



Green Human Resources Management on Business Performance: The Mediating Role of Green Product Innovation and Environmental Commitment



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ABSTRACT

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This study aims to empirically examine and analyze the role of Green Human Resource Management (GHRM) and Environmental Management (EM) on Business Performance (BP) mediated by Green Product Innovation (GPI) and Environmental Commitment (EC). This study involved managers in creative industry companies in DKI Jakarta, Indonesia. From the survey conducted, the researchers obtained the research data from 275 questionnaires distributed. Then from all the data, there were 209 questionnaires that could be processed for further analysis. This study utilized the Structural Equation Model (SEM) analysis technique with PLS 23 software in the data testing process. This study has confirmed a number of findings including: Green Human Resource Management (GHRM) has a positive effect on Business Performance (BP); (2) Green Human Resource Management (GHRM) has a positive effect on Environmental Commitment (EC), (3) Green Human Resource Management (GHRM) has a positive effect on Green Product Innovation (GPI); (4) Environmental Commitment (EC) has a positive effect on Business Performance (BP); (5) Green Product Innovation (GPI) has a positive effect on Business Performance (BP); (6) Environmental Commitment (EC) mediates the effect of Green Human Resource Management (GHRM) on Business Performance (BP); (7) Green Product Innovation (GPI) mediates the effect of Green Human Resource Management (GHRM) on Business Performance (BP).

1. INTRODUCTION

In recent years, issues regarding the environment and sustainability have become the attention of many parties, such as the government, the community, and also organizations or companies that run businesses. Declining environmental conditions make companies have to find ways to change their strategies in running their business so that they do not harm the environment. Companies have also begun to emphasize the importance of developing strategies to protect the environment as well as business sustainability [1, 2]. As the main driver in the company, human resources are seen as a source of competitive advantage that can lead the company to achieve success [3, 4], including managing environmental issues.

The concept of Green Human Resource Management (GHRM) has begun to be applied by various companies considering the increasing awareness of the environment. GHRM focuses on HRM policies and practices to stimulate green behavior in employees, so as to form an environmentally sensitive and socially responsible company [5, 6]. GHRM becomes important because companies that are proactive in implementing this practice will be more productive and can gain competitive advantage. This can happen because the pro-environmental practices of GHRM enable individuals to increase efficiency, reduce waste in the environment, and encourage green behavior, thereby reduce costs [7]. Research on the direct relationship of GHRM and sustainable business performance has been carried out by several experts, and the

results show a positive relationship between the two variables [4, 8, 9]. However, there is a need to deepen these empirical studies in different organizational contexts, especially in the manufacturing industry [4]. This research also becomes the response to the research by Cooke et al. [6] that emphasizes the importance of broadening the research on GHRM, especially in the contexts of developing countries in Asia. Mousa and Othman [3] mentioned that developing countries have not fully adopted green practices for several reasons, such as underdeveloped financial markets, a more dominant public sector, and trade restrictions [10]. In addition to looking at the influence of GHRM and sustainable business performance, this study also aims to identify variables that can be mediators in the relationship through environmental commitment and green product innovation. Environmental commitment is an individual's motivation to improve the environment [11]. Meanwhile, green product innovation can be briefly understood as product innovation related to environmental innovation [12, 13]. Green product innovation is part of green innovation, and this is done by companies to overcome pressure on environmental issues they face. Pham et al. [14], Pham et al. [15] and Saeed et al. [16] stated that the relationship between GHRM and environmental commitment has not been studied in depth and requires further research, as well as the role of environmental commitment as a mediating variable. Some researchers also mention that research on the antecedents and consequences of green product innovation is still limited, and there needs to be research on green product

innovation in the context of developing markets [13, 17].

