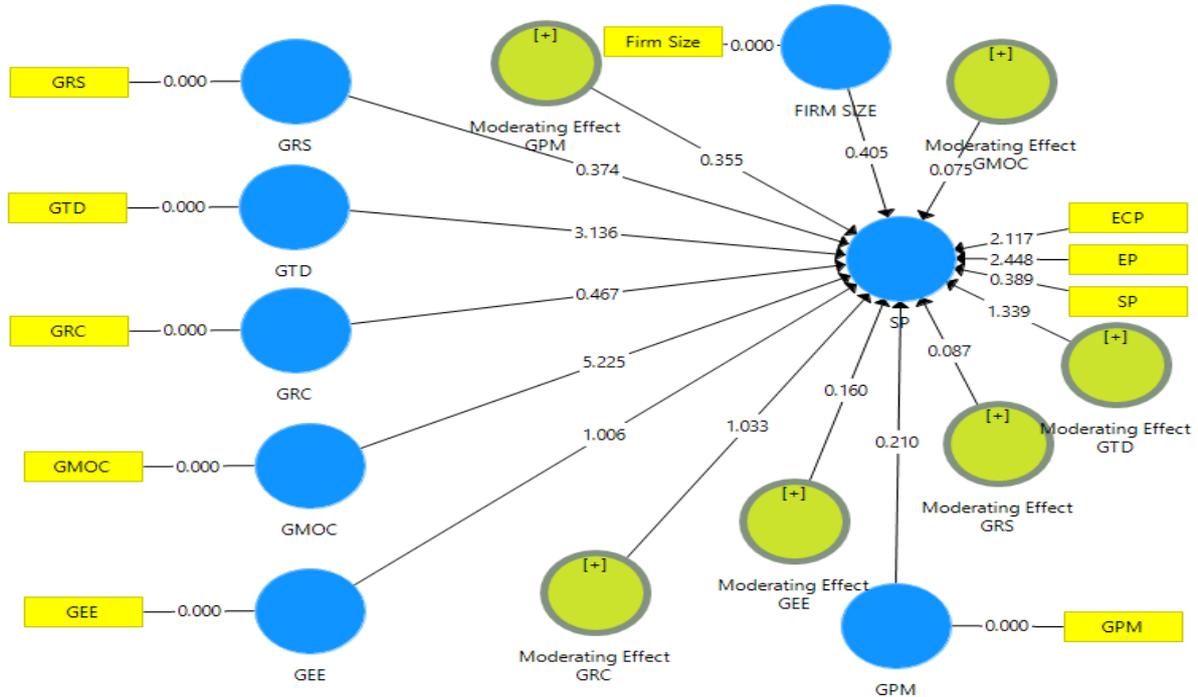


Table 4: Hypothesis results

No	Hypothesis	beta value	Std Error	T Value	P Values	LL	UL	R2	F2	Q2	Decision
H1	GRS -> SP	0.041	0.11	0.374	0.354	0.23	0.14	0.33	0	0.236	Not Supported
H2	GTD -> SP	0.273	0.087	3.136	0.001	0.12	0.41		0.04		Supported
H3	GPM -> SP	0.026	0.123	0.21	0.417	0.22	0.19		0		Not Supported
H4	GRC -> SP	0.059	0.126	0.467	0.32	0.26	0.15		0		Not Supported
H5	GMOC -> SP	0.392	0.075	5.225	0	0.257	0.5		0.16		Supported
H6	GEE -> SP	0.0	0.098	1.006	0.15	-	0.2		0		Not

		99		06	7	0.0	7			Supporte d
H7	Moderating Effect GRS -> SP	- 0.0 09	0.099	0.0 87	0.46 5	- 0.1 7	0.1 6		0	Not Supporte d
H8	Moderating Effect GTD -> SP	0.1 2	0.09	1.3 39	0.09	- 0.0 2	0.2 7		0.0 1	Not Supporte d
H9	Moderating Effect GPM -> SP	- 0.0 44	0.123	0.3 55	0.36 1	- 0.2 5	0.1 5		0	Not Supporte d
H1 0	Moderating Effect GRC -> SP	- 0.1 18	0.114	1.0 33	0.15 1	- 0.3 2	0.0 6		0.0 1	Not Supporte d
H1 1	Moderating Effect GMOC -> SP	0.0 06	0.075	0.0 75	0.47	- 0.1 2	0.1 3		0	Not Supporte d
H1 2	Moderating Effect GEE -> SP	0.0 15	0.093	0.1 6	0.43 6	- 0.1 3	0.1 7		0	Not Supporte d

## Results and Findings

There are 221 respondents have completed the questionnaires. Table 1 shows the demographic profile of the respondents in details.

