

Awareness of the Implementation of Green Human Resource Management in Manufacturing Industry

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Abstract. The development of industry 4.0 has impacted of the number of manufacturing industry companies in Indonesia, reaching 29,000 companies. It has a positive impact in the form of increasing the economy in Indonesia. On the other hand, the development of the manufacturing industry contributes to greenhouse gas emissions of 21.46% of total greenhouse gas emissions in Indonesia. It raises concerns about the sustainability of the environment and the people affected. One of the efforts to support the creation of better conditions in the future (sustainable) is the implementation of Green Human Resource Management (GHRM). The application of Green HRM in companies will encourage operational changes and human resource management that focuses on the environment and can positively impact company performance. This study aims to see awareness of implementing GHRM practices in the manufacturing industry. The survey results show that 41,7% of respondents' understanding of GHRM needs to be improved. 37,14% of respondents answered that the company needed to optimize the implementation of GHRM. And 30,6% of respondents stated that the company had never measured the impact of GHRM implementation on sustainable performance from financial, environmental, and social perspectives.

Keywords: Green Human Resource Management, Sustainability, and Manufacturing Industry.

25. Introduction

In this era, the industrial sector has experienced several Industrial Revolutions. Starting from Industry 1.0, which began with the presence of steam engines, Industry 2.0, which was marked by the rise of mass industry, continued Industry 3.0, which was introduced with the presence of computer technology and automation until now the industry has reached 4.0 which comes with the development of internet technology [1]. Along with the development of world industrial capacity and processes, there is also an increase in production by-products/waste, especially in manufacturing companies that process a lot of raw materials into finished goods. This raises concerns about the sustainability of the environment and the people affected by the production process.

The higher the production / manufacturing process makes the issue of environmental sustainability/sustainability a topic that gets a lot of attention [2]. In practice, to encourage the implementation of sustainability in the industrial/company environment, all parties within the company need to encourage and implement the same methods/actions in order to be able to create sustainability which can have an impact on the company's internal and external (environment). The development of the manufacturing industry is the key to economic growth and supports inclusive and sustainable development and is supported by technology and workforce in good companies.

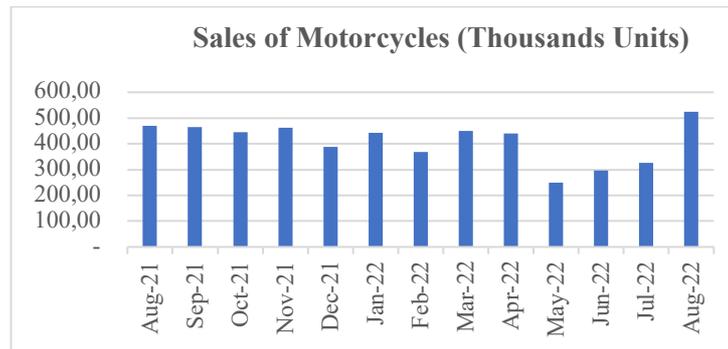


Figure 1. Sales of Motorcycles (August 2021 – August 2022)

One of the pioneers in industrial growth in Indonesia is the automotive industry. The growth of the automotive industry can have an impact on improving the economy in Indonesia [3]. According to [4] in 2021, there are a total of 29,000 companies in the manufacturing industry and one of the sectors that are developing is automotive vehicle manufacturing. This can be seen from the data reported by the Indonesian Motorcycle Industry Association (AIS) that domestic motorcycle sales reached 524,821 units in August 2022. As can be seen in Figure 1. this realization increased 60.77% compared to July 2022, which totaled 326,452 units. Also increased by 11.64% compared to sales in August 2021.

On the other part from the impact of increasing the economy, the high production of domestic motorbikes can cause the manufacturing industry to become a contributor to pollution in Indonesia, in the form of greenhouse gas emissions of 21.46% [5]. This condition raises concerns about the sustainability of the environment and the people affected by the production process. According to [2] the development of technology and industrial / manufacturing processes has made sustainability a topic that has received a lot of attention. To support the creation of better conditions for the future (sustainable), the government implements the SDGs (Sustainable Development Goals). One of the SDGs agenda relates to the measurement and management of Green Human Resource Management (GHRM), which has a good impact and influences sustainable performance in companies [6,7,8,9]. This is also supported by research by [10,11] that one of the factors that support the implementation of sustainability in a company is from the side of human resources in a company. This becomes important for companies to be able to manage their human resources through various activities such as recruitment, training, performance, compensation & benefits, and managing employee problems while still referring to the green concept of "Green" [12,7].

