

# Uncertain Supply Chain Management

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## Exploring the moderating role of green human resources and green climate: The impact of corporate social responsibility on environmental performance

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### ABSTRACT

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Universities seek out of its keenness to preserve the environment and to enhance its environmental performance, by paying attention to social responsibility, to enhance its reputation in society. The current study examines the relationship between corporate social responsibility (CSR) and environmental performance (EP) through the moderating role of green human resources (GHR) and green climate (GC). The study collected data from 270 employees in private universities in Jordan. PLS4 was applied to analyze data and test the hypotheses. The results showed that CSR has a positive impact on EP. Also, the results showed that GHR and GC moderate the relationship between CSR and EP. Future research recommendations and study limitations are also provided.

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## 1. Introduction

In recent decades, countries have begun to recognize a stern risk to the natural environment. Environmental superiority and its impact on people's lives is becoming increasingly important to global policy makers (Malik et al, 2021). Regulation is being developed to deal with the worldwide environment, and as outcome the global understanding of the environment was greatly enhanced (Saeed et al., 2019). Beside guiding principles, well environmental rules are essential in developed organization competitive advantage and image (Tang et al., 2018). Whereas many organizations are working to settle this dreadful situation by using energy and e-pollution, reduplicating carbon emissions into the atmosphere (Malik et al, 2021). Thus, there is tremendous force from shareholders to wording strategies that will back sustainable behaviors, and HR individuals object to achieving sustainability and environmental conservation (Saeed et al., 2019). The programs of environmental management (EM) in companies depend on the enlargement and stability of internal capabilities and abilities. Therefore, Human Resource Management (HRM) and leadership show a significant part in developing the company's internal competencies and capabilities (Leroy et al., 2018).

Recently many academic emphases on green human resources management (GHRM) (Paulet et al., 2021; Pham et al., 2020). GHRM indorses environmental sustainability by aligning HRM actions with organization objectives. Thus, GHRM activities are essential to ensure employee participation in environmentally sustainable work practices (Malik et al, 2021). GHRM inspires the sustainable use of organizational capital through human resource management strategies, perceptions and procedures, also avoiding any environmental issues at the firms, thus encouraging environmental sustainability (Saeed et al, 2019). Environmental performance (EP) was examined by Ojo and Raman (2019) but they did not reflect the individuals' awareness of core GHRM activities. As a result, more recent research calls for analysis of specific relevant GHRM activities

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with corporate social responsibility and EP (Hussain et al, 2022). EP is "*corporate activities that go beyond basic rules and regulations to achieve and surpass societal standards in relation to the natural environment*" (Chen et al., 2015). It takes into account the environmental monuments of organization products, operations, and resource exploitation, a track that is stable with legal environmental principles.

On the other hand, according to prior studies, it was shown that a huge number of global organizations spend (4 trillion \$) on corporate social responsibility (CSR) (Naidoo & Gasparatos, 2018). CSR action is a key factor for business known globally in a large area of various firms (Hickle 2017). The notion of CSR is principally important for companies that need to take constant care of environmental issues (Arrive et al. 2019). Formerly, companies were engrossed just on returns, but nowadays they should deem the environment as one of the main components of business (Kraus et al. 2017). For various periods, scholars have conducted a survey of commerce and manufacturing rewards with the backing of CSR (Iranmanesh et al. 2019). However, slight attention was paid to investigating the CSR field of environmental compensation (Kraus et al. 2017). Additionally, some studies propose that CSR enhance organizational compensation (Javed et al. 2020). Several studies have labelled moderation and mediation as fundamental factors (Galbreath and Shum 2012). Hence, this paper used two moderators, GHRM and green climate (GC) among CSR and EP, as recommended by (Hussain et al, 2022). The stimulus of this paper is that prior studies provided fewer foresights to CSR for monitoring the EP of private universities in Jordan with a moderating role of GHRM and GC. Hence, this paper tries to bridge these gaps. The study objectives are:

- I. To explore the relationship between CSR and EP.
- II. To explore if GHRM and GC moderate and enhance the relationship between CSR and EP.

