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# SUSTAINABLE PERFORMANCE AND GREEN HUMAN RESOURCE MANAGEMENT: THE MEDIATING THE ROLE OF ENVIRONMENTAL KNOWLEDGE AND MODERATING THE ROLE OF SELF-EFFICACY

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### **Abstract:**

The industries of any country are the major sources of economic development as well as environmental pollution. The theory of ability motivation opportunity theory contributes to this context. This study aims to observe the impact of green human resources management (green selection, green rewards, green training, and green performance evaluation) on sustainable performance (economic, social, and environmental performance) by considering the mediating effect of environmental knowledge and the moderating effect of green self-efficacy on the garment industries. The study is quantitative and descriptive. The questionnaire was used for the survey and data have been collected from 150 respondents by simple random sampling method. After applying required tests on SPSS, findings revealed that green human resource management has a significant and positive influence on sustainable performance. These findings suggest that attaining sustainable performance with the help of environmental knowledge is the main key to attaining sustainable development, which is important for developing countries. Previous studies did not work on green self-efficacy as a moderator for sustainable performance and environmental knowledge performance. In the end, the major concern of this article is to attain sustainable performance through environmental knowledge with the help of GHRM.

**Key Words:** Green human resource management, environmental knowledge, sustainable performance, Green self-efficacy

### Introduction

The impact of the industrial sector on the environment is a major issue; the primary purpose is to achieve sustainable performance or practices which meet environmental, economic, and social needs (Farhan & M. S. Nawaz, 2022). All organizations are struggling in balancing their sustainable performance (S. Ayuso, 2014). For the accomplishment of this balance is observed as a very difficult

task and in some cases, a debated challenge (Haffar & Merriam, 2017). Over the last many years environment becomes very famous due to environmental pollution and global distress, consequently, each of the firms is trying to make a green innovative environment (Chang, 2012). GHRM mentions the HRM features of environmental management (Renwick, 2013). In response to this, many organizations are motivated and do daily operations that are less harmful to the environment through the implementation of environmental management systems (EMS) or green initiatives. The purpose of these initiatives is to reduce carbon emissions, such as reducing electricity and industry materials usage; and consciously recycling materials appropriately (A. Mazzi, 2016). The adoption of green performs in business operations provides benefits for society at large, and it shows the socially responsible side of the business. GHRM can be considered into three primary activities: motivating green employees, developing green employee abilities, and providing green chances (Renwick; Redman, 2013).

Some scholars have found that GHRM practices have a positive impact on a company's environmental performance EP through activities such as waste reduction and organizational efficiency (Jabbour, 2011; Roscoe1, 2019). Overall, GHRM practices can boost employees' green behavior to willingly improve a firm's performance (Jabbour, 2011; Roscoe1, 2019). Therefore, the main concern is for the researcher to discover the green HRM effect on the sustainable performance of industries. Earlier, GHRM has been considered essential for many industries, such as the business industry (Z. Hameed, 2020) (S. K. Singh, 2020) (J. Y. Yong, 2020) (W. Song, 2020) service industry (Suganthi, 2019) information technology industry and other industries too. Automobile industry (Chaudhary, Green human resource management and employee green behavior: An empirical analysis, 2019) coal and power industry (Saeed1, 2018). But, in the garments industry, green HRM has been quietly ignored and we need to study because it it's included in major developing industries of the world, generating employment for billions of people (A. Sarkar & Peau, 2020). Therefore, the latest study aims to study GHRM's performance within the framework of the apparel industry.

The garment industry is famous among south Asian countries, garments manufacturing concerns is producing a higher level of contaminated chemicals and waste disposal, greenhouse gas discharge, and exhaustion of natural means. The survey focused on leather and textiles because they are key sectors. Water pollution, allied materials, and toxic chemicals are the main cause of the increased level of environmental degradation (K. Karmoker, 2021). The researchers ignore the moderating role of green self-efficacy and how to attain sustainable performance (K. Karmoker, 2021; Olawole Fawehinmi, 2019). Accordingly, the latest studies explore the gap in how organizational green ingenuities like GHRM affect sustainable performance in the presence of green self-efficacy. Hence, the current study objects to determine whether worker environmental knowledge as a mediator can affect the link between GHRM can achieve sustainable performance by workers study donates to the existing literature by extending the effects of GHRM on SP. Furthermore, our investigation adds by discovering the moderating role of green self-efficacy on the special effects of GHRM within the perspective of the textile garments industry.

## 2. Literature review and theoretical framework

## 2.1 Theoretical background

The ability, motivation, and opportunity (AMO) theory, is presented by (Appelbaum, 2000). To study the connection between GHRM and employees' green behavior contained by the context of the garments industry. The AMO theory is frequently used to investigate the GHRM performance link as the theory proposes that worker routine is influenced by the GHRM performance (K. Jiang, 2012). In AMO theory, HRM training improves the administration's human capital, which improves the organization's performance, such as reducing waste and improving the quality of products and services and sustainable performance (Appelbaum, 2000). AMO theory explains that when the workers' ability increases by selection and training or the worker become encouraged by the salaries, bonuses, and reward or the occasions to participate in teamwork and decision-making procedure are help your organization complete its objectives through performance (Gerhart, 2005). This argument is also held by (Olawole Fawehinmi, 2019) who required that HRM performs improve organizational environmental performance if the teams are prepared with essential ability, motivation, and opportunities to display pro-environmental behavior. Consequently, GHRM pays to the organization's green performance by employing workers with green knowledge, encouraging and providing chances through green training and incentives for green participating programs, like knowledge sharing and environmental problem-solving activities (Olawole Fawehinmi, 2019; RENWICH, 2013).