The implementation of GHRM based on a sustainable environment could provide a competitive advantage to companies in business competition [13]. Changes in business conditions encourage companies to make changes in operations and human resource management that are more focused on the environment [13]. This is in line with research conducted by [2,6], that GHRM can have a positive impact on company performance from a financial, environmental, and HR perspective. If the company has yet to implement or maximize the use of GHRM in the company, the company will not get or receive fewer benefits. Previous research stated that the benefits of using GHRM can affect sustainable performance in the company, which includes benefits from the people/social side. The advantage of profit/finance is increased company efficiency and long-term profits. The advantages from the planetary/environmental side are reduced emissions and a better work environment [14,15].

Based on the background that has been explained, the topic of sustainability is a worldwide concern. In Indonesia also started taking steps to increase sustainability, which has impacted in manufacturing industry. One of the influencing factors is the management of human resources. The role is important in supporting the implementation of GHRM in an organization which can affect the company.

25.1. Objectives

This research wants to raise a topic that is currently receiving attention from practitioners and researchers in Green Human Resource Management. This study aims to analyze the extent of awareness

in the implementation of GHRM in manufacturing companies. This research will be conducted at three factories from manufacturing companies that produce automotive spare parts.

25.2. Literature Review

1.2.1 Sustainability. As attention is being paid to sustainability and environmental issues, many companies are starting to include both of these in their corporate strategy [16]. The implementation of environmental management strategies and their impact on financial performance has also begun to receive attention from both academics and companies [16]. The adoption of sustainability strategies in companies has grown steadily in recent years, especially for automotive manufacturers. This aims to help understand how automotive manufacturers know the influence of sustainability strategies on manufacturing performance based on their manufacturing capabilities [17]. According to research, organizations will shift to a low-carbon economy and implement sustainable practices throughout their business. This statement further convinces the multi-stakeholder mode and the triple bottom line approach in which businesses contribute and measure not only economic value creation, but also social and environmental value creation in a sustainable manner [18]. Many companies have adopted environmental practices that go far beyond environmental regulations to reduce energy consumption, propose green products or technologies, and minimize ecological footprint [19].

1.2.2 Human Resource Management. The management of a company does not only focus on factors such as raw materials and production processes but also on the ability to manage human resources within it. Human Resource Management, commonly known as Human Resource Management (HRM), focuses on managing employees within an organization or company [16]. HRM is a process for obtaining workers, providing training, measuring performance, providing rewards and compensation, and its relation to work relations issues, to a sense of justice for employees [20]. The aim of the company in HRM, where the need to apply best practices for basic HRM functions (recruitment, selection, training, and development, performance management, compensation), must be supplemented or replaced by strategic people management practices and operations that consider the development of social, environmental, and human capital [21,22]. This approach, referred to as sustainable HRM, is defined as “the adoption of HRM strategies and practices that enable the achievement of financial, social, and ecological goals, and helps to create an alignment of internal and external stakeholders [18].

1.2.3 Green Human Resource Management. Green HRM or GHRM, refers to the alignment between the implementation of HR management through various activities with goals and policies that encourage environmentally friendly (green) attitudes. GHRM implementation can be carried out in various ways, such as providing training related to the environment, providing rewards that involve environmental aspects, and evaluating employee performance by looking at employee performance that impacts the environment [16]. Sustainable performance is a performance measurement that is carried out by considering the Triple Bottom Line (People, Profit, and Planet) at every stage of the company's business processes [23]. Based on [24] stated that companies are currently developing and focusing on managing resources and how this impacts employees and the environment. At the same time, financial performance/profit focuses on indicators such as profits, market share, and sales levels, while people / social performance focuses on employees, consumers, to the environmental community [25]. According to [26] broader GHRM practices will help companies to place sustainability at the heart of human resource management, and besides that, potential benefits will also be obtained for both the organization and workers. Better environmental performance will be associated with improved financial performance outcomes (Green Payments) [46,47].

1.2.3.1 Green Recruitment and Hiring. Today, many companies aim to provide job descriptions that can define environmental duties related to job duties and responsibilities. Thus, an efficient approach to attract applicants is to gain a reputation for the company [27]. Companies can also promote their image, performance, and environmental policies, which can help attract candidates to apply for potential

vacancies. Thus, the description of a particular job position must describe the environmental tasks associated with that position and the skills and knowledge required by the candidate to carry out environmental activities [28]. Organizations should focus on selecting and recruiting employees who are supportive and interested in the environment [26]. To increase the attractiveness of employee selection of increasingly environmentally conscious talent, organizations must build a reputation and environmental illustration that organizations are responsive to the environment [29,30]. Green recruitment ensures that recruits understand the green culture of the organization and share its environmental values [8] through the transfer of participants' environmental knowledge, values, and beliefs [26]. Recruitment must include environmental criteria [8,31]. In the job analysis phase, job descriptions and individual specifications must explain and emphasize environmental aspects, and green achievements and explain what is expected of green employees in the future [8,26,32].