## 2. Literature review

### 2.1 CSR and EP

Big worries have arisen in the business world, due to the increasing pressures related to the environment. CSR was developed as a general scope to relieve these pressures (Türker, 2009). Many definitions provided for CSR by literature, Carter (2005) define CSR as "*corporate activity and its impact on different social groups...the firm's consideration of, and response to, issues beyond the narrow economic, technical, and legal requirements of the firm.*" Also, CSR is "*the behaviors of a firm which aim to affect social and nonsocial stakeholders positively and goes beyond its economic interest*" (Türker, 2009). On the other hand, EP are the activities of companies that go beyond essential instructions and procedures to achieve and exceed societal criteria regarding the natural environment (Chen et al., 2015). EP considers the environmental influences of using companies, products and resources in a consistent manner with legitimate environmental standards (Malik et al, 2021).

Prior studies found that CSR affects positive financial performance, and they indicate that this result provides an impressive management, integrated with the strategy of the business, renewing their philosophy from the traditional profit-oriented approach to the social response approach (Maqbool & Zameer, 2018). As well as Wang et al., (2015) pointed out that CSR positively affects firm performance. Moreover, Kraus et al., (2020) pointed out that CSR has no direct significant effect on EP but is positively associated with green innovation and environmental strategy, which again improves EP. Few studies have identified the effect of CSR on firms' performance and reveal that organizational performance is improved by CSR (Long., 2020; Orazalin, 2020). Lately, researchers investigate the relationship between CSR and performance in MSMEs and show that CSR enhances economic performance (Hernandez et al., 2020). But previous studies have not focused on CSR to measure EP (Orazalin, 2020). This study looks to fill this gap. On the other hand, the RBV theory is the expanded form of the Resources based view (RBV) theory that suggests that companies can gain a sustainable competitive advantage in returning to matters related to the environment (Hart, 1995). Natural resources and capabilities enhance profitability from pollution reduction, environmental resources, and firms' abilities promote performance (Hart & Dowell, 2011). Scholars can apply RBV theory to extend corporate performance by using CSR (Menguc and Ozanne, 2005), previous studies have paid less consideration to measuring EP through CSR, by applying RBV theory. This paper used CSR to enhance EP in light of the RBV theory. Hence, Hypothesis 1 (H1) is formulated as follows:

**H<sub>1</sub>:** *CSR significantly determines EP.*

### 2.2 Moderating role of GHRM

These days, the need for GHR practices that focus on environmental organizational objectives has been raised because such practices help firms match HR strategies with firms' strategies. Green practices encourage individuals to share sustainable public behavior (Boudreau and Ramstad, 2005), where maintainable environmental procedures can only earn positive outcomes over the participation of HR (Raut et al., 2020). HRM affects organizational performance by improving efficiency and controlling costs (Becker and Gerhart, 1996). Kim et al., (2019) state that there is an important association among the firm's HR management system and its organizational performance, and that HR activities have a positive effect on the company's performance. Also, Albloush et al., (2022) found that GHRM has an influence positively on organizational performance, and human capital mediates the relationship between GHRM and organizational performance. Regarding the environmental literature, most researchers have identified the EM outcome as direct organizational performance rather than overall organizational performance, and a high level of corporate EM integration correlates positively with its EP (Judge and Douglas, 1998). Moreover, López-Gamero et al. (2009) explored the influence of EM on EP. The structure of EM in their

study consists of three factors, and one of the factors of EM relates to HR practices. The results show that EM with HR practices improves EP. Moreover, Sittisom and Mekhum (2020) examined the moderating role of GHR practices between external supply chain management and social performance, the results show that GHR practices positively moderate the mentioned relationship. Also, O'Donohue and Torugsa, (2016) found that GHRM moderates the relationship between EM and financial performance, so a great level of GHRM raises the financial of proactive EM compared to low levels of GHRM. This study intends to investigate the connection between CSR and EP with moderating the role of GHR practices among private universities in Jordan. Based on the above conversation following hypothesis is expressed:

**H<sub>2</sub>:** *GHR practices moderate the relationship between CSR and EP.*

### 2.3 Moderating role of GC

The work climate of individuals' concept is built on normative conduct theory which emphasises the level to which behavior is deemed socially agreeable (Cialdini et al. 1990). The theory of normative conduct distinguishes injunctive rules that represent approved behaviors from descriptive standards that represent behaviors that are naturally detected. Descriptive standards are the rules of behavior that are mutual to most individuals. Injunctive rules are the rules set by society, organization, order, and morals that reproduce the feelings of individuals who either agree or disagree (Tian, Zhang, & Li, 2020). Once it appears, GC not only formulates green drafting behavior between individuals but also shares translating green drafting behavior into environmentally friendly performance. Studies has shown that a green psychological climate can affect the green consequence and mitigate the impact of the green outcome chain (Zientara & Zamojska, 2018). Because individuals may experience barriers in their work environment, green phrasing behavior, which is reinforced by GC, may not effectively translate into green performance, if GC is poor nor indicate strong signals of expected green performance and values that outweigh workplace constraints (Tuan, 2021). Therefore, by supporting pro-environmental inputs and a mutual resource-earning pattern in a GC, individuals can locate themselves in the middle of their team, which may improve their stimulation to convert their resources from green formulation to green performance (Tuan, 2021).

We consequently postulate that: GC can serve as a moderator to strengthen the relationship between CSR and EP:

**H<sub>3</sub>:** *GC moderates the relationship between CSR and EP.*

## 3 .Methodology

### 3.1 Study sampling

The authors collected data from private university employees in Jordan. Based on the information retrieved from the Ministry of Higher education and Scientific Research, there are twenty-four private universities in Jordan (Ministry of higher education, 2022). The researcher designed an e-questionnaire via google form. The researcher contacts the HR managers by email in each university and requests them to distribute the questionnaire to the university employee. Also, the researcher gains an assistant from friends who work in private universities and request them to share the e-questionnaire link with their colleagues. Due to the large number of private universities employees, a convenience sample was applied, out of 295 questionnaires were retrieved, 270 valid for analysis.

### 3.2 Measurement

A Likert scale ranging from (1= strongly disagree, 5= strongly agree) measures each item of the CSR, EP, GHRM, and GC variables. CSR includes four items and is adapted from (Banerjee, 2002 and Hussain et al., 2022). EP includes five items adapted from (Laosirihongthong et al., 2013 and Hussain et al., 2022). Six items measured GHRM adapted from (Dumont, Shen, and Deng, 2017), and eight items adapted from (Norton et al. 2014) to measure GC.

### 3.3 Data Analysis

PLS-SEM were employed to analyze data and test the hypotheses. Several analysis styles were employed in PLS to test the measurement model (factor loading, composite reliability (CR), AVE, and discriminant validity). Factor loading and composite reliability with value 0.60 or more, and average variance extracted (AVE) with value more or equal 0.50 (Hair et al, 2012), however, the AVE values for the constructs are all greater than the non-diagonal elements or coefficients in the relevant columns and rows, indicating discriminant validity (Fornell & Larcker, 1981). Moreover, path coefficient bootstrapping was employed to test the hypotheses.

## 4. Results and Discussion

### 4.1 Sampling profile

As shown in Table 1, the respondents in the sample in terms of gender 180 (67%) are males and 90 females (33%). Also, 29% were between the ages of 36 and 45. The age group of 46 to 55 years, which constitutes for 23%, those in the age group of 26

to 35 years, who constitutes for 21%. There were 52 respondents in the 18-to-25-year-old age bracket, accounting for 20% of the sample. There were 20 respondents in the age group more than 56, representing 7% of the whole sample. In terms of experience, 30% of the participants possessed from 11 to 15 years, with 25% having 6 to 10 years' experience, followed by 19% having less than 5, and 11% of respondents had more than 20 years' experience, and, finally, 15% had 16 to 20 years' experience. In terms of positions, Table 1 shows that 150 were academic representing 55%, and 120 were administrative representing 45% of the whole sample.

