

The Impact of Workplace Green Behavior and Green Innovation on Green Performance of SMEs: A Case Study in Indonesia

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Abstract

Environmental concern has become the focus of various studies, academic research, company policies, and government policies. A business sector, which has seen a high level of urgency in environmental empowerment are small- and medium-sized enterprises (SMEs). These are an economic sector, which is imbedded in society and has become one of the largest economic sectors in Indonesia. Therefore, this study analyzes the relationship between green human resource management (GHRM), workplace green behavior (WGB) and green innovation (GI), and increasing firm performance (FP). This study is using quantitative research methods. The data is obtained through distributing questionnaires to 180 culinary SMEs employees from cafes and modern food restaurant in the Special Region of Yogyakarta (DIY), Indonesia. The data is then analyzed using Structural Equation Modeling (SEM) with Smart-PLS. The results of this study show that GHRM has significant positive effect on workplace green behavior and firm performance, while workplace green behavior also has significant positive effect on green innovation and firm performance. In addition, green innovation has significant positive effect on firm performance. This study contributes to provide and extends the literature related to building green SMEs, which is empirically demonstrated to be able to improve company performance.

Keywords: Green Human Resource Management, Workplace Green Behavior, Green Innovation, Firm Performance

JEL Classification Code: L20, J13, J30

1. Introduction

Heightened business competition makes companies compete to provide attractive value, uniqueness, and novelty for consumers. There are many company's values, which are aimed to improve its performance, one of which is environmentally-based business management. The issues of globalization and greening have always been hot topics for society. They push companies to contribute to

the environment, so it will gain more value and become attractive to consumers (Unsworth et al., 2020; Goworek et al., 2018; Norton et al., 2017).

The importance of environmental issues for business sustainability is economic growth. Economic growth is one of the factors in climate change (Goworek et al., 2018). Therefore, companies as economic actors must responsible to protect the environment (Unsworth et al., 2016). Environmental control practices must be conducted by all business actors, ranging from SMEs to corporate level. Previous studies have analyzed the activities of environmentally-based companies at the corporate level, but only a few have discussed environmentally-based business activities at the SME level. Therefore, this study will analyze the role of environmentally-based business practices on the SMEs performance.

Environmentally-based business practices cover various levels of study from the employee level to the strategy level, starting with green human resource management (GHRM). It will encourage the creation of workplace green behavior (WGB) (Dumont et al., 2017; Unsworth et al., 2020) and green innovation (GI) (Harrington et al., 2016), which

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ultimately increase firm performance (FP). Employees have an important role in shaping environmentally-based business activities. GHRM is needed to form green employees (Norton et al., 2017). GHRM covers various aspects, namely, selection, training, empowerment, and performance (Sheikh et al., 2019). Empirical studies have documented that GHRM application have significant effect on the creation of workplace green behavior (WGB) (Dumont et al., 2017; Fawehinmi et al., 2020). Workplace green behavior (WGB) is an individual behavior that contributes to the sustainability of an organization's environment (i.e., storing office supplies, separating waste, open communication, and sharing environmental sustainability information between employees) in the company's work environment (Kim et al., 2017; Kim et al., 2019).

The implementation of workplace green behavior (WGB) is also documented by several literatures. WGB encourages companies to create green innovation (Süßbauer & Schäfer, 2019; Cai et al., 2020; Li et al., 2019; Song & Yu, 2018; Soewarno et al., 2019; Alhadid & As'ad, 2014). Employees who are aware of the environment have an added value in enhancing company's image (Cai et al., 2020) since employees are part of company and directly related to consumers. When a company provides a work environment, which cares about environmental interests, the innovations created by the company always raise environmental values (Süßbauer & Schäfer, 2019; Cai et al., 2020). Therefore, this study analyzes the role of GHRM, WGB, and GI on SME performance.