Finally, when these employees are allowed to participate in the policy making procedure by they get more active in the environment as a result of knowledge exchange and problem-solving activities (Saeed, 2019). Henceforth, the current study approves AMO theory to examine the effects of GHRM practices on employee green behavior within the context of the garments industry.

# 2.2 Green human resource management

Green HRM is a collection of HRM actions that have a beneficial environmental impact (Kramar, 2014). Green HRM relates to HRM practices that support environmental awareness among the workforce and improve their behaviors to generate environmentally pleasant attitudes in their private and working life (Saeed et al., 2019). "HRM characteristic of green management," to encourage worker pro-environmental behavior in the workplace (Renwick, 2013). The selection, training, and development of environmental knowledge can be measured by the residents of green HRM (Saeed1, 2018). Additional feature of GHRM that recovers an organization's sustainable performance is the bonuses and increments that inspire workers to take part in environmental management programs. (G. Tang, 2018). Then, the main motive of Green HRM is to familiarize employees of the organization with the adoption of green innovations, practices, or policies, which is helpful for the benefits of their organization as well as for the sustainable performance of the organization (Appelbaum, 2000). In other words, green is HRM based on five elements which are green employment, green training and development, green performance management and evaluation, green pay and rewards, and green involvement and participation (Tang & Guiyao, 2018)

### 3. Green human resource management and environmental knowledge.

Environmental knowledge is defined as the human connections and their environmental problems, and the abundant relations in ecological systems (Burchett, 2015). According to theory, given environmental knowledge and selection process, and also introducing green practices by providing

employees with green teaching to achieving environmental objectives and goals, providing weekly feedback to the employees, and also giving financial or non-financial rewards for sustainable performance are likely to increase employee behavior towards the environment (Renwick, 2013). Such knowledge may increase the expected services which would affect pro-environmental attainment (Olawole Fawehinmi, 2019). Employee's pro-environmental behavior has been defined as "acceptance to engage in pro-environmental actions (Bilal Bin Saeed, 2018). In the literature turning off lights while out of the office, printing double sides, avoiding usage of disposable cups, helping organizations to mechanize greening approaches, using bicycles as the vehicle, reducing waste, and producing new initiatives to safeguard the planet from environmental deprivation (Bilal Bin Saeed, 2018). Green HRM performs results in greater productivity, lower costs, and generates an atmosphere of healthier worker association, which is the opportunity to help administrations to control in an environmentally pleasant manner included in the sustainable performance of any organization (Bilal Bin Saeed, 2018; A. Sarkar & Peau, 2020).

Likhitkar and Verma (2017) studied that there are many green actions, such as electronic shaving, ridesharing, virtual selection and telephonic conferences, recycling, and construction of more energyefficient places, which organizations can undertake for the sustainability of the organization. These types of green initiatives result in greater efficiency, minimized cost, a more satisfied workforce, and more involved employees, leading to the sustainability of the organization.

H1: Green human resource management has a positive impact on environmental knowledge

# GREEN HUMAN RESOURCE MANAGEMENT AND SUSTAINABLE PERFORMANCE

Manufacturing organizations are facing developing demand from investors, shareholders, and administrative bodies to solve the environmental issues and improve sustainability in performance (Khan & A. M., 2017). Organizations need to resolve the sustainability challenges which are the result of an imbalance between economic, environmental, and social perceptions (Maletic, 2015), to accomplish sustainable performance (Nicolăescu & E, 2015; Maletic, 2015). The first time the concept of the triple bottom line (TBL) was proposed by John Elkington in 1994 (Hall, 2011). TBL integrates three viewpoints, i.e., social, environmental, and financial or economic integrates. Different organizations use TBL for the evaluation of the sustainable performance of their companies (Henriques & Richardson, 2013). Past studies also used sustainability as a business case integrating three components of SP, i.e., environmental, social, and economic performance (Schaltegger & Wagner, 2006). Although, several pieces of (Schaltegger & Wagner, 2006)the research described that environmental and economic performance are positively related. Sustainable practices can improve innovation and productivity and also reduces cost and environmental waste (Chang, 2012). Likewise, the economic aspect is also vital for SP, and both sustainability and profitability are linked positively (Khan & A. M., 2017; Chang, 2012)

Consequently, to attain greater SP organizations need to shrink the imbalance between three dimensions, i.e., financial, social, and environmental by synergetic integration and must be synchronized together. Otherwise, the result of SP may be negatively affected (Fauzi & Rahman, 2010) The GHRM bundle's performance is recognized to have a positive effect on the greening and sustainability of an organization. This literature also studies the GHRM bundle as a consistent set of

human resource practices, which has significance for the performance of manufacturing firms through green hiring (GH),(green training and involvement (GTI),green performance management, and compensation (GPC).

These measures should be implemented by those who are responsible for guiding a team, with the main aim of instilling environmentally-friendly attitudes in the working environment (Kim et al., 2017).