**Table 1**  
Profile of respondents (N=270)

Variables	Category	Frequency	Percentage
Gender	Male	180	67
	Female	90	33
Age	18-25	25	20
	26-35	57	21
	36-45	79	29
	46-55	62	23
	> 56	20	7
Working Experience	5 <	51	19
	6 - 10	68	25
	11- 15	81	30
	16 -20	40	15
	> 21	30	11
Job Position	Academic	150	55
	Administrative	120	45

#### 4.2 Results of measurement model

The results in Table 2 and Fig. 2 demonstrate that all values of factor loading, CR, and AVE were achieved. Also, the results in Table 3 indicate that the study achieved discriminant validity.

**Table 2.** Measurement model

Variable	Item	Factor loading	CR	AVE
Corporate Social responsibility (CSR)	CSR1	0.833	0.874	0.717
	CSR2	0.845		
	CSR3	0.789		
	CSR4	0.914		
Environmental performance (EP)	EP1	0.874	0.858	0.634
	EP2	0.874		
	EP3	0.713		
	EP4	0.823		
	EP5	0.677		
Green climate (GC)	GC1	0.60	0.906	0.638
	GC2	0.84		
	GC3	0.61		
	GC4	0.658		
	GC5	0.893		
	GC6	0.941		
	GC7	0.894		
	GC8	0.88		
Green human resources (GHR)	GHR1	0.926	0.965	0.826
	GHR2	0.936		
	GHR3	0.94		
	GHR4	0.882		
	GHR5	0.893		
	GHR6	0.873		

**Table 3**  
Discriminant validity

	CSR	EP	GC	GHR
CSR	<b>0.846</b>			
EP	0.688	<b>0.796</b>		
GC	0.399	0.258	<b>0.798</b>	
GHR	0.689	0.725	0.281	<b>0.909</b>

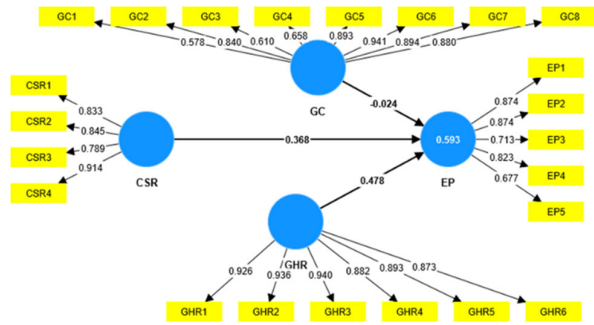


Fig. 2. Measurement model

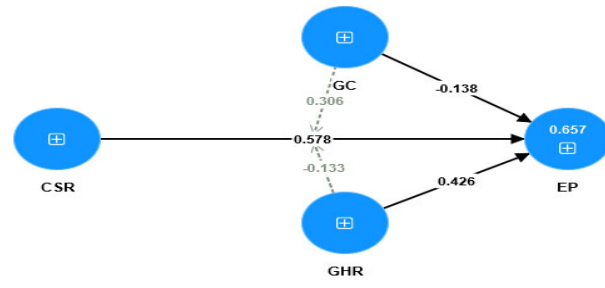


Fig. 3. R square

4.3 Results of structural model

The results in Fig. 3 show that  $R^2$  is 0.657, which indicate that CSR, GHR, and GC explain 65.7% of the variance of EP. On the other hand, the study tests the hypotheses by employing bootstrapping, the results shown in Table 4 and Fig. 4.