2. Literature Review

2.1. Green Human Resource Management (GHRM) and Workplace Green Behavior (WGB)

GHRM defines a process of forming an environmentally-friendly workforce, understanding and appreciating the culture to protect the environment of the organization. The main objective of GHRM is to ensure environmental friendliness throughout the company's management process (Sheikh et al., 2019). Companies have a responsibility to incorporate the GHRM philosophy into corporate strategies and human resource management policies (Sheikh et al., 2019; Arqawi et al., 2019; Yong et al., 2019). Fawehinmi et al. (2020); Dumont et al. (2017) find that GHRM is able to create green behavior in the company's work environment. GHRM includes several company activities such as recruiting and hiring employees with awareness and knowledge related to environmental sustainability, training about environmental protection in the work environment to develop employee skills, competencies and environmental knowledge, assessing green performance

for employees, and rewarding employees based on success implementation of GHRM established by organizations (Mehta & Chugan, 2015).

The GHRM concept is basically designed to create workplace green behavior. Dumont et al. (2017) find that the effect of GHRM on workplace green behavior can be mediated by psychological green climate and also moderated by individual green values. These results indicate that creating a workplace green behavior requires loving environment character for each employee. There are several reasons why employees in companies that implement GHRM more easily create an environmentally-friendly work environment than companies that do not implement GHRM. First, GHRM practices like notification and understanding that companies focus and care about environmental sustainability, green selection implementation and green values. Green training also creates recognition of loving environment by employees (Renwick et al., 2013). Second, GHRM will increase employee knowledge, skills, and competence, which is the main process in establishing workplace green behavior (Fawehinmi et al., 2020; Cherian & Jacob, 2012).

H1: Green human resource management (GHRM) has a significant effect on workplace green behavior (WGB).

2.2. Green Human Resource Management (GHRM) and Firm Performance (FP)

Green human resource management (GHRM) is part of sustainable human resource management. In addition GHRM is also a social responsibility of the company (Alkerdawy, 2018; Tulsi & JI, 2020). The GHRM application includes several aspects, which in the end will have a positive and significant impact on company performance (Alkerdawy, 2018; Teimouri et al., 2014; Velasquez et al., 2011; Das & Singh, 2016). Environmental problems are important issues that must be considered by companies, not only large companies, but also SMEs and corporate level. They must pay attention to environmental problems because, if the company were able to reduce the negative impact on the environment, the company would simultaneously improve its performance (Mousa & Othman, 2019; Ahmad, 2015). Fernando et al. (2019) find that the company's efforts in preserving the environment are directly proportional to the company's performance. The amount of corporate responsibility for environmental sustainability can be triggered by green human resource management (Tulsi & JI, 2020)

GHRM covers several aspects within the company, including green recruitment and selection, green job analysis and design, green training and development, green performance management, and green reward management (Mwita, 2019; Mehta & Chugan, 2015). GHRM involves

environmentally-friendly human resource policies and practices. It will help organizations achieve their financial goals through environmental branding and protect the environment from any negative impacts that may be caused by organizational policies and actions (Uddin & Islam, 2015; Mwita, 2019). Based on the definition and implementation function of GHRM, it is clear that GHRM improves company performance (Dumont et al., 2017; Sheikh et al., 2019; Alkerdawy, 2018; Fernando et al., 2019; Mousa & Othman, 2019; Mwita, 2020; Yusoff et al., 2018). GHRM practice is an organizational resolution, which involves every part of the organization to increase environmental awareness and concern through programmed and sustainable activities (Yusoff et al., 2018).

H2: Green human resource management (GHRM) has a significant effect on firm performance (FP).