The manufacturing industry is considered as one of the main contributors to the pollution and degradation of environmental conditions [18]. In Indonesia, the manufacturing industry is currently also starting to focus on improving its business activities so that they become more environmentally friendly. This is done to achieve the target of reducing carbon gas emissions by 29% which has been set in the National Determined Contributions (NDCs) in the Paris Agreement [19]. With the environmental crisis that has occurred, fixing and reducing carbon gas emissions require costs, technology, and principles upheld by companies and individuals in them to be able to run smoothly and sustainably. This research is focused on creative manufacturing industry companies in Indonesia, especially in the Special Capital Region (DKI) Jakarta, Indonesia because those companies in DKI Jakarta, Indonesia make a very significant contribution to economic growth. There are several contributions made by this research. First, this study fills a gap from previous research by examining the relationship between GHRM and business performance in the context of manufacturing industries in developing countries in Asia [3, 6] so that the results are expected to contribute to the development of existing business theory and practice. Second, this study provides an understanding of the mechanisms and processes of GHRM in influencing business performance using the mediating role of environmental commitment and green product innovation, which still need to be explored [11, 13, 20]. Third, the researcher develops a conceptual framework that can be used by manufacturing companies in using GHRM practices appropriately to achieve sustainable business performance.

2. LITERATURE REVIEW

2.1 Green human resource management

GHRM is a concept that combines environmental management with sustainable performance [3, 7, 21]. GHRM exists to answer the phenomenon of the company's business activities that have an impact on the environment. Jabbour [21] defines GHRM as the systematic and planned conformity of HRM practices with the company's environmental objectives. GHRM is crucial for companies because of its contribution to other aspects that are also environmentally sound, such as green management or green supply chain. As one of the practices in strategic HR, GHRM plays a role in aligning employees with the company's environmental strategy [4, 7]. GHRM can be seen as a bundle of green ability development, providing green motivation for employees, and providing green opportunity (AMO) which consists of several practices, namely green analysis and job description, green recruitment and selection, green training, green performance assessment, and green rewards [21-23].

2.2 Environmental commitment

In general, employee commitment relates to their closeness to the organization and reflects identification with the organization's values, goals, and targets [24]. Employee commitment is not stated in the terms of employment in the company. When associated with environmental aspects, environmental commitment or green commitment can be understood as an individual's internal motivation towards

environmental aspects in the company [11, 14]. At the organizational level, environmental commitment is the methods, tasks, principles, and standards implemented by businesses to minimize negative impacts on the environment [25]. Environmental commitment also represents the extent to which management and employees in the company show a positive attitude that supports environmental conservation. Employees who develop a commitment to the environment represent their feelings and closeness to the organization. Pham et al. [14] and Perez et al. [26] mentions that environmental commitment is the result of environmentally sound practices in organizations that are influenced by employees' understanding of the organization's values and the effort they put into helping the organization achieve its goals.

2.3 Green product innovation

Companies that want to achieve competitive advantage so far tend to understand that they need to implement new product innovations. This is because product innovation allows companies to develop their knowledge, capacity, resources, and technology to respond to consumer demands [27, 28]. Chen et al. [12] and Zhang et al. [13] defined green product innovation as product innovation related to environmental innovation, including product innovation related to energy saving, pollution prevention, waste recycling, or green product design. Green product innovation focuses on improving products so they are safer for the environment [29]. In a broader context, green product innovation involves paying more attention to the environment by adopting relevant regulations to protect the environment [13, 30]. Wong et al. [31] mentioned that green product innovation can take the form of selecting raw materials that are more environmentally friendly, managing waste disposal from hazardous materials, recycling, and reducing greenhouse gas emissions.

2.4 Business performance

Current business performance is part of the ultimate goal to be achieved by the company and is part of business sustainability. The business concept of sustainability was introduced by Brundtland in 1987 and can be understood using the triple bottom line principle, which explains the three pillars of sustainability, namely economic, environmental, and social. When associated with business, this means that in carrying out its business activities, companies need to pay attention to and maintain a balance of these three things, because the company's success is not only achieved through financial success, but also environmental and social aspects [32, 33]. Yong et al. [4] stated that business sustainability consists of financial, environmental, and social performance. Financial or economic performance is closely related to the company's financial and marketing performance as a result of implementing green practices. Meanwhile, environmental performance is related to the company's ability to reduce waste, air emissions, and limit the use of hazardous materials and environmental accidents [3]. Finally, social performance is a social aspect related to the image of the company and its products from the perspective of stakeholders [13].

