




## Study on Hotel Environmental Performance as a Result of Green Practices and Spirituality

Mia Ayu Gusti<sup>1</sup>, Alpon Satrianto<sup>2\*</sup>, Candrianto<sup>3</sup>, Egy Juniardi<sup>4</sup>, Heppy Setya Prima<sup>5</sup>

<sup>1</sup> Department of Management, Faculty of Economics and Business, Universitas Negeri Padang, Padang 25132, Indonesia

<sup>2</sup> Department of Economics, Faculty of Economics and Business, Universitas Negeri Padang, Padang 25132, Indonesia

<sup>3</sup> Agro Industry Logistics Management, Politeknik ATI Padang, Padang 25171, Indonesia

<sup>4</sup> Department of Management, Faculty of Economics, Universitas Sumatera Barat, Pariaman 25522, Indonesia

<sup>5</sup> Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Negeri Medan, Medan 20221, Indonesia

Corresponding Author Email: [alponsatrianto@fe.unp.ac.id](mailto:alponsatrianto@fe.unp.ac.id)

Copyright: ©2025 The authors. This article is published by IETA and is licensed under the CC BY 4.0 license (<http://creativecommons.org/licenses/by/4.0/>).

<https://doi.org/10.18280/ijstdp.200633>

### ABSTRACT

**Received:** 23 April 2025

**Revised:** 18 June 2025

**Accepted:** 24 June 2025

**Available online:** 30 June 2025

#### **Keywords:**

*COR theory, environmental performance, GHRM, green work engagement, hotel, spiritual leadership*

Recent research in environmental management suggests that improving environmental outcomes is largely dependent on employee behavior. Nevertheless, little research has been done to ascertain how green initiative behavior and organizational environmental performance are related. Based on this, this study aims to examine the relationship between Green Human Resource Management (GHRM) and spiritual leadership on hotel environmental performance with green work engagement as a mediating factor based on the Conservation of Resources (COR) theory. Data were collected from 350 hotel housekeeping employees in West Sumatra, Indonesia, which were processed using modeling of structural equations. The study reveals that GHRM and spiritual leadership enhance green work engagement and hotel environmental performance. Therefore, organizations must understand that a stressful work environment requires an internal drive from employees (intrinsic motivation) to achieve extraordinary results. Therefore, organizations need to support the achievement of this motivation by implementing GHRM practices and developing aspects of spirituality. This step aims to foster intrinsic enthusiasm in employees, which will ultimately inspire them to exceed expectations and contribute more to the performance of the organization's environment.

## 1. INTRODUCTION

Various industries have improved environmental performance by implementing environmental protection practices [1]. For example, the hospitality sector has undertaken green initiatives, such as energy and water conservation, waste reduction, green-based services, and education for employees and customers [2]. However, there are still many environmental problems faced by the hospitality sector, such as increasing energy consumption of up to US\$3.7 billion per year [3] and waste generated by hotel guests of around one kilogram per day [2]. Therefore, hotels need to adapt to the competitive and changing environment so that environmental performance can be achieved by providing many benefits to stakeholders, the environment, and the organization [4].

Environmental benefits can be obtained if the company practices GHRM [5]. In addition, GHRM can also create sustainable competitive advantages, improve the company's position, and create organizational economic efficiency [4, 6, 7]. Thus, empirical studies explain that GHRM practices at all levels and functions of the organization have a significant impact on environmental performance [8] but given the broad authority of top management in determining the company's environmental performance, their position becomes

increasingly important [9]. Therefore, scholars tend to consider leadership when talking about strategies to improve environmental performance [10]. Research on the connection between leadership and environmental performance is still scarce, nonetheless, particularly in the hospitality field [5, 11, 12]. In general, various leadership styles can affect environmental performance in an organization. These leadership styles include ethical leadership, leadership of responsibility, Leadership that is green inclusive, and transformational leadership with an environmental focus [12, 13]. That being said, there is currently little study on how spiritual leadership affects environmental performance, particularly in the hospitality industry [5]. Spiritual leadership [14, 15] is the pursuit and application of spirit. Because of this, it stands out from other leadership styles that frequently disregard followers' spiritual requirements. This study aims to fill the gap in knowledge by emphasizing leadership that is spiritual in the West Sumatra, Indonesia hospitality industry and analyzing the relationship using the COR theory approach. Employees' positive appreciation of spiritual leadership should increase their commitment to green work practices [16]. Based on the COR theory perspective, empirical research has examined the significance of enhancing hotel environmental performance by emphasizing the connection with the leadership of spiritual and incorporating green work