2.3. Workplace Green Behavior (WGB) and Green Innovation (GI)

Workplace green behavior (WGB) is individual behavior that contributes the sustainability of an organization's environment (i.e., storing office supplies, separating waste, open communication, and sharing environmental sustainability information between employees) under employee's will (Kim et al., 2017; Kim et al., 2019). This behavior can be increased through the application of an environmental care mindset at all levels of the company, from employees to leaders. In order to create an environmentally-friendly work atmosphere and innovation, three main strategies are needed, namely, opportunity, experimentation, and stabilization (Süßbauer & Schäfer, 2019). These three strategies can be implemented if the company applies green behavior at the level of organizational structure and goals (Süßbauer & Schäfer, 2018;). Cai et al. (2020) emphasize that green behavior, especially that applied by organizational leaders, will be able to have significant effect on the creation of green innovation, which includes green product innovation and green process innovation. Workplace green behavior (WGB) is implemented in the environmental protection form in the workplace, recycling waste, paperless, and adopting renewable energy (Uwem et al., 2021). The application of WGB increases a sustainable competitive advantage in terms of producing environmentally-friendly products and services. (Uwem et al., 2021).

Therefore, the literature emphasizes the importance of green behavior in the work environment because it has an important role in building a company image (Afsar et al., 2016; Cai et al., 2020). Previous research has specifically positioned green behavior in the workplace to create environmentally-based corporate innovations (Ozaralli & Rivenburgh, 2016; Robertson & Barling, 2013; Afsar et al., 2016; Cai et al., 2020; Li et al., 2019; Alhadid & As'ad, 2014). Green behavior can be in the form of

promoting the information exchange about environmental issues, emphasizing recycling activities, and encouraging the supply of environmental friendly companies. This allows employees to realize the importance of green behavior during the innovation process (Kim et al., 2017; Cai et al., 2020).

H3: Workplace green behavior (WGB) has a significant effect on green innovation (GI).

2.4. Workplace Green Behavior (WGB) and Firm Performance (FP)

Sustainable competitive advantage can be achieved through an environmentally-friendly work. Growth of population levels and new cities development increase three times the pressure on the environment (Iqbal et al., 2018). Increase of public awareness about economic growth results in environmental pollution, so that business actors have the responsibility to reduce the negative impact of business activities on the environment (Uwem et al., 2021). In addition, people are faced with serious challenges due to the overexploitation of human resources, environmental degradation, and unsustainable living standards (Uwem et al., 2021). On the other hand, recent environmental disasters are the result of unreasonable tree cutting, burning fossil fuels, and the release of carbon monoxide due to organizational and human activities (Fawehinmi et al., 2020).

As a result, an increase in the number of people and industrial waste have severe consequences for humanity and business (Iqbal et al., 2018). Some literature finds that workplace green behavior improves company performance (Kim et al., 2017; Dumont et al., 2017; Kim et al., 2019). Especially for SMEs, the consumers in this pandemic era really tend to pay attention to cleanliness and environmental sustainability, which makes SMEs who care about the environment have a good image in consumers' eyes. Employee awareness regarding environmental sustainability is the key to the company's sustainability (Süßbauer & Schäfer, 2019). Dumont et al. (2017) emphasize that an environmentally-friendly culture in the company will provide motivation and satisfaction for employees. Likewise, Kim et al. (2017); KolaLawal (2015) find that the creation of green behavior in the work environment increases employee satisfaction, so that company performance is getting better.

H4: Workplace green behavior (WGB) has a significant effect on firm performance (FP).

2.6. Green Innovation (GI) and Firm Performance (FP)

Green innovation is a company innovation that is based on environmental concern (Harrington et al., 2016).

Green innovation for SMEs is not only related to company orientation and goals, but also supply chains, services, and waste management. Small companies show a higher return on green innovation investment than large companies, which shows that small companies are more likely to seek variety and visibility to access better resources. Some previous research has shown that green innovation has a significant effect on company performance (Xie et al., 2019; Lin et al., 2019; Rezende et al., 2019; Zhang et al., 2019; Rodriguez et al., 2017; Tariq, 2018; Arfi et al., 2017; El-Kassar, 2018).