GHRM practices are very important for improving performance (Jansson J., 2010; Tang & Guiyao, 2018). Companies should support HRM practices with the objectives of environmental management (EM) to attain sustainable performance (Jabbour, 2011). HRM practices such as retaining, attracting, and motivating the best workers (Gholami & Roya, 2013), help an organization or industry to achieve goals and performance (K. Jermsittiparsert, 2020). HRM practices only focus on the economic performance of an organization, while GHRM practices focus on EP along with environmental performance and organizational performance (Tang & Guiyao, 2018). Current literature on GHRM highlights that a set of combined HRM practices including recruitment, performance appraisal, learning and development, rewards, and employment relations can build a more environmentally sustainable workplace culture (Renwick, 2013). It is explained that organizations tend to adopt green sustainable business practices and aim at a greener corporate culture with the universal goals of better efficiencies, reduced costs, and a better atmosphere for employee commitment (Margaretha & Saragih,, 2013). Increased sales and by minimizing in costs is the result of promoting a greener culture (Mehta & Chugan, (2015)

It is generally acknowledged that there are many advantages for organizations related to handling environmental issues; not least an improving level of worker satisfaction, better investor relationships, staff maintenance, and a more adequate brand picture (Khurshid, 2016). Wagner (2013) requested that there is proof that those companies which financed in social responsibilities had gained tangible benefits regarding customer and employee satisfaction, excellent staff recruitment, and innovation, factors likely to consolidate a firm's social performance (SP). In the previous literature, this study suggests the following hypotheses:

H2: GHRM practices are positively related to environmental performance (EP).

H3: GHRM bundles positively affect Ec.P.

H4: GHRM bundles positively affect SP.

## **Environmental knowledge and sustainable performance**

<u>Sustainability</u> means growing business; organizations everywhere in the world are targeting a sustainable path for their businesses. (Schiehlé, 2014). The impact of green entrepreneurship on sustainable performance. Case study on a sample of small and medium enterprises in Algeria. Firms develop sustainable plans with the determination to eliminate the complications of environmental pollution; the concepts of environmental management, such as green management, green marketing, green production, green innovation, etc. are now being followed. The researcher has struggled to go through some major literature in this regard highlighting the concepts of "social performance", "environmental performance" and "economic performance" (Zakaria, 2021).

The detailed discussion above about the environmental management control system (MCS) package,

ecological sustainability, environmental strategies, and sustainable performance reveals that the environmental MCS bundle influences the strategies that lead to sustainable performance. The environmental disaster presents a modest challenge to firms and natural environmental limits on the ability of organizations to build strategies that drive sustainable competitive advantages. (Hart, 1995; Hart and Dowell, 2011). The research has largely ignored the measuring of ecological sustainability by applying the environmental MCS package in large organizations. The factor for determining the environmental strategies that consequently leads to better ecological sustainability and sustainable performance. Environmental MCS packages provide a platform for organizations to utilize environmental strategies to enhance their ecological sustainability and sustainable performance Environmental strategies mediate between the environmental MCS package and ecological sustainability. (Bhatti, 2020)

H5: Environmental knowledge has a mediating effect on green human resource management and sustainable performance.

# <u>Green Self-efficacy as a moderator between environmental knowledge and sustainable performance</u>

Self-efficacy is a person's ability to take the steps necessary to attain certain performance goals. Green self-efficacy is concerned with green environmental issues that are based on self-efficacy, with the goal of assessing an organization's ability to meet environmental objectives. (Chen & Yu-Shan, 2015) "Belief in one's capacities to establish and perform the courses of action required to obtain specific attainments" is what self-efficacy means. (Bandura, 1977). Green self-efficacy, according to previous research, is a type of self-cognition that has a favorable impact on pro-environmental behavior and long-term performance. Sustainable performance will improve with the growth of green self-efficacy. (Meinhold & Jana L, 2005). Green self-efficacy, according to some researchers, can stimulate an individual's attitude and ideas about the environment, leading to the adoption of pro-environmental activities (Nordlund & Annika M, 2003). Janssen et al. emphasize that managers' green self-efficacy has a major impact on their attitude, which improves sustainable performance through economic performance. (Jansson & Johan, 2010). In addition, there is a significant correlation between managers' environmental beliefs and green self-efficacy (Steg & Linda, 2010); green self-efficacy is an important element of environmental beliefs and knowledge, which means that the green selfefficacy will support the obligation of managers and promote originalities to adopt pro-environmental activities such as waste management, air pollution and carbon emission (Gholami & Roya, 2013).

## 2.4. Moderate Effect of green Self-Efficacy

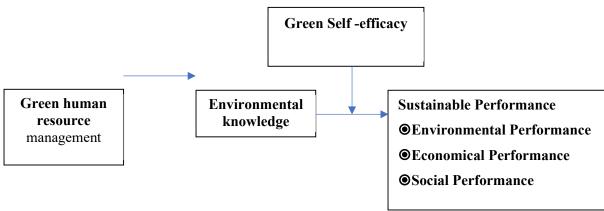
Green self-efficacy integrates green environmental factors based on self-efficacy, especially the assessment of an employee or organization's ability to accomplish environmental objectives (Chen, 2015). Past literature has shown that green self-efficacy is a kind of self-cognition, which has that positively influences behavior. With the improvement of green self-efficacy, individual proenvironment behaviors will be activated (Malkus, 2005). The green self-efficacy of managers has a positive and major impact on the behavior norms of managers (Jansson, 2010). While green self-efficacy is an important factor of environmental principles and attitudes, which means that green self-

efficacy will support the responsibility of managers and promote enterprises to adopt proenvironmental activities such as environmental knowledge (R. Gholami, 2013).