2.5 Hypothesis development

2.5.1 GHRM has a positive effect on business performance

GHRM has the potential to lead companies to achieve business sustainability through various practices in it. GHRM includes HR practices that drive environmental performance and innovation [33, 34]. In line with this, Yusliza et al. [35] also stated that GHRM is aligned with the three pillars of sustainability, namely economic, environmental, and social. GHRM practices focus on shaping the workforce and companies that are committed to environmental issues, thereby improving their environmental performance [36]. Improving economic, environmental and social performance to achieve business sustainability certainly requires collaboration, training, assessment and awarding of the environment for employees [3].

Abdalla and Siti-Nabiha [37], and Ahmad [38] argued that green hiring practices in GHRM enable companies to attract employees who are environmentally conscious, so that they can help companies achieve business sustainability. In addition, green training is also seen as the main factor that can build employee motivation to achieve sustainable business goals [9]. Companies that provide special training on the environment or the concept of greening to employees will develop a more proactive attitude and behavior towards the environment, thereby improving overall business performance [39, 40]. Then, a performance appraisal and reward system that are specific to the environment can also encourage employees' willingness to behave pro-environmentally [7] and achieve business sustainability [4]. A number of studies have shown that there is a positive effect of GHRM on sustainable business performance [3, 4, 9, 34, 41].

H1. GHRM has a positive effect on business performance

2.5.2 GHRM has a positive effect on environmental commitment

Companies that implement GHRM can build employees who are committed and motivated to environmental conservation. Environmental commitment, or green commitment, is an identification of employee involvement and emotional closeness to environmental behavior [26]. Companies that implement GHRM can make employees have attention and commitment to the environment [14, 15]. GHRM practices assist employees in understanding the organization's value and concern for the environment, thereby building their commitment.

Ansari et al. [11] and Saeed et al. [16] conveyed that GHRM practices were carried out by companies to improve employee knowledge and skills, especially related to the environment. When employees receive green training in GHRM, they will be prepared to have more commitment to the environment. In addition, companies that implement GHRM practices as a whole will make employees have a complete understanding of company policies and targets related to the environment [42]. This makes employees take responsibility and hold on to their commitment to the environment to help the company achieve its goals [11]. Several studies have also confirmed the effect of GHRM on environmental commitment [5, 11, 14, 15, 16]. Thus, the second hypothesis proposed in this study is:

H2. GHRM has a positive effect on environmental commitment

2.5.3 GHRM has a positive effect on green product innovation

The company's HRM practices have been found to affect the knowledge, skills, and abilities of employees, thereby increasing the company's product and process innovation. So, in the context of the environment, GHRM can improve the

ability, motivation, and opportunities of employees towards the environment through a bundle of practices consisting of green training, green performance appraisal, and green rewards, which in turn can increase green product innovation [43]. Green product innovation is product innovation that can reduce the impact on the environment while achieving company goals related to the environment [44, 45].

Employees with the knowledge and ability to have environmental awareness have more motivation to generate new and useful ideas regarding environmental management, thereby increasing green product innovation [43, 46, 47]. In addition, the company can also provide special knowledge and training to employees regarding the importance of protecting the environment through green training. This can align employee behavior with organizational environmental goals achieved through green product innovation [46]. Guerci et al. [2] and Sepahvand et al. [48] added that employees will also have the will to carry out environmentally friendly innovations when the company provides special awards (green rewards). Based on this explanation, the third hypothesis proposed in this study is:

H3. GHRM has a positive effect on green product innovation

2.5.4 Environmental commitment has a positive effect on business performance

Employees who are committed to the environment show changes in attitudes and behavior to match the green values that the organization offers [14, 15]. They also have the will to put in more effort so that they can achieve the goals of the company [16, 49], including performance improvements. This is because commitment to the environment shows the extent to which employees show a supportive attitude and support environmental conservation, as well as what a business or employee in it really does to protect the environment [25, 50]. Employees who have a high environmental commitment can affect the achievement of the company's business performance [35, 51]. When employees keep their commitments, they must carry out sustainable business activities [52] because they have realized the negative impact that business activities can have on the environment [53, 54].

H4. Environmental commitment has a positive effect on business performance

2.5.5 Green product innovation has a positive effect on business performance

Green product innovation is predicted to lead to the achievement of the company's business sustainability [34, 55]. Product innovation that is environmentally sound is used as a tool to increase productivity and reduce production costs because companies can reduce raw material waste [29]. The purpose of green product innovation is to reduce the negative impact of the company's activities. Therefore, the resulting product can also play a role in restoring and repairing negative impacts on the environment [56, 57]. In addition, companies can have better financial performance when implementing strategies that support the environment, such as green product innovation.

Several previous studies have proven that green product innovation affects the company's performance through cost savings, increased sales and market share, to higher profit levels [58, 59]. This can happen because the product innovations that are carried out can encourage companies to use more environmentally friendly technologies [60] so that it affects the company's performance improvement [34, 47, 56].

Nonetheless, the research conducted by Zhang et al. [13] on the managers of the manufacturing industry in China shows that green product innovation has an indirect effect on the company's business performance. Added by Muangmee et al. [27], Asadi et al. [28], Xue et al. [55], Zhang and Zhu [57] that there is a positive effect of green innovation on company performance and business sustainability.

H5. Green product innovation has a positive effect on business performance

2.5.6 Environmental commitment mediates the effect of GHRM on business performance

In general, the implementation of a good HRM strategy will have an impact on positive attitudes and behaviors of individuals in the organization, including increased commitment [61, 62]. In this case, the implementation of environmentally sound HRM practices through GHRM is expected to strengthen employee attitudes to be more environmentally oriented [14, 15]. The existence of GHRM indirectly makes employees have to adjust the values they hold, so that they can adapt to the organizational goals [5, 49]. GHRM practices can increase employees' understanding of organizational goals and values, develop employees' green capabilities, motivate employees to carry out pro-environmental behavior, and provide employees with opportunities to contribute to environmental improvement in the company [9, 39, 40], so that it can enhance their environmental commitment [5, 11, 14, 15]. Environmental commitment will encourage employees to consider environmental aspects when carrying out their duties in the company, so that it has an impact on sustainable business performance [25, 53, 54].

H6. Environmental commitment mediates the effect of GHRM on business performance

2.5.7 Green product innovation mediates the effect of GHRM on business performance

Paillé et al. [63] argued that the effect of GHRM on business sustainability does not always directly occur. Companies that are environmentally sound and have implemented GHRM practices may not be able to achieve business sustainability when they do not have the necessary and useful capabilities or technical skills for producing environmentally friendly products [34]. GHRM plays a role in forming an atmosphere that supports increasing employee capabilities to innovate products [43, 46; 47]. In this case, green product innovation involves developing environmentally friendly products, reducing the negative impact of products on the ecosystem, and reducing environmental damage and waste [12]. Companies that apply green product innovation in their production processes will consider environmental aspects in the design and packaging of their products. Various things done with green product innovation show that the company has social responsibility and contributes to an environmentally friendly community [13, 27], so that it improves their social and environmental performance [57, 64, 65]. Companies can also improve their financial or economic performance by building a pro-environmental image, thereby attracting consumers with the same value as the company to make purchases [34, 47, 55].

H7. Green product innovation mediates the effect of GHRM on business performance.