engagement as a contextual and psychological component [16, 17]. Based on the COR theory, this study enriches the existing literature. In addition, this study provides a new approach to leadership that can be used to improve environmental performance, thereby adding to the existing evidence on the antecedents of environmental performance. In the context of hospitality, there is limited research on spiritual leadership, with the exception of studies conducted by the previous studies [14, 17-19] for which additional evidence is needed. In addition, this study extends the work of Abualigah and Badar [16]. Karatepe et al. [20] stated that the causes and impacts of green work engagement are still under-explored. Therefore, improving hotel environmental performance requires GHRM practices and leadership of spirituality to form work engagement in green.

## **2. BACKGROUND OF THEORETICAL AND HYPOTHESES**

### **2.1 COR theory**

The COR theory emphasizes the significance of acquiring, preserving, sustaining, and safeguarding valuable resources [21]. These essential resources support the achievement of objectives, such as both tangible assets and intangible assets, such as social and psychological capital [22]. According to this theory, effective asset allocation is crucial for employees to recover from challenges, acquire more resources, and protect their existing assets [23]. Employees with limited resources tend to safeguard, maintain, or conserve the resources they possess, while those with more resources are inclined to adopt proactive strategies that foster, utilize, and expand their resources [24]. The COR theory is applied as a framework to explore how employees' green behaviors impact environmental performance [16].

### **2.2 GHRM, green work engagement, and environmental performance**

GHRM is defined by Kim et al. [4] as an organizational HR practice that actively promotes environmental management to safeguard and preserve the environment. Scholars have acknowledged GHRM as a multidimensional construct. The dimensions of GHRM are the same as the dimensions of HR, from recruitment to performance evaluation but with a focus on environmental aspects [25]. These dimensions are therefore the main activities in GHRM. The dimensions of GHRM promote green thinking among employees, which improves the environmental performance of the organization [25]. According to COR theory, GHRM is a non-physical asset that aids and motivates environmental processes through its various dimensions, thus functioning as contextual capital for employees [26]. COR theory explains that organizational pride becomes a greater non-physical resource for employees [25]. In line with this theory, GHRM practices constitute organizational pride and can be used to improve the environmental performance of organizations [27]. Based on this, empirical studies explain the positive relationship between GHRM and environmental performance [4, 25, 28].

Furthermore, GHRM influences green work engagement as well [29]. Karatepe et al. [20] explained that the important elements of employee engagement in the green are the readiness of employees to focus on environmental duties and

their feelings of excitement, pride, and inspiration for jobs. In this context, engaged in green work is described as the antusiasme, involvement and effort that employees put into green tasks [29]. According to COR theory, individuals and organizations strive to obtain, maintain, and protect the resources they have [21]. When successful in acquiring a resource, it can trigger the accumulation of additional resources known as a "resource gain spiral" [30]. In other words, the resources that have been obtained will strengthen the capacity of individuals or organizations to obtain other resources, thus forming a mutually reinforcing positive cycle. In this context, Green Human Resource Management (GHRM) plays a role as an initial resource that encourages the emergence of green work behavior among employees [31]. When these behaviors result in improved environmental performance, the organization gains additional resources, such as improved reputation, operational efficiency, and stakeholder trust [26]. These additional resources are then used to further strengthen GHRM practices, creating a self-perpetuating cycle of resource acquisition [32]. In addition, the existence of GHRM can also increase green work engagement, namely employee work involvement that focuses on environmental values and goals [25]. The accumulation of these various resources strengthens the occurrence of a gain spiral, which not only supports the effectiveness of GHRM implementation but also encourages long-term organizational sustainability. Thus, the following hypothesis development leads to the COR theory and previous discussion:

H<sub>1</sub>: GHRM positive impact on environmental performance.