Social—cognitive theory (Bandura, 1977) Green self-efficacy beliefs have been found to have favorable effects on self-regulatory processes and sustainable performance such as effort, resolution, goal level, and performance in empirical studies. (Bandura, 1977; Publishers, 1997). If a person's green efficacy is low, tough activities may go uncompleted, his or her confidence in his or her talents drops slightly, and they are unable to perform well and satisfy the demands of the scenario, any deposits in such exposures are likely to be viewed as ineffectual. However researchers point out that eighty percent of the industries in developing countries (e.g., SMEs) have less control over the emission of gases that destruct the environment; hence, research on SMEs' green products and modernization became a vital part of the economy for ecological sustainability (S. Akhtar, 2021). In the same motivate the firms and individuals to produce green products; green events need to be arranged for sustainable performance (I. A. Wong, 2021). Therefore, green self-efficacy becomes a crucial point to be understood in the motivation of green innovation. Green Self-efficacy, a convenient notion, explains human behavior that includes a major impact in explaining the particular choice, power of struggle, and diligence towards a specific task or idea (S. Akhtar, 2021). According to the previous literature, the green selfefficacy of managers has a substantial impact on the green-sustainable practice of enterprises that have undertaken green production practices (M. D. Esfahani, 2016). Because managers' green self-efficacy can restrict the process of accountability ascription through waste management to green sustainable practices (Tisnawan, 2021). So With high green self-efficacy, managers will dynamically respond to the green and sustainable practices of the government, improve waste management and promote the green and sustainable development of enterprises (Gupta, 2021). In other words, green self-efficacy can support the positive role of responsibility attribution in green sustainable practice through waste management.

Different studies have confirmed that having high green self-efficacy drives positive influence, regulation of stress, higher self-esteem, better physical condition, better adaptation to the environment, and early recovery from ailments (Kuijer && De Ridder, 2013; Bandura, 1977)

H6: green self-efficacy has a positive moderating role on environmental knowledge and sustainable performance.



# 3. Methodology

3.1 Participants and procedure Data were collected through a self-administered survey between February 2022 and March 2022. The respondents were taken from garment industries. This cross-sectional study utilized convenience sampling, in which 200 questionnaires were distributed either face-to-face or through the internet. In total, 160 questionnaires were returned; of which 120 questionnaires were valid (75 percent rate). The participating managers were requested to fill out the survey to measure sustainable performance, environmental knowledge, sustainable performance, and the green HRM practices in the garment industries. The people and industries were selected on the basis of purposeful sampling techniques because they have regulated the human resource management system, are well aware of environmental issues, and they maintain internationally agreed environmental standards. Are committed because there are global development concerns for the environment. Friendly methods and products.

### 3.2 Measurements

The first part of the survey focused on questions about the green HRM practices in garment industries. The six items were adapted from (Dumont, 2016). Environmental knowledge measured by four items concerning the level of knowledge about environmental issues and how to alleviate them. This item was adapted from (B. Gatersleben, 2002). Responses were captured on a five-point Lik (Chen, 2015)type scale with potential responses ranging from 1 (not at all) to 5 (to a very great extent). The control variable was employee gender (1male, 2 female). Green Self efficacy was measured by ten questions. The scale of that, for EP and Ec.P, five items were adapted (D. Zhu, 2008,2013). Lastly, five items were adapted from De Giovanni (2012) and Abdullah et al. (2015).

## 4. Data analysis

# 1. Results

A unique data collection of 120 entrepreneurs from small firms was used, with Smart PLS 3.0 to test the model and outcomes of the study.

Table 4.1 **Demographics** 

| Demographics Variables | Categories   | Frequency | Percentage |
|------------------------|--------------|-----------|------------|
| Gender                 | Male         | 73        | 61         |
|                        | Female       | 47        | 39         |
| Age                    | Up to 25     | 37        | 31         |
|                        | 26-45        | 67        | 56         |
|                        | 46-55        | 12        | 10         |
|                        | 55 to onward | 4         | 3          |
| Education              | Graduation   | 39        | 32.5       |
|                        | Masters      | 65        | 54.2       |
|                        | Others       | 16        | 13.3       |
| Nature of Employee     | Contractual  | 18        | 15         |
|                        | Permanent    | 102       | 85         |

| Service Experience | up to 1 years | 24 | 20   |
|--------------------|---------------|----|------|
|                    | 2 - 5 years   | 65 | 54.2 |
|                    | 6 - 10 years  | 29 | 24.1 |
|                    | 10 to onward  | 2  | 1.7  |

The demographics of respondents are presented in this section, as shown in Table 4.1. Table 4.1 shows that 73 (61%) were male and 47 (39%) were females. In terms of age, most of the professionals were young 5 within the age up to 25 years (31, followed by 67 (56%) of the aged o6to 45, between 46 to 55 years old were 12 (10%) and above 55 years old were 4 (3%). In terms of education, graduation studies holders39 (32.5%), followed by 65 (54.2%) were master's students, and 16 (13.3%) were others remaining to have the form of studies. Regarding the nature of employment, 18 respondents (15) are contractual and 102 (85withwere the permanent staff. Finally, the of employees, experiences 24 (20%) were having experience years 65 (54.2%employy had experience from 2 to 5years, and 29 (24.1%) were from 6 to 10 years.