3. RESEARCH METHODS

3.1 Population design, sampling and statistical techniques

This study used a positivism approach because this study aimed to examine and analyze the relationship between variables [66, 67]. In this research, the data collection method used primary data from a questionnaire given to respondents, namely managers in creative manufacturing companies. To collect better research results, interviews with several key managers were also conducted. This type of research is quantitative with hypothesis testing in analyzing the relationship between variables using the Partial Least Square (PLS) statistical technique. The population in this study was all managers of creative manufacturing industry companies in DKI Jakarta that focused on green management practices. The target sample was 275 managers of creative manufacturing companies using purposive sampling technique. This research has characteristics, among others; (1) creative manufacturing companies that focus on green management and (2) companies that have more than 40 employees and have been operating for at least 3 years. After recapitulating and checking, the researchers got 209 questionnaires that met the requirements and that could be processed further.

3.2 Research instrument design

This research has 4 variables, namely Green Human Resources Management (GHRM), Environmental commitment (EC), Green product innovation (GPI), Business Performance (BP) which were developed from several previous studies. Several questionnaire items were also adapted to the situation and conditions as well as the culture in Indonesia. The answer score choices for Green Human Resources Management (GHRM), Environmental commitment (EC), Green product innovation (GPI) are strongly agree (7) to strongly disagree (1). Meanwhile, specifically for the Business Performance (BP) variable, the choice of scores is; extremely high (7) to extremely low (1). Managers in this study can perceive the company's business performance compared to other similar companies during the last 3 years.

The measurement and source variables adopt and develop from the following source;

1. GHRM from [4, 68] that consists of 6 indicators and 16 question items
2. Environmental commitment (EC) from Pham et al. [14, 15] that consists of 4 items
3. Green product innovation (GPI) from Chen and Hung [69], and Conding et al. [70] that consists of 3 items
4. Business Performance (BP) from Awwad Al-Shammari et al. [71] and Somjai et al. [72] that consists of 6 items

Each variable was tested for validity and reliability using the Partial Least Square (PLS) technique.

4. RESULTS AND DISCUSSION

4.1 Respondent characteristics

Characteristics of respondents in this study were divided into several categories, namely gender, age and education.

Table 1. Respondent characteristics

Characteristic	Amount	Percentage
Gender		
Male	41	17.9%
Female	188	82.1%
Age		
<20 years	1	1.7%
20 – 30 years	81	35.4%
31 – 40 years	59	25.7%
41 – 50 years	49	22%
>50 years	24	11%
Education		
Senior High School	118	52.5%
Bachelor	100	43.6%
Magister	11	4.8%

Table 1 shows that the majority of respondents in this study were female with a percentage of 82.1%. Furthermore, from the aspect of the age of the respondents in this study, the majority of them were 20-30 years old with a percentage of 35.4% and most of the respondents had high school and undergraduate education, namely 52.5% and 43.6%.

4.2 Outer model evaluation

The evaluation of the outer model aims to determine the validity and reliability of the measurement instruments in the research model. The analysis of the outer model consists of several steps those are convergent validity, construct validity and reliability tests including composite reliability and Cronbach alpha [73].

4.3 Validity

Outer model analysis was conducted to test the construct

validity and reliability. The validity test used convergent validity and construct validity [74, 75]. Assessment of convergent validity is an analysis of the links between question statements and latent variables based on loadings. The coefficients of the question-statements with the primary latent variable are called factor loadings [76]. Convergent validity required indicator to have loading factor value of $\geq 0,7$ to make the indicator valid [73, 77, 78]. Meanwhile, the construct validity required AVE value of $\geq 0,5$ to make a construct valid. The testing results are shown in Table 2.

Table 2 shows outer model evaluation process in this research. The first analysis shows that in the evaluation of convergent validity, two indicators are found to be not valid because they have a loading factor value of $<0,7$, namely BP1 and GPA3, so they have to be dropped from the analysis. After removing the invalid indicators, it is found that all indicators have a loading factor value of $> 0,7$ and are concluded that they are valid. Construct validity analysis is also shown in table 2 where the AVE value on all variables have a value $> 0,5$ so that it is concluded that all variables have met the validity standard.