### *Bootstrapping Results Interpretation*

The bootstrapping results were obtained from 221 respondents and were analysed using the Smart PLS version 3.2.7. According to Hair, Ringle and Sarstedt (2011), the statistical significance of path coefficients is examined through a recommended threshold of 1.65 t-statistics values at  $p \leq 0.1$  confidence interval. Similarly, Lowry and Gaskin (2014) proposed that effect sizes can be categorized in their groups including small (0.02), medium (0.15) and large (0.35), whereas R<sup>2</sup> values of 0.75, 0.50 and 0.25 revealed substantial, moderate and weak value respectively (Sarstedt, Ringle, Smith, Reams & Hair, 2014). Coefficient of determination for the dependent constructs were identified using R Square values. There are few recommended R<sup>2</sup> values by past researchers where Chin (1998), stated that strong R Square requires 0.67, moderate needs 0.33 and weak is explained by 0.19 whereas Hair et al (2016), stated that 0.75 is considered as strong, 0.5 is moderate and 0.25 is weak. While Falk and Miller (1992), recommended that R Square should be equal or bigger than 0.10 for the

variance explained for a particular endogenous construct to be deemed adequate. Therefore, 5000 bootstrap samples were initiated to determine the significance of the path model relationship and significant t-value at a specified confidence interval. The results produced a good R Square value of 0.62 as reflected in Table 7.

Next, the power of the model has been tested using Effect Size (F Square) to assess the quality of a good model. The results in Table 7 showed the large effect size which indicated that the proposed research model met the measurement requirements of the Inner Model. Table 7 recapitulates the entire hypotheses (H1 to H4), with the T statistics value for each hypothesis. When the hypothesis is significant, the t-value is more than 1.645 ( $p < 0.05$ ), t-value more than 2.33 ( $p < 0.01$ ) for 1-tail test, t-value more than 1.96 ( $p < 0.05$ ) or t-value more than 2.58 ( $p < 0.01$ ). The results showed that three hypotheses (H1, H2, and H3) are significant because the lower limit and the upper limit values for the hypothesis is in a positive value so the hypothesis had become significant which is zero. At the same time, the remaining hypothesis 4 is not supported.

### **Discussion and Implications**

This research has contributed to several significant implications to both theoretical and practical aspects of management. Fundamentally, the results have been justified in the theoretical underpinnings of the core theory of this study - Resource Based View Theory (Barney, 1991). This theory explains that organizational resources can be categorized as tangible and intangible resources. where the tTangible resources are the physical assets that can be easily seen and quantified to have a set value such as technological resources, financial resources, physical resources and organizational structures. whereas iIntangible resources are generally classified as company's long- term assets, which includes reputation resources, human resources and innovation resources (Barney, 1991). When a firm fails to consider environmental conditions, it can have adverse effects on organizational performance. Therefore, the integration of Dynamic Capability theory has provided new angle in the conceptual understanding of green human resource management and how the organization enhances its ability to identify opportunities, threats and modify existing resources to optimize productivity and improve the overall performance.

Applying these two organizational theories to the human resource management context, the researcher has found that unified HR dimensions (Green Recruitment & Selection, Green Training & Development, Green Performance Management & Appraisal, Green Reward & Compensation, Green Organizational Culture and Green Employee Empowerment & Participation), play an integral role in achieving sustainable performance (Guerci et. al, 2015). Past literatures have sustained limited empirical verification about unified HR dimensions in organizational level outcomes (Amui, Jabbour, Jabbour & Kannan, 2017).



Additionally, green HRM is relatively new concept and evolution of environmental management is considered thoroughly explored theoretically but less known empirically. This research has filled the gap in literature by providing empirical validation that there is a link between green HRM practices and organization performance.

Finally, previous researches tend to view “sustainable performance” as a financial profit (Guerci, Montanari, Scapolan & Epifanio, 2015), and failed to incorporate triple bottom line dimensions to achieve sustainability goals. This research has included the elements of economic, social and environmental aspects in measuring the effect of green HRM practices on organizational sustainable performance and empirically validated this measurement. The result supports the claims of RBV & Dynamic Capabilities that green practices will ultimately result in desirable sustainable performance (Hong, Zhang & Ding, 2018).

In practical terms, the outcomes of this study will serve as a the guideline to the practicing managers to implement green human resource management practices successfully to achieve sustainable performance for a long term. It is proved proven that green HRM plays a significant role in achieving environmental, economic and social performance, which also contributes to the country’s sustainable development goals. Past researches have proven that Malaysian organizations haven’t adopted the green practices in their business approaches as they were not sure about the potential benefits of these practices, this research enriches the literature on the positive consequences of Green HRM practices to achieve higher performance gains (Teles, Ribeiro, Tinoco & Caten, 2015).

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