H<sub>2</sub>: GHRM positive impact on green work engagement.

### **2.3 Spiritual leadership, green work engagement, and environmental performance**

Spiritual leadership is reflected through morality, honesty, humility, compassion, respect, justice, and concern for followers [14]. This leadership is rooted in vision, conviction, and selfless love [17], Which ultimately increases the meaning of work, creates a positive atmosphere, and encourages the achievement of desired results [33]. Spiritual leadership is thus a values-based and motivational concept that focuses on vocation and belonging as a means to naturally inspire oneself and others [17]. According to COR theory, employees who have more resources tend to proactively manage and develop those resources by investing in new resources and optimizing existing ones. Ultimately, they will be motivated to go beyond their primary roles and responsibilities to contribute to the company, society, and the environment through various sustainable initiatives. This behavior can be realized through guidance and support from leaders who have a strong spiritual outlook [33]. This is in accordance with previous study [34] which shows that spiritual leadership focuses on three main goals (profit, people, and planet), by applying sustainability principles that benefit society and maintain environmental sustainability across generations. Thus, in order to preserve nature and save humanity, spiritual leadership is needed to foster environmental morality [33].

Empirical evidence regarding the influence of spiritual leadership on environmental performance and green work engagement is still limited, so further research is needed in this area [33]. In the context of this research, spiritual leadership is seen as a crucial resource that encourages the growth of green work engagement [33]. This leadership style is characterized by an orientation towards human values, such as fairness,

appreciation for employee contributions, mutual respect, and encouragement and support based on the deeper meaning and purpose of work [35]. Through an approach that humanizes employees and recognizes their intrinsic value, spiritual leadership generates enthusiasm and work spirit, which ultimately facilitates employee engagement in work behaviors oriented towards environmental sustainability [36]. In line with the view of COR theory that employees with resources (e.g. spiritual leadership) who demonstrate such attitudes of fairness, honesty and humility will create excitement, passion and employees will become focused when working on green projects and they will also have a strong desire to give back to the company by adopting sustainable practices and helping other employees to develop environmental awareness for the sustainability of the company. The spirituality possessed by leaders has been proven to have a significant influence on employee work engagement [15]. However, studies on its influence on green work engagement are still minimal and require further exploration [33]. Concerning the above, the hypothesis formulation is as follows:

H<sub>3</sub>: Spiritual leadership positive impact on environmental performance.

H<sub>4</sub>: Spiritual leadership positive impact on green work engagement.

## 2.4 Green work engagement and environmental performance

Hobfoll et al.'s [21] study is one of the studies that support the COR theory; it states that valuable resources (e.g. green work engagement) will help to achieve goals (one of which is environmental performance) because employees' green work engagement has a good view of tasks related to the environment and they will give their valuable resources such as commitment and appreciation of their green work for environmental goals [20]. In line with Jnaneswar [25] that increased employee behaviour on green work engagement can lead to improved environmental performance of a company. In the same context, employees who demonstrate green work engagement are essential for addressing various organisational environmental issues. The achievement of organisational environmental goals depends on green work engagement [37]. Employees who show enthusiasm for environmental activities and have positive affective attitudes tend to have a significant impact on improving environmental performance [29]. The hypothesis can be stated in light of the COR theory and earlier

discussions:

H<sub>5</sub>: Green work engagement positive impact on environmental performance.

## 2.5 Green work engagement is a mediating variable

The overall association of GHRM on environmental performance mediated by engaging in green work [25]. GHRM can enhance corporate environmental performance by increasing employee involvement in the management of the environment. Companies may improve their environmental performance by adopting GHRM strategies that can increase employees' understanding of environmental issues and motivate them to work harder and more passionately [38]. Thus, the current study uses the lens of COR theory in proposing green work engagement as a mediator because, according to this theory, to gain competitive advantage, employees can invest their resources in the form of environmentally friendly practices [39]. Leadership literature states the importance of assessing intervention variables through leadership, for example, Suliman et al. [40] investigated the improvement in environmental performance due to green transformational leadership through green work engagement, as well as Abualigah et al. [33] explained that green creativity is created as a result of leaders who have a spiritual soul with green work engagement as the link. Based on the above, the following hypotheses are developed:

H<sub>6</sub>: Green work engagement plays a mediating role in linking GHRM to environmental performance.