Green innovation can be described as green process innovation and green product innovation, both able to improve company performance (Xie et al., 2019). Lin et al. (2019) state that green strategic innovation positively affects the company's financial performance. On the other hand, Lin et al. (2019) find that company size negatively moderates the relationship between green strategic innovation and company financial performance. Mehta et al. (2021) found that innovation, especially those supported by technology, is the key to business success, especially for SMEs, and the technology that should be used in innovating is green technology (Saifullah et al., 2017).

Different results are found by Rezende et al. (2019). There is no significant relationship between the intensity of green innovation and the company's financial performance in the short term, but it will provide a significant relationship in the long term. Other findings reveal that green innovation has a significant effect on the company's financial performance. The higher green innovation, the higher company's profitability, and the lower the company's financial risk. In addition, study findings also support the statement that the higher the intensity of market resources, market turmoil, and technology turmoil, the more it strengthens green innovation and company financial performance (Tariq, 2018).

H5: *Green innovation (GI) has a significant effect on firm performance (FP).*

3. Research Methods

The population in this quantitative study is all employees of SME culinary in DIY. The quantitative data comes from primary data obtained through distributing questionnaires to 250 employees. The number of questionnaires returned and filled completely is 180 so the response rate of this study is 72%. Then, the questionnaires are analyzed with the Structural Equation Model using Smart-PLS (Partial Least Square) software. This study uses four variables with one exogenous variable, namely, green human resource management (GHRM) and three endogenous variables, namely, workplace green behavior (WGB), green innovation (GI), and firm performance (FP). The respective

questionnaire sources are adopted successively: GHRM (Dumont et al., 2017) and firm performance (FP) (Anwar et al., 2018).

4. Results and Discussion

4.1. Respondents' Profile and Characteristics

Respondents' characteristics in this study include gender, age, education, and income, which can be seen in Table 1. The majority of respondents are women (52.5%), aged 15–30 years (45%), undergraduate education (75%), with an income of Rp1 million to Rp5 million (55.5%).

4.2. Validity and Reliability Testing

4.2.1. Outer Model Evaluation

Outer model evaluation determine the validity and reliability of measurement instruments in the research model. The first outer model analysis is to see the convergent validity test, which can be done by looking at the value of each loading factor. The loading factor value describes the magnitude of the correlation between each measurement item and the latent variable (its construct). An item fulfills the convergent validity if the loading factor score on each path between the component (latent variable) and the manifest variable is ≥ 0.7 .

Table 1: Respondents' Characteristic

Gender	Frequency	Percentage
Male	95	47.5%
Female	105	52.5%
Age		
15–30 years old	90	45%
31–40 years old	62	31%
41–50 years old	48	24%
Education		
Elementary School	0	
Junior High School	15	7.5%
Senior High School	35	17.5%
Bachelor	150	75%
Income		
< 1.000.000	30	15%
1.000.000–5.000.000	111	55.5%
> 5.000.000	59	29.5%
Total Respondent	200	100%

Table 2: Loading Factor Value

Item questionnaire	FP	GHRM	GI	WGB
Sales growth	0.719			
Customer satisfaction	0.769			
Employees satisfaction	0.772			
Product/service quality	0.772			
Employee loyalty	0.774			
Company sets green goals for its employees		0.841		
Company provides green training for employees to promote environmental values		0.844		
Company provides green training for employees to develop employee's knowledge and skills for environmental based management		0.881		
Company considers green behavior in the employee's workplace when conduct performance assessment		0.901		
Company links green behavior in employees' workplaces with rewards and compensation		0.873		
Employees are looking for new technologies, processes, techniques, and / or product ideas related to the environment			0.847	
Employees generate creative ideas based on the environment.			0.888	
Employees promote and fight for environmentally based ideas with others			0.916	
Employees develop adequate plans and schedules for implementing new green ideas			0.907	
Employees complete assigned tasks in an environmental friendly manner				0.878
Employees fulfill the responsibilities defined in job description in environmental friendly manner				0.893
Employees take the initiative act in environmental friendly manner in the workplace				0.883
Employees take the opportunity to be actively involved in environmental protection in the workplace				0.859

Table 2 describes that all items have an outer loading value greater than 0.7 with a significance level < 0.05 . So, the questionnaire items are valid and have a good outer model.