Table 4.2

Confirmatory Factor Analysis (CFA)

| Constructs | Second | Items   | Loadings | Alpha | CR    | AVE    |
|------------|--------|---------|----------|-------|-------|--------|
|            | Order  | ItCIIIS | Loadings | Прпа  | CK    | 7 CV L |
| GHRM       |        | GHRM1   | 0.755    | 0.878 | 0.909 | 0.626  |
|            |        | GHRM2   | 0.857    |       |       |        |
|            |        | GHRM3   | 0.871    |       |       |        |
|            |        | GHRM4   | 0.826    |       |       |        |
|            |        | GHRM5   | 0.711    |       |       |        |
| Env.KNO    |        | ENV.K1  | 0.748    | 0.879 | 0.913 | 0.681  |
|            |        | ENV.K2  | 0.849    |       |       |        |
|            |        | ENV.K3  | 0.888    |       |       |        |
| GSE        |        | GSE1    | 0.834    | 0.932 | 0.765 | 0.934  |
|            |        | GSE2    | 0.765    |       |       |        |
|            |        | GSE3    | 0.634    |       |       |        |
|            |        | GSE4    | 0.743    |       |       |        |
|            |        | GSE5    | 0.896    |       |       |        |
| ECO.PERF   |        | ECP1    | 0.907    | 0.946 | 0.961 | 0.862  |
|            |        | ECP2    | 0.947    |       |       |        |
|            |        | ECP3    | 0.944    |       |       |        |
|            |        | ECP4    | 0.914    |       |       |        |
|            |        | ECP5    | 0.845    |       |       |        |
|            |        | ECP6    | 0.798    |       |       |        |
|            |        | ECP7    | 0.812    |       |       |        |
| SOC.PERF   |        | SOP1    | 0.831    | 0.821 | 0.927 | 0.718  |
|            |        | SOP2    | 0.897    |       |       |        |
|            |        | SOP3    | 0.902    |       |       |        |

|           | SOP4         | 0.849          |       |       |       |  |
|-----------|--------------|----------------|-------|-------|-------|--|
| ENV.PERF  | SOP5<br>ENP1 | 0.747<br>0.842 | 0.903 | 0.928 | 0.722 |  |
| ENV.I EKI | ENP2         | 0.842          | 0.703 | 0.726 | 0.722 |  |
|           | ENP3         | 0.907          |       |       |       |  |
|           | ENP4         | 0.844          |       |       |       |  |
|           | ENP5         | 0.836          |       |       |       |  |

Note: Average variance extract (AVE), Composite Reliability (CR)

Table 4.2 shows that the AVE value of every variable is above 0.50, the values of CR and Cronbach's alpha are above 0.70 and the value of factor loadings is above 0.60, all of which are within the accepted range, although the NFI value is above the accepted range at 0.913. So, the conceptual model is the best fit for the hypotheses. Table 2 also indicates the  $R^2$  values of the variances of the endogenous variable(s). This may be small ( $R^2 = 2\%$ ), medium ( $R^2 = 13\%$ ) or large effect ( $R^2 = 26\%$ ), and here, the entrepreneurial marketing decision is demonstrated by a large effect (0.918 or 91.8%) with independent variable sustainable able performance also has a large effect (0.926 or 92.6%) on entrepreneurial marketing decisions.

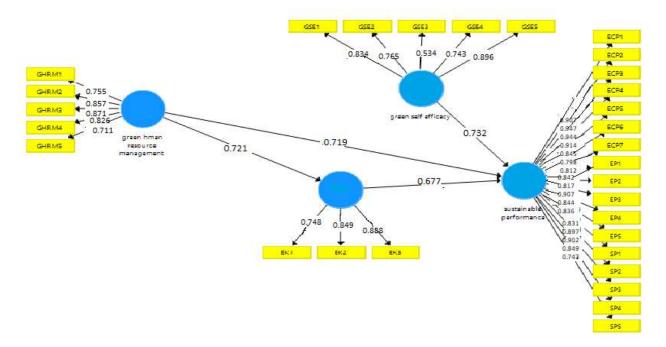


Table 3...

Table 3 Values of correlations between the LV and square roots of the AVE values in the main diagonal in the SEM

| variables | 1     | 2     | 3 | 4 | 5 |
|-----------|-------|-------|---|---|---|
| GHRM      | MR    |       |   |   |   |
| ENR.KNO   | 0.657 | 0.812 |   |   |   |
| GSE       | 0.675 | 0.790 |   |   |   |

| SUS.P 1 | 0.543 | 0.643 | 0.792 |       |       |
|---------|-------|-------|-------|-------|-------|
| SUS.P 2 | 0.445 | 0.537 | 0.601 | 0.701 |       |
| SUS.P 3 | 0.432 | 0.433 | 0.554 | 0.618 | 0.729 |

# 3. Discriminant Validity: Fornell-Larcker Criterion

Table 3 displays the values of the correlations between the LV (latent variables) and the square roots of the AVE (average variance extracted) values in the main diagonal of the SEM. The determination of discriminant validity used the Fornell–Larcker model criteria (1981). In addition, the square root of the AVE (in bold) of all variables is the largest within a spectrum of 0.731–0.859. Thus, the discriminatory validity of the variables is preserved and certified for this approximate research model. Structural Model Assessment

Structural model evaluation is another critical aspect of assessing its validity, which was illustrated by introducing Smart PLS 3.0. Using the resample 500 bootstrapping technique, t-values and R<sup>2</sup> were also used. Table 2 reflects the outcomes of structural equation modelling (SEM analysis).