H<sub>7</sub>: Green work engagement plays a mediating role in linking Spiritual leadership to environmental performance.

## 2.6 Conceptual framework

Figure 1 illustrates a conceptual model built on COR theory, which emphasizes that individuals strive to maintain and develop their resources. In this context, GHRM and spiritual leadership are viewed as organizational resources that drive green work engagement to improve environmental performance. This model also positions green work engagement as a key mediator that bridges the influence of GHRM and spiritual leadership on environmental performance. Thus, this model emphasizes that managerial support and spiritual-based leadership values can mobilize employee engagement in organizational sustainability efforts.

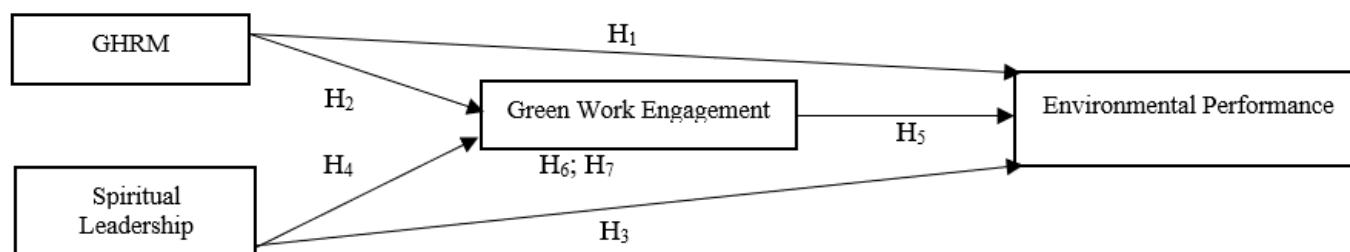


Figure 1. Research model

## 3. METHODOLOGY

4 and 5 star hotels in West Sumatra, Indonesia are the subject of this study. These hotels were selected because the industry is experiencing rapid growth and expansion,

contributing to the gross regional domestic product of West Sumatra, Indonesia [41]. In line with the World Travel and Tourism Council (WTTTC) report in 2019, the hospitality and tourism industry in Indonesia has made a significant contribution to the country's economy by creating employment

opportunities for 3.9 million people. With such rapid development comes the potential for environmental challenges. For this reason, environmental initiatives and sustainable practices are needed, and this is already practiced by the leaders and employees of these organisations, especially in terms of environmental initiatives [17], on the other hand, from the perspective of the government as a policy maker, Indonesia is still weak in terms of its environmental laws and policies [42] which will create weak environmental regulations.

This study employs a survey-based quantitative research design. Mertler [43] explained that examining relationships between factors and extrapolating results is better done using quantitative research. A survey was conducted to collect information from employees of 4- and 5-star hotels in West Sumatra, Indonesia between January and July 2023. Emails, online questionnaires, and social media platforms including Facebook, Instagram, LinkedIn, and WhatsApp were all utilized to collect information from respondents. The online survey was distributed to respondents in accordance with ethical guidelines, such as the principles of informed consent, data confidentiality, and voluntary participation were carefully explained and followed. When filling out the online questionnaire, the researcher contacted the hotel's human resources department to request the respondent's mobile phone number and social media. Currently, there are 10 of 4 and 5 star hotels in West Sumatra, Indonesia that have received green certification from the government. In line with Mertler [43] when there are problems with the population such as cost and large population size and unavailability of the population, researchers can use non-probability sampling methods. Based on this, the researcher used a purposive sampling method with the criteria of a green-based hotel, which is indicated by having environmentally friendly housekeeping employees, because housekeeping employees are responsible for maintaining the cleanliness, maintenance and beauty of the hotel layout [20]. Based on this, 500 questionnaires were distributed to housekeeping employees and 350 questionnaires could be processed for data processing. In accordance with the general rules of sample size described by Sekaran [44], larger than 30 but smaller than 500 sample sizes can be used in SEM data processing. As a result, 70% of respondents participated in this study. In terms of sample characteristics, the majority of respondents were male (98%), which is in line with the findings of Silva and Couto [45] that the hotel industry still applies gender-based job segregation, where women are more often placed in the service sector, while men dominate physical work. This is in accordance with the context of this study, where respondents came from the housekeeping department whose work does indeed emphasize physical activity. The age range of respondents was dominated by the 35–45 year age group (76%). Based on length of service, 67% of respondents have worked in the organization for 5–10 years, and 34% for 10–15 years. In addition, most respondents were bachelor's graduates (89%), with an educational background in the hospitality sector of 89%.