1.2.3.2 Green Training and Development. Environmental management support and initiatives, and has the most significant impact on environmental awareness among employees and is an important priority for companies because they can contribute to sustainable development [8,33]. Employee development training can cover social and environmental fields and develop knowledge in environmental management for employees [31,32]. Green training can increase employee awareness of the value of environmental preservation, increase capacity and response to change, and support them in obtaining basic methods for saving data resources where they work [34]. In [35] research, the GHRM-sustainability relationship that leverages a resource-based view, shows that renewable hiring and green teaching lead significantly to sustainability. In a manufacturing industry, both auto parts manufacturers and motorcycle parts manufacturers, the most important capability when developing a manufacturing strategy is the production/operations dimension [36]. Green Training not just growing green workers and ultimately changing the work culture through green HR methods, including green recruitment and selection and performance appraisal [33,37].

1.2.3.3 Green Performance Management. Green Performance is an assessment based on the extent to which the employee is involved in behavior and produces something related to greening over a certain period or time, while also looking at how well the employee is making progress towards a green environment, the dimensions of the Green Performance Assessment consist of Strategic Focus, Measurability, Completeness [38,39,40]. From a green perspective, green performance appraisal refers to assessing and recording employees' environmental performance throughout their company career and providing feedback on employee performance to prevent unwanted attitudes or reinforce exemplary behavior [8,41].

1.2.3.4 Green Reward and Compensation. Green Reward and Compensation is a reward system that aims to attract, retain and motivate employees to contribute to green environmental goals. Things included in Green Rewards and Compensation are bonuses or compensation; Behavioral and Technical; Recognition for Green Environmental Performance and Incentives for acceptance of green environmental behavior [40,42]. In advancing greening goals for companies, it is necessary to reward employees for their commitment to environmental practices. Rewards or compensation can be given in the form of financial (bonuses, cash, etc.) and non-financial (leave, goods, or awards, etc.). In addition, the provision of Rewards and Compensation can be used to encourage some green creativity and innovation by providing opportunities for employees to share innovative green ideas [8,43].

26. Methods

The approach to this study uses qualitative methods through surveys conducted on permanent employees who work in manufacturing companies that produce automotive spare parts. The survey was built from questions based on a review of the literature on GHRM implementation in the manufacturing industry. Questionnaire questions are explained in Table 1. The survey was conducted at three motorcycle spare parts manufacturing factories located in Banten, Indonesia.

Table 1. List of Questionnaire

Number	Question
Q1	Have you ever heard of Green Human Resource Management? (Yes / No)
Q2	Explain briefly what you know about Green Human Resource Management! (Short answer)
Q3	Does your company implement an environmentally friendly attitude (green) as one of the company goals? (1 : Not Applicable - 6 : Very Applicable)
Q4	How often does your company provide environmental training to support the implementation of sustainability in the company? (1 : Never - 6 : Always)
Q5	How often does your company consider environmentally friendly (green) behavior in assessing employee performance? (1 : Never - 6 : Always)
Q6	Does your company link environmentally friendly (green) behavior in awarding rewards and compensation? (1 : Never - 6 : Always)
Q7	Does your company consider environmentally friendly behavior (green) or green innovation in the promotion process? (1 : Never - 6 : Always)
Q8	Is there a company regulation that regulates the implementation of environmentally friendly behavior (green) in the company environment? (Yes / No)
Q9	How much does your company consider the environment (planet) in achieving company goals? (1 : Not Applicable - 6 : Very Applicable)
Q10	How much does your company consider the employee side (people) in achieving company goals? (1 : Not Applicable - 6 : Very Applicable)
Q11	How big is your company considering the profit side (profit) in achieving company goals? (1 : Not Applicable - 6 : Very Applicable)
Q12	Does your company have implemented Green Human Resource Management? (1 : Not Applicable - 6 : Very Applicable)
Q13	Does your company ever measured the benefits of green human resource management on company performance (financial, environmental and human)? (Yes / No)

27. Result and Discussion

The survey was carried out using the Snowball method, which utilizes connections between respondents to distribute survey questionnaires that can be accessed through online surveys. There are the answers that have been collected in Table 2. Then the questionnaire questions were tested for its validity using the Pearson Correlation Test method and a Reliability Test using Cronbach's Alpha with Minitab 18. Validity testing is used to measure the validity of a questionnaire. In the results of the questionnaire validity test shown in table 3, it can be seen that all questions are valid. This can be seen from the criteria if the correlation between scores has a significant level below 0.05, then the question is valid and vice versa [44]. Meanwhile, in the reliability test, if The Cronbach's Alpha value is > 0.6, then the research instrument is considered reliable. If the Cronbach's Alpha value is <0.6, then the research instrument is unreliable [45]. In testing The Cronbach's Alpha value, the result was 0.9294. So, this questionnaire is valid and has high reliability. Reliable means the level of consistency, accuracy, and predictability of the questionnaire is good.