4.4 Reliability

The reliability value refers to the composite reliability. Composite reliability is a measure of internal consistency in scale items [79]. The composite reliability value which is required to have a value of 0.7 and the required Cronbach alpha value of 0.6. The results of the reliability test can be seen in Table 3.

The results in Table 3 explain that the value of composite reliability on all variables shows a value of $> 0,7$ and the Cronbach alpha value has a value of 0.6 so it can be concluded that the variables in this study are reliable.

Table 2. Validity analysis

Variable	Indicators	Loading Factor	Validity	Loading Factors	Validity	AVE
Business Performance	BP1	0.635	Invalid	Dropped		0,707
	BP2	0.845	Valid	0.843	Valid	
	BP3	0.856	Valid	0.840	Valid	
	BP4	0.779	Valid	0.795	Valid	
	BP5	0.856	Valid	0.875	Valid	
	BP6	0.829	Valid	0.850	Valid	
Environmental Commitment	GC1	0.949	Valid	0.949	Valid	0,849
	GC2	0.938	Valid	0.938	Valid	
	GC3	0.915	Valid	0.916	Valid	
	GC4	0.881	Valid	0.881	Valid	
Green Product Innovation	GPI1	0.940	Valid	0.940	Valid	0,812
	GPI2	0.907	Valid	0.907	Valid	
	GPI3	0.855	Valid	0.854	Valid	
GHRM	GPA1	0.915	Valid	0.947	Valid	0,667
	GPA2	0.918	Valid	0.949	Valid	
	GPA3	0.658	Invalid	Dropped		
	GR1	0.940	Valid	0.939	Valid	
	GR2	0.929	Valid	0.931	Valid	
	GRT1	0.862	Valid	0.859	Valid	
	GRT2	0.880	Valid	0.883	Valid	
	GS1	0.948	Valid	0.947	Valid	
	GS2	0.945	Valid	0.946	Valid	
	GT1	0.920	Valid	0.921	Valid	
	GT2	0.925	Valid	0.927	Valid	
	GT3	0.877	Valid	0.874	Valid	
	JD1	0.863	Valid	0.855	Valid	
	JD2	0.859	Valid	0.856	Valid	
	JD3	0.835	Valid	0.843	Valid	

Table 3. Reliability analysis

	Cronbach's Alpha	Composite Reliability
Business Performance	0.924	0.707
Environmental Commitment	0.957	0.849
GHRM	0.960	0.667
Green Product Innovation	0.928	0.812

4.5 Inner model evaluation

The inner model test includes several tests, namely the coefficient of determination, goodness of fit, and hypothesis testing. Hypothesis testing was carried out with PLS bootstrap with the output shown in Figure 1.

4.6 R Square

The coefficient of determination can be seen in the R-square table by multiplying the R-square value by 100%, the coefficient of determination shows the magnitude of the effect of exogenous variables on endogenous variables. The results of the coefficient of determination test are shown in Table 4.

Table 4. R-Square

Endogenous Variables	R Square
Business Performance	0.515
Environmental Commitment	0.652
Green Product Innovation	0.598

Table 4 shows that in this study the business performance variable is influenced by exogenous variables by 51.5%, then the environmental commitment variable is influenced by

exogenous variables by 65.2% and green product innovation is influenced by exogenous variables by 59.8%.

4.7 Goodness of fit

The GoF index was calculated from the square root of the average communality index and the average R-squared value. GoF = 0.1 means small, GoF = 0.25 means medium, GoF = 0.36 means large. The GoF value can be calculated using the Goodness of fit formula= $\sqrt{Communality \times R^2}$. The calculation results are shown in Table 5.