This study uses established scale items obtained by adopting and modifying questionnaires from English and then translating them into Indonesian using back-translation techniques, so that the translation results are validated and the reading results of the questionnaire are easy to understand. Ten housekeeping employees were asked to test the questionnaire before it was distributed to ensure that the items were understandable and readable. No changes were made to the

wording as a result of the pilot study. Previous research is used as a reference in measuring the variables of this research, with strongly disagree given a score of 1 and strongly agree given a score of 5 for each response. This scale was selected due to its growing use in current research and its ability to deliver an especially accurate evaluation [46]. Seven criteria were used to quantify environmental performance (EP), with sample statements such as “There has been reduced waste and efficient water use thanks to environmental management in our hotel” derived from [4]. GHRM was also derived from Kim et al. [4] and consisted of six items such as “My hotel offers sufficient training to support environmental management as a fundamental organizational objective” while green work engagement (GWE) consisted of six items such as “My work about the environment motivates me” adopted from Jnaneswar [25] while spiritual leadership (SL) consisted of nine items adopted from Pawar [47] such as “My leader shows concern for the people under them”.

To test the research hypotheses as shown in Figure 1, variance-based structural equation modelling (SEM) data analysis was used with the partial least square (PLS) approach using SmartPLS software. SEM-PLS is one of the most popular research techniques in various fields, including tourism and hospitality [48, 49]. It is recommended to use PLS-SEM to evaluate mediation relationships because it allows the simultaneous study of multiple variables and then the ability to test models with multiple indicators or constructs [50]. In particular, this approach helps to evaluate theoretical models from a predictive perspective [46]. PLS-SEM evaluation consists of measurement and structural models, based on the objectives of this approach [46].

#### 4. RESULTS AND DISCUSSION

First, to find out whether there is common method bias (CMB) in the distribution of the questionnaire using the one-factor test from Harman [51]. To minimize the potential for this bias, researchers have taken several preventive steps, such as ensuring the anonymity of respondents, explaining at the beginning of the questionnaire that there are no right or wrong answers, and providing clear instructions on how to fill out the questionnaire [51, 52].

Based on the results of Harman's single factor test, only 25% of the variance is explained by one factor, indicating that CMB is not a problem in this study. This finding is in line with the opinion of Podsakoff et al. [51] which states that common method bias can occur if one factor explains more than 50% of the variance of all research variables.

In addition, CMB was also analyzed using the Variance Inflation Factor (VIF) value, especially in the context of SEM-PLS, as stated by Kock [53]. All constructs showed VIF values below the threshold of 3.3, indicating that CMB is not a significant problem. Thus, the potential for common method bias has been tested and confirmed through two approaches, namely Harman's single factor test using SPSS and VIF value analysis in SEM-PLS. The complete results of the VIF values are presented in Table 1.

Next, the measurement model is evaluated with factor loading above 0.70. If the measurement item is below this limit, the item will be removed from the research model [46]. Next, convergent validity is to make sure a construct's indicators have a strong correlation with the construct. A commonly used measure is the Average Variance Extracted (AVE) which must

be greater than 0.50 [46]. Third, the composite reliability (CR) score measures internal consistency with values above the cut-off value of 0.70 [46]. The results of the factor loadings, AVE and CR are presented in Table 2.