The result of H1 shows that CSR significantly and positively determines and influences EP. This result indicates that Jordanian private universities' concern and adoption of CSR which lead to drawing a good image of the university in the society, in addition to improving the integrity of its legal and ethical position, which ultimately leads to improving its EP. The interest of universities in CSR leads universities to considering the environmental impacts of their products, services and operations, and the exploitation of resources in a manner consistent with environmental standards. The results of our study in proportion to the results of (Long, 2020; Kraus et al, 2015; Maqbool & Zameer, 2018; Wang et al, 2015) who demonstrate that CSR influence positively EP, and they indicate that this influence provides an impressive management, integrated with the strategic of the business, renewing their attitude from the outdated profit-oriented approach to the social response style.

Table 4  
H1 results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values	Decision
CSR → EP	0.707	0.708	0.036	19.842	0.000	Supported

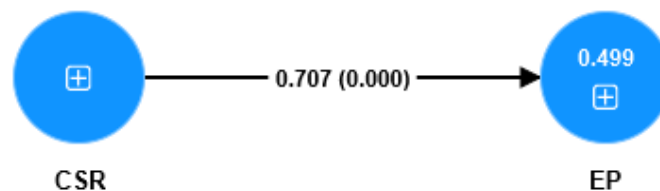
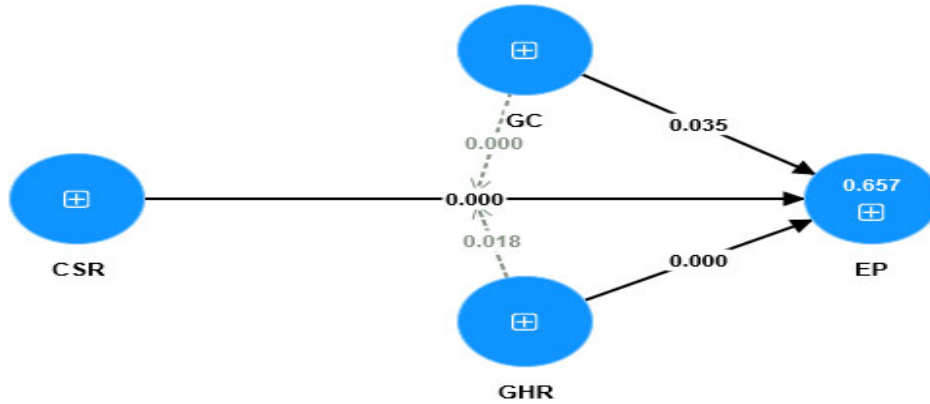


Fig. 4. H1 path coefficient

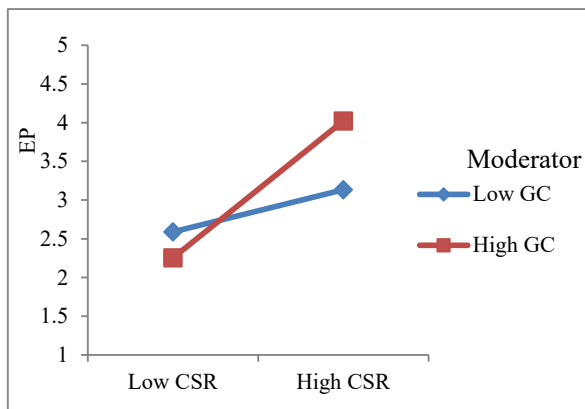
Moreover, the study tests the moderating effect of GC and GHR in the relationship between CSR and EP. The current study applies bootstrapping in the PLS4, and as indicated by Ramayah et al (2018), two conditions must be met for the moderating variable, the first condition is that the effect of the moderating variable should be significant, and the second condition should be that the moderating variable enhance and strength association between the IV and DV. The results in Table 5, Fig. 5, Fig. 6, and Fig. 7 indicate that GC moderate and enhance the strength relationship between CSR and EP. This result means that the CSR of universities positively EP and this influence should be enhanced by GC. The results show that CSR was directly related to EP through the moderation of GC, if there is a great level of GC will raise the EP compared to low levels of GC. This finding provides empirical evidence to support the CSR may influence EP through certain underlying mechanisms such as GC. Individuals having consciousness and information of GC issues inspire them to adjust to CSR, which could have an important effect on the EP. The findings are in line with the results of (Tuan, 2021), who indicate that individuals may improve their stimulation to convert their resources from green formulation to green performance. Rendering to the results from the sample, universities employees' perception of CSR in their possessions generally improved their commitment to their organizations, enhanced GHR practices, and enhanced EP of their properties. Moreover, the findings suggest that CSR in universities might be one of the dynamic agents who can comprise other Individuals by forming and developing GHR. The findings were consistent with previous scholars' findings (e.g. O'Donohue & Torugsa, 2016) who state that a high level of GHRM raises the financial benefits of environmental management compared to low levels of GHRM.