Table 2. Response of The Questionnaire

Number	Response of The Questionnaire							
	Likert						Y/N	
	1	2	3	4	5	6	Y	N
Q1							57,14%	42,86%
Q2							'Short Answer'	
Q3	0,00%	0,00%	11,43%	28,57%	34,29%	25,71%		
Q4	2,86%	2,86%	28,57%	25,71%	11,43%	28,57%		
Q5	0,00%	8,57%	20,00%	37,14%	14,29%	20,00%		
Q6	5,71%	20,00%	37,14%	17,14%	14,29%	5,71%		
Q7	5,71%	11,43%	28,57%	14,29%	28,57%	11,43%		
Q8							94,29%	5,71%
Q9	0,00%	5,71%	14,29%	34,29%	28,57%	17,14%		
Q10	0,00%	0,00%	11,43%	42,86%	25,71%	20,00%		
Q11	0,00%	0,00%	8,57%	28,57%	40,00%	22,86%		
Q12	0,00%	11,43%	25,71%	28,57%	20,00%	14,29%		
Q13							69,40%	30,60%

Table 3. Pearson Correlations Validity Test

	Q.3	Q.4	Q.5	Q.6	Q.7	Q.9	Q.10	Q.11	Q.12
Q.4	0,594								
Q.5	0,43	0,722							
Q.6	0,254	0,57	0,735						
Q.7	0,515	0,832	0,743	0,693					
Q.9	0,683	0,625	0,685	0,556	0,69				
Q.10	0,691	0,631	0,55	0,364	0,592	0,777			
Q.11	0,617	0,628	0,626	0,391	0,614	0,729	0,768		
Q.12	0,606	0,586	0,583	0,577	0,534	0,491	0,401	0,595	
Q.X	0,722	0,867	0,851	0,733	0,875	0,849	0,774	0,808	0,746

The survey results from Question number 1 shows that 42.86% of respondents do not understand the term "Green HRM". This shows that the term "GHRM" may not be optimally applied to the company where the respondent works. Question number 2, which contains a short answer, shows that 41.7% of respondents have not been able to briefly explain what Green HRM is, which is in line with question 1 that most respondents need help understanding the term Green HRM. Question number 3 shows that most respondents answered that the company has started to consider sustainability in achieving company goals. This means they have made green behavior a way to achieve company goals.

Questions 4, 5, 6, and 7 show that the company needs to optimally implement Green HRM in the HR management process.

The results of question number 8 show that the company already has a policy that regulates environmentally friendly (green) behaviour in the company, where 94.29% of respondents answered Yes. Questions 9, 10 and 11 show that companies consider financial factors more as a measure of achieving company success, while the lowest is environmental factors. This shows that the company where the respondent works has yet to maximize environmental factors to achieve company goals. Question number 12 shows that 37.14% of respondents feel that their company has not implemented GHRM. This shows that there is still an opportunity to improve the implementation of GHRM in the company. Question number 13 shows that there is still room for analysis regarding the impact of GHRM implementation on company performance from a financial, environmental, and HR perspective.

28. Conclusion

Based on previous studies, it was stated that the implementation of Green HRM positively impacted overall sustainable performance (People, Profit, & Planet). This is because good performance on one side-affects performance on the other [2,6]. So, it becomes important for companies to implement GHRM, but in Indonesia, few researchers have researched about GHRM, especially in manufacturing.

From the results of a survey conducted, it was found that the level of employee awareness of green human resource management still needs to be improved. This is indicated by the fact that there are 41.7% of respondents still do not understand GHRM properly. Based on the survey results, 37.14% of respondents answered that their companies had not implemented GHRM as a whole, and 30.6% of respondents stated that the company had never measured the impact of GHRM implementation on sustainable performance from financial, environmental and social perspectives.

The company plays an important role in implementing Green HRM and maximizing its benefits for People, Profit, and Planet. The survey results also show that the company must fully implement GHRM in each Employee's HR Journey. Companies can also start measuring the impact of GHRM implementation on the 3P (people, profit, planet). It is hoped that this research will encourage the level of GHRM implementation in the corporate environment, especially manufacturing in Indonesia.

Future research can be carried out in different industries to provide more diverse results. Surveys can also be carried out by adjusting the tools (questionnaire questions) so that they may provide different results and add to the benefits of diversity for science. This research can also be deepened by conducting further analysis, such as how companies make efforts to increase GHRM implementation, its impact on People, Planet, and Profit, and the long-term impact of GHRM implementation for companies. As well as the need for research on challenges in GHRM implementation.

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