**Table 1.** Test for multicollinearity using VIF values

Items	VIF
EP05	1,530
EP06	1,584
EP07	1,779
GHRM01	2,187
GHRM02	2,051
GHRM03	2,191
GHRM04	2,003
GHRM06	2,540
GWE01	1,461
GWE02	1,575
GWE04	1,560
SL04	1,783
SL05	2,192
SL06	2,590
SL07	2,719
SL08	2,738
SL09	1,765

**Table 2.** Factor loadings, AVE, and CR

Construct	Items	Loadings	AVE	CR
EP	EP05	0.795	0.692	0.870
	EP06	0.824		
	EP07	0.875		
GWE	GWE01	0.783	0.672	0.860
	GWE02	0.828		
	GWE04	0.848		
	GHRM01	0.844		
GHRM	GHRM02	0.769	0.648	0.902
	GHRM03	0.798		
	GHRM04	0.768		
	GHRM06	0.844		
SL	SL04	0.763	0.662	0.921
	SL05	0.831		
	SL06	0.836		
	SL07	0.859		
	SL08	0.842		
	SL09	0.745		

HTMT is one of the latest methods that are more sensitive and more powerful than other traditional methods in measuring discrimination between constructs in the final assessment of the measurement model [54]. According to Hair et al. [46], if the HTMT value is lower than 0.90 then the discrimination between constructs is considered valid as in Table 3.

**Table 3.** Ratio of HTMT

Construct	EP	GHRM	GWE	SL
EP				
GHRM	0.820			
GWE	0.811	0.526		
SL	0.493	0.503	0.514	

The following tests are used to evaluate the structural model: coefficient of determination ( $R^2$ ), effect size ( $f^2$ ), and  $Q^2$  values which indicate predictive accuracy [55]. Variance is assessed by  $R^2$  and endogenous constructs provide the explanation.  $R^2$  value greater than 0.10 is considered sufficient [46]. The  $R^2$

values for environmental performance and engaging in green work are 0.588 and 0.562, severally above the 0.10 limit. The connection of all paths exceeds the specified threshold of 0.02 for little effects, 0.15 for a middle effect and 0.35 for a large effect size, as indicated by Table 4 assessment of the effect size [54]. Finally,  $Q^2$  is assessed to evaluate the predictive accuracy of the structural model. A  $Q^2$  value greater than zero generally indicates predictive relevance. According to the results, there is a good level of predictive relevance for green work engagement and environmental performance, with  $Q^2$  scores of 0.09 and 0.05, respectively. The next step is to use 5,000 resamples in a bootstrap analysis to test the strength of the path relationship, which will determine whether to accept or reject the hypothesis, as shown in Table 4.

**Table 4.** Findings from hypothesis testing

Relationship	Coef	T-Value	P-Value	Results	$f^2$
<b>Direct Effect</b>					
GHRM -> EP	0.578	9,258	0.000	Received	0.308
GHRM -> GWE	0.712	19,959	0.000	Received	0.984
SL -> EP	0.090	1,974	0.049	Received	0.214
SL -> GWE	0.108	2,638	0.009	Received	0.022
GWE -> EP	0.155	2,818	0.005	Received	0.023
<b>Indirect Effect</b>					
GHRM -> GWE -> EP	0.111	2,732	0.007	Received	
SL -> GWE -> EP	0.017	2,048	0.041	Received	

Empirically improving an organization's environmental performance can be achieved by applying COR theory, which integrates GHRM and leadership based on spiritual values, with green work engagement as the main link. The results of the study show that there is a positive effect of GHRM on an organisation's environmental performance. This means that the implementation of GHRM programmes has successfully led to widespread environmental actions throughout the organisation. In this case, the perception of GHRM practices as a resource for the environment can be fully exploited. Thus, the research hypothesis supported by the COR theory holds true in this study. These findings validate the research of previous studies [25-28]. To support the researchers' generalisation that there is a positive relationship between GHRM and environmental performance, this study provides concrete data from diverse hospitality contexts. The findings also demonstrate the consequence effect among GHRM on the engagement of work. The results of the study align with the COR theory, which emphasises that GHRM is a workplace resource that can act as a motivational factor to increase the level of green work engagement. This means that good implementation of GHRM makes employees more concerned and can increase green work engagement. This is consistent with research by Jnaneswar [25] and Aboramadan [29] which found that GHRM at a company motivates workers to do green labor.