4.2.2. Construct Validity, Composite Reliability and Discriminant Validity

Construct validity is validity that indicates the extent to which a test measures the theory construct, which form the basis of the test. The construct has a good validity if the average variance extracted (AVE) value is ≥ 0.5 , while the reliability test can be seen from the value of Cronbach's Alpha and composite reliability. A construct is reliable if it has a Cronbach's Alpha value ≥ 0.6 and a composite reliability value ≥ 0.7 .

Table 3 describes that there are no measurement errors in the outer model and all latent variables are used to predict structural functions in the inner model because all

Table 3: AVE and Composite Reliability (CR)

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
FP	0.82	0.826	0.873	0.58
GHRM	0.919	0.937	0.939	0.754
GI	0.912	0.913	0.938	0.792
WGB	0.901	0.902	0.931	0.772

variables have AVE values > 0.5 , $CR > 0.7$ and Cronbach's Alpha ≥ 0.6 . Likewise, Table 4 shows that all variables are valid because the \sqrt{AVE} value is higher than the correlation between the variables.

4.3. Inner Model Evaluation

Furthermore, Table 5 shows the calculation of R Square and finds that the firm performance (FP) variable can be explained by other variables in this model for 51.5%. Green innovation (GI) can be explained by other variables in this model for 71.6% and workplace green behavior (WGB) can be explained by other variables in this model for 12.3%.

4.4. Structural Equation Models Interpretation

This study tests five hypotheses in the inner model. Hypothesis test results are shown in Figure 1 and Table 6.

Table 4: Discriminant Validity

	FP	GHRM	GI	WGB
FP	0.762			
GHRM	0.352	0.868		
GI	0.657	0.315	0.89	
WGB	0.699	0.351	0.846	0.879

Table 5: R-Square

	R Square	R Square Adjusted
FP	0.515	0.507
GI	0.716	0.715
WGB	0.123	0.118

The results of the inner model test as listed in Table 5 are as follows:

1. Green human resource management (GHRM) has positive and significant effect on workplace green behavior (WGB). This result can be seen from *T*-statistic value more than 1.96, namely, 4.345 and *P*-value less than 0.05, namely, 0.000 (H1 accepted).
2. Green human resource management (GHRM) has a positive and significant effect on firm performance (FP). This result can be seen from *T*-statistic value of more than 1.96, namely, 1.996 and *P*-value less than 0.05, namely, 0.046 (H2 is accepted).
3. Workplace green behavior (WGB) has a positive and significant effect on green innovation (GI). This result can be seen from *T*-statistic value more than 1.96, namely, 24.706 and *P*-value less than 0.05, namely, 0.000 (H3 accepted).
4. Workplace green behavior (WGB) has a positive and significant effect on firm performance (FP). This result can be seen from *T*-statistic value of more than 1.96, namely, 4.716 and *P*-value less than 0.05, namely, 0.000 (H4 accepted).
5. Green innovation (GI) has a positive and significant effect on firm performance (FP). This result can be seen from *T*-statistic value, which is more than 1.96, which is 2.419 and *P*-value less than 0.05, namely, 0.016 (H5 is accepted).