Table 4 Result of direct and indirect effect hypotheses

| Hypotheses | Relationship  | Std Beta | SE    | t-value | p-value | Decision  |
|------------|---------------|----------|-------|---------|---------|-----------|
|            |               |          |       |         |         |           |
|            |               |          |       |         |         |           |
| H1         | GHRM and      | 0.721    | 0.023 | 14.229  | 0.000   | SUPPORTED |
|            | ENV KNO       |          |       |         |         |           |
| H2         | GHRM positive | 0.677    | 0.030 | 16.223  | 0.001   | SUPPORTED |
|            | impact on EP  |          |       |         |         |           |
| Н3         | GHRM impact   | 0.627    | 0.027 | 15.257  | 0.000   | SUPPORTED |
|            | on EcP        |          |       |         |         |           |
| H4         | GHRM impact   | 0.719    | 0.039 | 18.992  | 0.002   | SUPPORTED |
|            | on social P   |          |       |         |         |           |
| H5         | ENV KNO as    | 0.577    | 0.031 | 21.346  | 0.000   | SUPPORTED |
|            | mediator      |          |       |         |         |           |
|            | between GHRM  |          |       |         |         |           |
|            | and SP        |          |       |         |         |           |
| Н6         | GSE moderate  | 0.526    | 0.021 | 17.029  | 0.000   | SUPPORTED |
|            | ENV KNO and   |          |       |         |         |           |
|            | SP            |          |       |         |         |           |

Green human resource management (Ghrm), Environmental knowledge (env know), green self-efficacy, Sustainable performance (SP) Hypothesis Testing

Table 4 shows the results of testing the direct and indirect effect hypotheses by running Smart PLS. In the first hypothesis, we assumed a positive and significant association between, Green human resource management and environmental knowledge, and this is supported in Table 4 (Ghrm (b = 0.721, t = 14.229,  $p \setminus 0.000$ ). So, we conclude that a high degree of Ghrm recognition will enhance environmental

knowledge.

In the second hypothesis, we assumed a positive and significant association between Ghrm and EP. Again, Table 4 supports this (b = 0.677, t = 16.233,  $p \setminus 0.001$ ). So, we conclude that a high degree of ghrm development will enhance EP. In the third hypothesis, we predicted a positive and significant association between ghrm and Ec.P, also supported by the results pre- presented in Table 4 (b = 0.672, t = 15.257,  $p \setminus 0.000$ ). So, we conclude that a high degree of Ghrm practices will enhance SP.

The remaining hypotheses propose that environmental knowledge mediates the association between the independent variables and sustainable performance. Table 4 confirms this in the case of opportunity recognition (b = 0.719, t = 18.912,  $p \setminus 0.002$ ) and opportunity

Development (b = 0.577, t = 17.029, p \ 0.001), respectively, supporting hypotheses 4 and 5. However, green self-efficacy does moderate the relationship between environmental knowledge and GHRM (b = 0.526, t = 17.029, p/0.000), so hypothesis 6 is also supported. Green self-efficacy does also moderate the relationship of environmental knowledge and sustainable performance.

# **RESULT AND DISCUSSION**

The newest study investigated and established a model based on the AMO theory, in which green HRM was expected to be positively associated with sustainable performance, and employee environmental awareness was offered as the mediator of the hypothesized association. The study's findings confirmed the hypothesized association. Green HRM methods had a favorable impact on long-term performance. These findings suggest that green HRM practices in the garments industry, such as assessing the moderating role of green self-efficacy b green skills and attitudes while selecting employees, providing training for efficient use of water, electricity, and other resources, and evaluating employee performance on the green parameter, should be implemented (Saeed, 2019).

This study aimed to measure the impact of green HRM on the sustainable performance of garment industries. Furthermore, the effort was introduced to discover the nature of the above-mentioned associations by exploring the underlying internal mechanisms. Environmental knowledge was examined as a mediator of the aforementioned relationship. Some past studies have found this relationship to be significant (Dumont, 2016; Saeed, 2019), and Kim et al. (2019) found no significant relationship between green HRM and SP in the industrial sector. This recommends that the practice of green HRM in organizations does necessarily for SP in the presence of knowledge of the environment. Thus, green HRM practices need to be implemented effectively to motivate employees to carry Sustainable performance by triple bottom line TBL in which ECPEP, SPis included. This finding also repeats that a need exists for underlying variables for green HRM to affect sustainable performance. Next, the findings express the effect of good green HRM practices on the development of the environmental knowledge of employees. Even though green training (GT) educates and improves the environmental knowledge of employees, and by the effect of green self-efficacy which is attained by a person with the help of GT. other practices such as green recruitment, and green rewards, all work together as a bundle for motivation to attain environmental knowledge that helps in attaining strategic organizational goals and objectives. This statement is supported by studies that have indicated that effective green HRM practices ensure and improve the environmental knowledge of employees which creates green self-efficacy among them which leads to sustainable performance (Al Kerdawy, 2019).

The findings of the present study provided support for the indirect and significant relation between green HRM and sustainable performance with a mediating role of environmental knowledge. This finding contributes to previous literature concerning the fact that HRM may influence employee workplace outcomes but the literature has to work on sustainable performance with the moderating role of green self-efficacy (Jiang, 2012). Studies have shown that the increased level of green self-efficacy strengthens the relationship between Green HRM and sustainable performance (Saeed, 2019). To the best of our knowledge, no other study has been conducted using green self-efficacy as a moderator between green HRM and sustainable performance among the largest sector of economy garment industries.