The statistical results support the COR theory that spiritual leadership is significantly related to environmental performance. This finding supports previous research on the importance of leadership in facilitating the achievement of environmental performance [5]. Overall, the findings suggest that spiritual leadership emphasises the provision of environmentally friendly resources that inspire employees to practice work and implement updated work processes and completion of work. Furthermore, the relationship can be strengthened by applying COR theory, which shows that spiritual leadership serves as an asset that motivates staff to

work harder to meet environmental goals. In addition, work engagement in green is significantly influenced by spiritual leadership, where spiritual leaders care about their employees in environmental work and have relationships with them that are characterized by unselfish compassion. These findings support the studies of Abualigah et al. [33].

The SEM results show that green work engagement significantly improves hotel employees' environmental performance, indicating that hotel employees' participation in environmental activities improves environmental performance. These findings are consistent with previous studies that have found a significant relationship between green work engagement and improved employee environmental performance [20, 25, 29, 33]. This study complements previous research by showing that companies that support employee engagement programs in green environment, like green initiative groups, sustainable growth projects, and green reward strategies, have better environmental performance among employees. In line with the resource acquisition cycle of the COR principle theory, resource acquisition from green work engagement can improve the environmental performance of hotel employees [21].

Based on the results of this study, environmental performance improvement is a result of GHRM through work engagement in green. Employee involvement in environmental management promotes GHRM in strengthening the environmental performance of the organisation. This result validates the findings of Jnaneswar [25] and Chaudhary [38]. The study contribute empirical support from the hospitality field [33], highlighting that green work engagement is an intermediary in the context of the COR theory. In addition, the findings also show that there is a significant relationship between spiritual leadership and hotel employees' environmental performance through green work engagement. Spiritual leaders provide the necessary resources to achieve environmental goals and become role models for their followers. This type of resource provision inspires employees. The result of spiritual leadership is that it provides role models for their subordinates, who may become more engaged in green activities, thereby promoting improved environmental performance. The findings are consistent with previous research [33] that found one of the antecedents of pro-environmental outcomes is work engagement in green. Furthermore, these findings provide support for the COR theory of the gain spiral. In this framework, green work engagement not only reflects the use of psychological resources gained from spiritual leadership such as work meaning, positive values, and moral support but also encourages the active use of these resources to achieve pro-environmental goals. Employees who are positively engaged in environmental issues feel they have enough support and confidence to use these resources without fear of losing them. Instead, they use them as a foundation to make greater contributions to improving environmental performance. This process reflects the essence of the gain spiral in COR, namely that the accumulation and effective use of resources will result in the acquisition of additional resources, forming a positive cycle that is sustainable in the organizational context [56].

## 5. CONCLUSION, IMPLICATION, LIMITATIONS, AND FURTHER STUDIES

The present study which is grounded in the COR theory,

investigates in detail how GHRM and spiritual leadership impact environmental performance while accounting for green work engagement. Information was collected from the 4 and 5 star hospitality industry in West Sumatra, Indonesia. The results show that GHRM benefits performance of the environment. Moreover, GHRM and engagement in green work are directly related, as evidenced by the significant impact of green work engagement on environmental performance. Thus, it is argued that the effect of GHRM on environmental performance is mediated by green work engagement. This study also took into account green work engagement and leadership that integrates spirituality values, as well as how these two factors together affect environmental performance. The intriguing results indicate that employee involvement in green labor has a significant impact on the company, particularly on its environmental status. Moreover, the study's demonstration of the contagion phenomenon from spiritual leadership to green work engagement and environmental performance is another important addition. The results indicate that more study is required to deepen knowledge of GHRM and spiritual leadership, with an emphasis on determining the fundamental mechanisms that underlie the connection between GHRM practices and spiritual leadership as well as their effects.