4.5. Discussion

This study analyzes the relationship between green human resource behavior (GHRM), workplace green

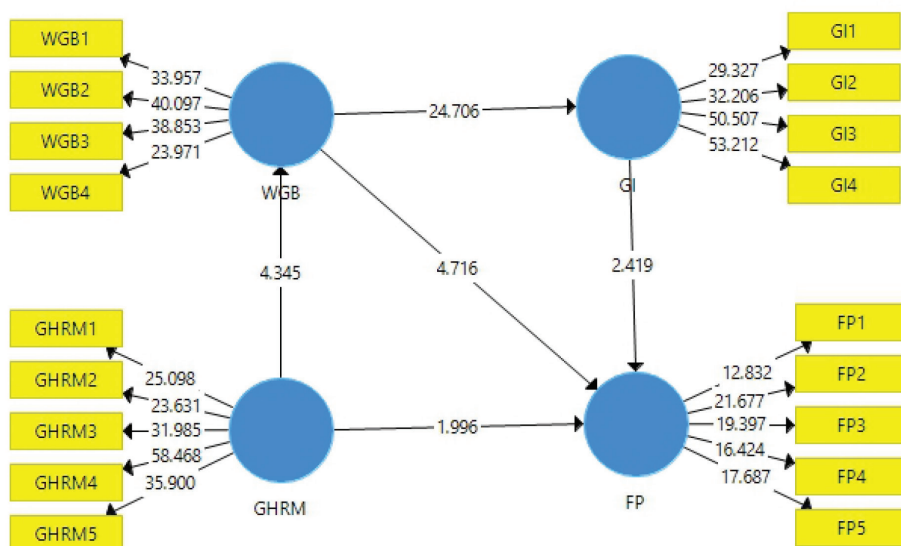


Figure 1: The Result of Green SMEs Performance: The Role of Workplace Green Behavior and Green Innovation

Table 6: Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Conclusion
GHRM → WGB	0.351	0.352	0.081	4.345	0.000*	H1. accepted
GHRM → FP	0.117	0.123	0.059	1.996	0.046*	H2. accepted
WGB → GI	0.846	0.849	0.034	24.706	0.000*	H3. accepted
WGB → FP	0.469	0.469	0.099	4.716	0.000*	H4. accepted
GI → FP	0.223	0.218	0.092	2.419	0.016*	H5. accepted

*sign = significant with alpha 0.05.

behavior, and green innovation in improving the culinary SMEs performance in Yogyakarta. The GHRM role is being analyzed in creating green innovation and company performance. The first hypothesis in this study states that green human resource management is able to have significant effect on workplace green behavior. The results show that there is a significant effect of GHRM on workplace green behavior, so the first hypothesis is accepted. It supports several previous studies by Fawehinmi et al. (2020); Dumont et al. (2017). GHRM is a concept that is able to create environmentally-friendly recognition by employees (Renwick et al., 2013) and GHRM will increase employee’s knowledge, skills, and competencies, which are the main processes in forming workplace green behavior (Fawehinmi et al., 2020). Therefore, the GHRM application, especially in culinary SMEs, must be a priority in order to create a workplace green behavior. If culinary SMEs care about their special environment, from the aspect of cleanliness and beauty, it would have an impact on the company’s image so that visitors will repeat purchase and employees will be more active in working.

The second hypothesis in this study states that GHRM has a positive effect on company performance. The results of the analysis show that there is a significant effect of GHRM on company performance, so the second hypothesis is accepted. The effect of GHRM on company performance is in line with Dumont et al. (2017); Sheikh et al. (2019); Alkerdawy (2018); Fernando et al. (2019); Mousa and Othman (2019); Mwita (2020); Yusoff et al. (2018). This means if the company is able to reduce its negative impact on the environment, the company would simultaneously improve its performance (Mousa & Othman, 2019; Ahmad, 2015). People today have a tendency to be more concerned about cleanliness and hygiene, especially on food and places to eat. This is due to the spread of the coronavirus over the world, which requires people to comply with health protocols. This condition requires business people to provide services that give more healthy impression, one of which is by creating a green behavior.