### 5.3 Limitations and future studies

This study has limitations that can serve as an avenue for future studies. First, this study was conducted in five public research universities in Malaysia. Hence, the findings of this study cannot be generalized to private HEIs due to their varying organizational structure and funding. Further, this study cannot be generalized to other countries due to different cultural contexts; therefore, caution should be taken when interpreting the results of this study. Finally, environmental knowledge fully mediated the relationship between green HRM and EGB. Nonetheless, a need exists to determine the role of other variables in explaining the mechanisms of the relationship between green HRM and EGB. Hence, future studies should use other variables such as green self-efficacy and environmental concern to understand the underlying mechanism between green HRM and EGB. Employees with self-confidence would behave pro-environmentally at work (Meinhold and Malkus, 2005), hence, future studies should investigate their mediating role between green HRM and EGB.

### 6. Conclusion

This paper studied the role green HRM plays in affecting the SP in industrial sector through their environmental knowledge. The results of the study showed that environmental knowledge fully mediates the relationship between green HRM and SP. Effective green HRM practices can shape the environmental knowledge of the garment industry, which would consequently affect their SP. There are several limitations in the current literature that could lead to new directions for future research. To evaluate the effects of green HRM on SP, only data from the clothes sector was obtained. It suggests that, in the future, additional industries from other nations should be considered for the study's conclusions to be generalizable. As a result, the same study can be replicated in various cities and countries to collect additional data and tie the findings together. Fourth, because the study looked at the moderating impacts of employee environmental knowledge on the link between green HRM and SP, moderating effects of variables like personality, green values, and organizational support might be investigated for a deeper understanding of the relationship. Finally, the study is constrained because no mediation effects of any variable were shown. To further explain the green HRM benefits on sustainable performance, the mediating effects of employee happiness, environmental commitment, organizational identification, and pro-environmental psychological climate might be investigated.

#### References

- 1. A. Mazzi. (2016). What are the benefits and difficulties of adopting an environmental management system? The opinion of Italian organization.
- 2. A. Sarkar, L., & Peau, Q. a. (2020). Overview of green business practices within the Bangladeshi RMG industry: competitiveness and sustainable development perspective. springer.
- 3. Al Kerdawy, M. M. (2019). The role of corporate support for employee volunteering in strengthening the impact of green human resource management practices on corporate social responsibility in the Egyptian firm.
- 4. Andersén, J. (2021). Hart, S.; Dowell, G. Invited Editorial: A Natural-Resource-based View of the Firm: Fifteen Years After. J. Manag. 2011, 37,.
- 5. Appelbaum, E. B. (2000). Manufacturing Advantage: book.
- 6. B. Gatersleben, L. S. (2002). Measurement and determinants of environmentally significant consumer behavior.
- 7. Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change.
- 8. Bhatti, S. U. (2020). The role of the environment. Karachi: email.
- 9. Bilal bin Saeed, a. (2018). Promoting employee's pro-environmental behavior through green human resource management practices. Abbottabad: Wiley online.
- 10. Chang, C. H. (2012). Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. Management Decision.
- 11. Chaudhary, R. (2019). Green human resource management and employee green behavior: An empirical analysis.
- 12. Chaudhary, R. (2020). Green human resource management and employee green behavior: An empirical analysis. WileyOnline.
- 13. Chen, Y.-S. (2015). Green shared vision and green creativity: The mediation roles of green mindfulness and green self-efficacy.
- 14. Choi, J. N. (2004). Individual and contextual predictors of creative performance: The mediating role of psychological processes. Taylor & Francis.
- 15. D. Zhu. (2008,2013). Global atmospheric emissions of polycyclic aromatic hydrocarbons from 1960 to 2008 and future predictions.
- 16. Dilchert, D. S. (2012). D. S. Ones and S. Dilchert.
- 17. Dumont, A. M. (2016). Clarifying the socioeconomic dimensions of agroecology: between principles and practices.
- 18. G. Tang, Y. C. (2018). Green human resource management practices: scale development and validity.widely online.
- 19. Garvill, A. M. (2003). Effects of values, problem awareness, and personal norms on willingness to reduce personal car use.
- 20. Gerhart, B. (2005). Human resources and business performance: Findings, unanswered questions, and an alternative approach. j stor.
- 21. green human resource management. (2013).

- 22. Gupta, R. S. (2021). Proceeding of the Twelfth AIMS International Conference on Management 2015.
- 23. I. A. Wong. (2021). Green event directed pro-environmental behavior: An application of goal systems theory.
- 24. J. B. Vancouver, C. M. (2001, 2002). Two studies examined the negative effect of self-efficacy on performance.
- 25. J. Dumont, J. S. (2017). Effects of green HRM practices on employee workplace green behavior: The role of psychological green climate and employee green values. WileyOnline.
- 26. J. Dumont, J. S. (2017). Effects of green HRM practices on employee workplace green behavior: The role of psychological green climate and employee green values. WileyOnline.
- 27. J. Y. Yong, M. Y. (2020). Pathways towards sustainability in manufacturing organizations: Empirical evidence on the role of green human resource management. Wiley Online.
- 28. Jabbour, C. J. (2011). How green are HRM practices, organizational culture, learning, and teamwork? A Brazilian study.emerald.
- 29. Jansson, J. (2010). Green consumer behavior: determinants of curtailment and eco-innovation adoption.
- 30. Jerusalem, R. S. (1995). The General Self-Efficacy Scale (GSE).
- 31. Jiang, K. (2012). How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms.
- 32. JL Meinhold, A. M. (2005). Adolescent environmental behaviors: Can knowledge, attitudes, and self-efficacy make a difference?
- 33. K. Jermsittiparsert, S. S. (2020). Bangladesh is a country that is blessed with ready-made garments (RNG) industry were 20 million. Emerald Publishing Limited.
- 34. K. Jiang, D. P. (2012). How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms.
- 35. K. Karmoker, F. A. (2021). Effects of Green Human Resource Management on Employee Green Behavior: Moderating Role of Employee Environmental Knowledge.Bangladesh.
- 36. Krajhanzl, J. C. (2013). Eco-Schools: what factors influence pupils' action competence for proenvironmental behavior. Elsevier.
- 37. Krajhanzl, J. C. (2013). Eco-Schools: what factors influence pupils' action competence for proenvironmental behavior?deliver.
- 38. Krajhanzl, J. Č. (2013). Eco-Schools: What factors influence pupils' action competence for pro-environmental behavior?
- 39. Kramar, R. (2014). Beyond strategic human resource management: is sustainable human resource management the next approach? Taylor & Francis.
- 40. Kuijer, && De Ridder, R. G. (2013). The discrepancy in illness-related goals and quality of life in chronically ill patients: the role of self-efficacy.
- 41. L. Guo, Y. X. (2019). Understanding firm performance on green sustainable practices through managers' ascribed responsibility and waste management: Green self-efficacy as moderator.
- 42. Latham, E. A. (1990). A theory of goal setting & task performance.