Table 5. Hasil goodness of fit model (GoF)

Construct	Communality	R Square
Business Performance	0.555	0.515
Environmental Commitment	0.727	0.652
GHRM	0.599	
Green Product Innovation	0.591	0.598
Average GoF	0,618	0,588
	0,602	

Table 5 shows that the GoF value of the model reaches 0.602 which is greater than 0.36 so that the model is included in the large category.

4.8 Hypothesis test

The measurement item used is said to be significant if the T-statistic value is greater than 1.96 and the p-value is less than 0.05 at the 5% significance level. While the parameter coefficients that indicate the direction of influence are coefficients that see positive or negative from the original sample [80]. The results of hypothesis testing are shown in Table 6.

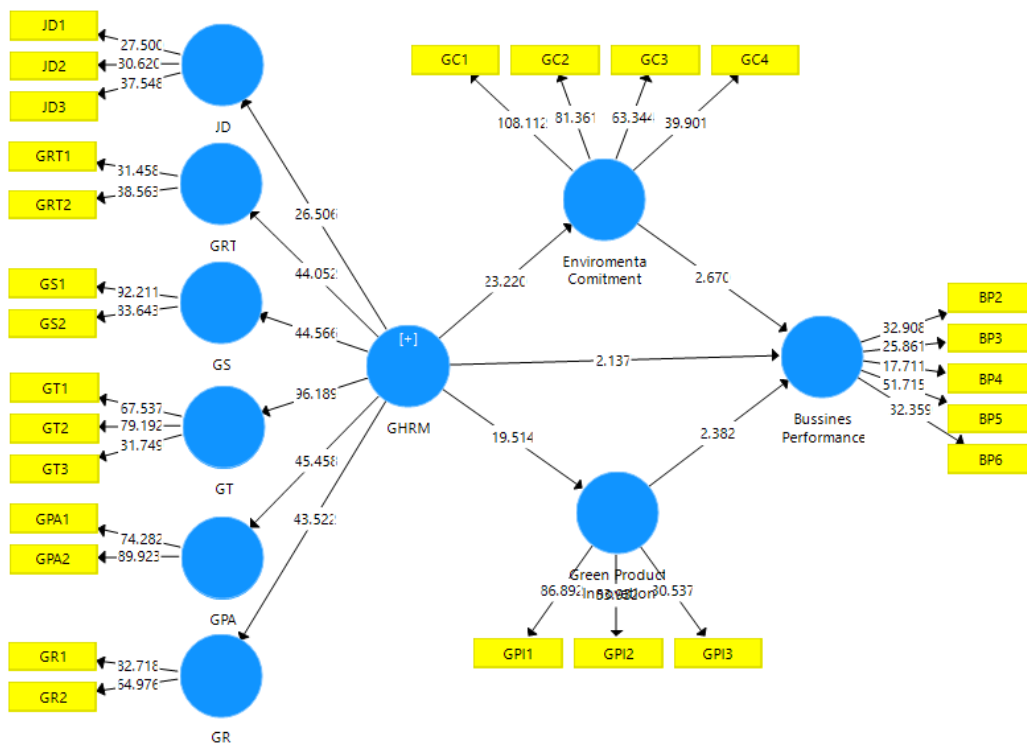


Figure 1. Inner model

Table 6. Path coefficients

		Original Sample (O)	T Statistics (O/STDEV)	P Values
H1	GHRM -> Business _Performance	0.238	2.137	0.033*
H2	GHRM -> Environmental Commitment	0.808	23.220	0.000*
H3	GHRM -> Green Product _Innovation	0.774	19.514	0.000*
H4	Environmental Commitment -> Business _Performance	0.280	2.670	0.008*
H5	Green Product _Innovation -> Business _Performance	0.249	2.382	0.018*
H6	GHRM -> Environmental Commitment -> Business _Performance	0.226	2.626	0.009*
H7	GHRM -> Green Product _Innovation -> Business _Performance	0.193	2.329	0.020*

Note *=sign alpha 0.05

Table 6 shows in this study the results of the path analysis conclude that all hypotheses are accepted.