The third hypothesis states that workplace green behavior has a significant effect on green innovation. The results of the analysis show that there is a significant effect of workplace green behavior on green innovation, so the third hypothesis is accepted. Previous research has specifically positioned green behavior in the workplace to create environmentally-based corporate innovations (Robertson & Barling, 2013; Afsar et al., 2016; Cai et al., 2020; Li et al., 2019; Alhadid & As’ad, 2014). Creating green behavior in the workplace is the best step in fostering employees to realize the importance of green behavior during the innovation process (Kim et al., 2017; Cai et al., 2020). Green behavior applied by employees, especially in the culinary business, will build a company’s image in the eyes of consumers as a green SME because employees are the link between the company and consumers. Employee attitudes determine the image and mindset of consumers regarding the company.

The fourth hypothesis states that workplace green behavior has a significant effect on company performance. The results of the analysis show there is a significant effect of workplace green behavior on company performance, so the fourth hypothesis is accepted. Some research supports the results of this study and states that workplace green behavior improves company performance (Kim et al., 2017; Dumont et al., 2017; Kim et al., 2019). Employee awareness regarding environmental sustainability is the key to the company’s sustainability (Süßbauer & Schäfer, 2019). It is hoped that this awareness will create an environmental friendly work environment. An environmental friendly work environment is a concept capable of producing beautiful, comfortable workplace, and increasing employee motivation and morale. For SMEs, environmental friendly work environment is very helpful in increasing market share. SMEs will be able to seize the large corporate market if they are consistent with the environmental friendly concept.

The fifth hypothesis states that green innovation has a significant effect on company performance. The results of the analysis show that there is significant effect of green innovation on company performance, so the fifth hypothesis

in this study is accepted. Green innovation at SME is the result of creating green behavior in the workplace. With green innovation, SME will provide its own uniqueness so that it attracts consumer interest. Some studies have shown that green innovation is able to have a significant effect on company performance (Xie et al., 2019; Lin et al., 2019; Rezende et al., 2019; Zhang et al., 2019; Rodriguez et al., 2017; Tariq, 2018; Arfi et al., 2017; El-Kassar, 2018). Rezende et al. (2019) and have different results that there is no significant relationship between the intensity of green innovation and the company's financial performance in the short term, but will provide a significant relationship in the long term.

This study provides a green SME concept, which combines GHRM, workplace green behavior, and green innovation in improving the performance of SMEs. The combination of these three variables and their implementation in the company is one of the main keys to the company's sustainability. SMEs must be able to design businesses to be environmental friendly and have employees who care about the environment and are able to create environmental based innovations.

5. Conclusion

Competition among business actors, especially SMEs, requires them to provide added value to consumers, one of which is by managing an environmentally-based business. This study analyzes the relationship between GHRM, workplace green behavior, and green innovation on company performance and produced several findings:

1. Green human resource management (GHRM) has a significant effect on workplace green behavior.
2. Green human resource management (GHRM) has a significant effect on firm performance.
3. Workplace green behavior has a significant effect on green innovation.
4. Workplace green behavior has a significant effect on firm performance.
5. Green innovation has a significant effect on firm performance.

This study results have theoretical implications that there is very strong relationship pattern between GHRM, workplace green behavior, and green innovation on company performance. This study proposes three aspects in building a green SME, namely, green human resource management (GHRM), workplace green behavior, and green innovation. These findings also provide enrichment for GHRM theory in relation to workplace green behavior, green innovation, and company performance. The managerial implication of this study is that green behavior has big positive impact on SMEs,

namely, employee health, comfort, workplace cleanliness and safety, and company performance. Regarding the implementation of GHRM, it can be done by designing green goals for employees, holding green training, and creating an environmental friendly work environment. The workplace green behavior is realized by ensuring that all company activities are environmentally-friendly ways and green innovation can be triggered by green ideas from employees and management. These aspects are recommended for SMEs so that they can improve their performance. This study also provides new evidence related to building green SMEs, which empirically proves to be able to improve company performance.

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