- 43. Likhitkar: Verma, P. (2017). Impact of green HRM practices on organization sustainability and employee retention.
- 44. Lingjun Guo 1, 2. Y. (2019). Understanding Firm Performance on Green.
- 45. M. D. Esfahani. (2016). Assessment of Green IT/IS Within the Aviation Industry Using the Analytic Network Process Approach.
- 46. M.-L. Tseng, R. R.-M. (2012). Sustainable consumption and production for Asia: sustainability through green design and practice. Elsevier.
- 47. Malkus, J. L. (2005). Adolescent environmental behaviors: Can knowledge, attitudes, and self-efficacy make a difference?
- 48. Obeidat1, S. M. (2018). Leveraging "Green" Human Resource Practices to Enable. springer.
- 49. Olawole Fawehinmi. (2019). Assessing green behavior. Malaysia: emerald.
- 50. P. C. Vandevivere, R. B. (1998). Treatment and reuse of wastewater from the textile wet-processing industry: Review of emerging technologies.
- 51. ParastooSaeidi, S. (2015 b). How does corporate social responsibility contribute to a firm financial performance? The mediating role of competitive advantage, reputation, and customer satisfaction.
- 52. Publishers, S.-e. T. (1997). Self-efficacy: The exercise of control Worth Publishers.
- 53. R. Gholami. (2013). Gholami, R. Senior managers' perception on green information systems (IS) adoption and environmental.
- 54. RENWICH. (2013). green human resource management.
- 55. Renwick, D. (2013). Green HRM: teaching and learning guide.
- 56. Roscoe1, S. (2019). Green human resource management and the enablers of green. WileOnlinene.
- 57. S. Akhtar. (2021). Assessing the Relationship between Market Orientation and Green Product Innovation: The Intervening Role of Green Self-Efficacy and Moderating Role of Resource Bricolage.
- 58. S. Asadi, S. O. (2020). Investigating the influence of green innovation on sustainability performance: A case on the Malaysian hotel industry. Elsevier.
- 59. S. K. Singh, M. D. (2020). Green innovation and environmental performance: The role of green transformational leadership and green human resource management. Elsevier.
- 60. S. Ren, G. T. (2018). Green human resource management research in emergence: A review and future directions. springer.
- 61. Saeed, B. (2019). Promoting employee's pro-environmental behavior through green human resource management practices.
- 62. Saeed1, B. B. (2018). Promoting employee's pro-environmental behavior through. Abbottabad: Wiley online.
- 63. Schmidt, A. M. (2010). The moderating effects of performance ambiguity on the relationship between self-efficacy and performance.
- 64. Schrader, V. M. (2011). Green work-life balance: A new perspective for green HRM.
- 65. Sectors, C. P. (2014). THE FINAL PUBLISHED VERSION OF THIS MANUSCRIPT. Published by Elsevier.

- 66. Shah, M. (n.d.). Green human resource management: Development of a valid measurement scale.
- 67. Shi, X. C. (2019). From Organization Sustainability to Community Sustainability: Servant Leadership and Community Citizenship Behavior.
- 68. Suganthi, L. (2019). Examining the relationship between corporate social responsibility, performance, and employees' pro-environmental behavior at work with green practices as mediator. Elsevier.
- 69. Tisnawan, M. F. (2021). Knowledge, Attitudes, Self-Efficacy of Children About Prevention of Sexual Violence Against Children.
- 70. W. Song, H. Y. (2020). Effects of green human resource management and managerial environmental concern on green innovation. emerald.
- 71. Y. J. Kim, W. G.-M. (2019). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. International Journal of Hospitality Management 2019 Elsevier.
- 72. Y.-S. Chen, C.-H. C.-L.-I. (2015). Green shared vision and green creativity: The mediation roles of green mindfulness and green self-efficacy. springer.
- 73. Z. Hameed, I. U. (2020). Do green HRM practices influence employees' environmental performance? emerald.
- 74. Zakaria, M. (2021). The impact of green entrepreneurship on.Algeria: Elsevier.
- 75. Zsóka, Á. (2013). Greening due to environmental education? Environmental knowledge, attitudes, consumer behavior, and everyday pro-environmental activities of Hungarian high school and university students.