5. DISCUSSION AND IMPLICATION

Indonesia is facing the industrial revolution 4.0 and 5.0, which makes this country experience health and economic shocks, especially in 2020 with the covid 19 pandemic. This triggers a free fall economy and disrupted workforce, so for that, managers in creative manufacturing industry companies need to pay attention to human Resources management practices by paying attention to green aspects in various ways so that BP can be sustainable [81, 82]. The results of this study explain that there is a significant positive effect of GHRM on BP [3, 4, 9, 34, 41].

In today's era, several organizations face many problems related to environmental sustainability. However, the development of GHRM and Green innovation is not possible with a conducive organizational culture [83, 84]. GHRM's most significant contribution is to leverage its employees' efficacy in waste management to improve green performance. Therefore, organizations should contemplate the use of GHRM to achieve an eco-friendly strategy [69, 85]. This has been shown in this study because there is a significant positive effect of GHRM on EC commitment [5, 11, 14-16].

In the last decade, environmental, social, and economic sustainability is currently considered the main responsibility that must be owned by companies, especially by the manufacturing industry whose activities are directed at protecting the environment [63, 86-88]. For that researchers need to investigate how green management should be applied to two important business functions: human resources and product innovation [42, 71]. In this study, it turns out that there is a significant positive effect between GHRM on GPI [56, 89, 90].

In this study, it turns out that there is a significant positive effect between EC on BP [54, 72, 91]. This is because environmental damage in the era of the industrial revolution 4.0 and 5.0 is still a threat that needs to be considered more seriously. Environmental changes, both internal and external, demand the company's ability to adapt to changes in order to survive in BP. For this reason, it is necessary to analyze the effect of environmental uncertainty on business competence [42, 92-94].

With the rapid global economic growth, there are issues regarding resources and the environment, which are the key bottlenecks for sustainable economic development. Thus, one of the current challenges is how to create an ecologically sustainable life. An important element in this issue is the increasing recognition that technological products and processes must embody greener characteristics than in the past. Therefore, the industry's effort to improve environmental

performance is to pay attention to the GPI so that BP's sustainability can be well maintained [95-97]. Likewise, in this study, it turns out that there is a significant positive effect between GPI on BP [28, 27, 55, 57].

Although many studies have tried to examine GHRM in various contexts including multinational companies [98, 99], many companies have incorporated HRM practices to promote environmental sustainability with a key focus on reducing environmental pollution and environmental degradation. Greening the workforce involves increasing the employee's overall competence, motivation, and environmental commitment, which includes the level of employee identification, loyalty, and involvement in protecting the environment [100-102]. In this study, it turns out that environmental commitment mediates the effect of GHRM on BP [25, 53, 54].

In today's competitive world, green innovation attracts attention especially manufacturing companies that focus on new product designs that enable lower energy consumption during their use by consumers, minimal waste after consumption or no hazardous materials. Companies tend to care and protect the environment by reducing waste and waste materials after production activities. Green innovation activities on a company's green performance which include environmental performance and a company's competitive advantage will have an impact on BP [70, 103, 104]. This explanation also strengthens the findings in this study that GPI mediates the effect of GHRM on BP [13, 27].

6. LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This research was conducted in several creative manufacturing industry companies in DKI Jakarta, Indonesia. However, the creative industry has several criteria from small, medium to large so that this can limit the generalization of research findings. The method of data collection is purposive sampling, which is an ideal approach to evaluate the impact of GHRM on BP, but other variables such as GHRM on EC, GHRM on GP are very influential and significant. However, this research is very interesting to note considering that currently Indonesia is also facing revolutions 4.0 and 5.0 so that this research is expected to have an impact on business sustainability in the future. In the future it should also be applied to service companies because it will be able to provide very interesting theoretical and managerial implications.

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