**Table 5**  
Moderating hypotheses

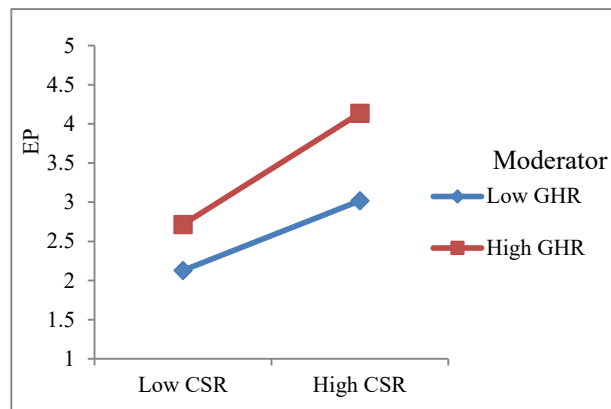
Hypotheses	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values	Decision
CSR → GC → EP	0.138	-0.125	0.065	2.111	0.035	Supported
CSR → GHR → EP	0.426	0.434	0.048	8.964	0.00	Supported



**Fig. 5.** Moderating effect of GHR and GC



**Fig. 6.** GS strengthens the positive relationship between CSR and EP



**Fig. 7.** GHR strengthens the positive relationship between CSR and EP

**5. Conclusion**

The results demonstrate that CSR has a positive effect on EP but leaders and decision makers should be concerned about CSR as previous studies show that it plays a critical part in decisive organization performance. The current paper suggests a unique vision based on the experimental data on CSR, GC, GHR, and EP several contributions to scholars, and officials. It thus contributes by shaping the relationship between CSR and EP with the moderating role of GC and GHR. Therefore, this paper makes important contributions to these areas as an original study that combines CSR, GC, GHR, and EP in a single research model. Prior studies apply ability motivation– opportunity theory for CSR, and EP. As an example, the scholars note the effect of CSR on EP by expanding RBV theory. This paper contributes to present literature to regulate the link between CSR, GC, GHR, and EP considering RBV theory. This paper extended investigation on EP by investigating how CSR, GC, and GHR determine the EP of the universities. The conclusions of this study offer important implications for general managers, and officials. The study model aims to offer a track for universities about the impact of CSR, GC, and GHR on EP. Currently, policymakers focus on EP; temporarily, they can apply the research model of EP in emergent economies to decrease waste, pollution, conserve water, and nonrenewable resources that lead to ornamental EP. The conclusions conclude that CSR has a positive effect on EP. Therefore, general managers of universities cannot ignore CSR to measure EP because CSR significantly increases organizational performance.

## 6. Limitation and future research

Like any research, this research also has some limitations which imminent scholars can work on in the future. First, the cross-sectional method has been adopted, and researchers are not sure that CSR, EP, GC, and GHR in universities offer undistinguishable results in a longer time. Hereafter, future scholars can use the same research model to perceive whether results over longer times change or continue to be similar. This research collected data from private universities in Jordan and future scholars can collect data from public universities to see the changes in results. Future scholars can also use green transformational leadership as a moderating between CSR and EP to perceive whether it is significant. Finally, this research was conducted in Jordan which has its own culture; future researchers can conduct a similar study in other countries to see the changes.

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