This study makes multiple contributions to the body of knowledge. First, research on the impact of environmentally oriented spiritual leadership, compared to GHRM, is still limited. Therefore, this study expands the understanding of the impact of spiritual leadership on environmental performance. Moreover, there is a lack of empirical research on the predictors and outcomes of green work engagement, despite the fact that green work engagement is an important motivational construct that contributes to the achievement of environmental goals. In addition, From a management perspective, this study shows that organizational environmental performance is influenced by leadership based on spiritual values. Therefore, senior hotel management needs to take concrete steps, such as organizing spiritual leadership training that emphasizes self-awareness, ethics, empathy, and sustainability; integrating spiritual values into management training programs; establishing regular reflection forums; developing a spirituality-based code of ethics; engaging in corporate social responsibility programs and providing quiet spaces for reflection or prayer. These steps play an important role in instilling spiritual values. Moreover, to respond to market dynamics and work pressures in the competitive hotel industry, organizations need to implement GHRM practices, such as green recruitment, environmental training, and sustainability-based reward systems. Competent spiritual leaders can generate intrinsic employee motivation, which in turn drives green work engagement. This engagement not only motivates employees to carry out environmentally friendly tasks but also encourages them to go beyond expectations in achieving the organization's sustainability goals. Thus, the synergy between spiritual leadership and GHRM practices is key in building employee engagement to support sustainable environmental performance.

This study has several limitations that need to be considered in further studies. First, the use of cross-sectional data limits the ability to test causal relationships, therefore it is recommended that future studies use a longitudinal design. Second, data collection carried out independently by respondents has the potential to cause common method bias (CMB), although the results of the analysis indicate that this is

not a significant problem. To minimize this potential bias, it is recommended that data be collected from multiple sources. Third, the gender imbalance in the male-dominated sample from the housekeeping department may affect the generalizability of the findings. Therefore, future studies are recommended to involve other departments with a more balanced gender composition. Given that this study is limited to hotel housekeeping employees in West Sumatra, expanding the study to other tourism and hospitality sectors such as resorts, restaurants, travel services, and recreational facilities is also highly recommended. In addition, since green work engagement acts as a mediator in this study, future studies are recommended to explore other mediators such as green organizational culture, green commitment, green knowledge sharing, and green intrinsic motivation. In addition, the dependent variable used is environmental performance, therefore, other outcomes such as green innovation and environmental behavior (both core and extra-role) can be considered. Further studies could also include moderating variables to identify conditions under which spiritual leadership has optimal impact.

## REFERENCES

- [1] Satrianto, A., Gusti, M.A. (2023). The role of islamic work ethics and organizational citizenship behavior in green human resource practices and environmental performance of indonesian food SMEs. *International Journal of Sustainable Development & Planning*, 18(8): 2393-2401. <https://doi.org/10.18280/ijstdp.180810>
- [2] Umrani, W.A., Channa, N.A., Yousaf, A., Ahmed, U., Pahi, M.H., Ramayah, T. (2020). Greening the workforce to achieve environmental performance in hotel industry: A serial mediation model. *Journal of Hospitality and Tourism Management*, 44: 50-60. <https://doi.org/10.1016/j.jhtm.2020.05.007>
- [3] Yusoff, Y.M., Nejati, M., Kee, D.M.H., Amran, A. (2020). Linking green human resource management practices to environmental performance in hotel industry. *Global Business Review*, 21(3): 663-680. <https://doi.org/10.1177/0972150918779294>
- [4] Kim, Y.J., Kim, W.G., Choi, H.M., Phetvaroon, K. (2019). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. *International Journal of Hospitality Management*, 76: 83-93. <https://doi.org/10.1016/j.ijhm.2018.04.007>
- [5] Li, W., Abdalla, A.A., Mohammad, T., Khassawneh, O., Parveen, M. (2023). Towards examining the link between green HRM practices and employee green in-role behavior: Spiritual leadership as a moderator. *Psychology Research and Behavior Management*, 16: 383-396. <https://doi.org/10.2147/PRBM.S396114>
- [6] Tang, G., Chen, Y., Jiang, Y., Paillé, P., Jia, J. (2018). Green human resource management practices: Scale development and validity. *Asia Pacific Journal of Human Resources*, 56(1): 31-55. <https://doi.org/10.1111/1744-7941.12147>
- [7] Shah, S.M.A., Jiang, Y., Wu, H., Ahmed, Z., Ullah, I., Adebayo, T.S. (2021). Linking green human resource practices and environmental economics performance: The role of green economic organizational culture and green psychological climate. *International Journal of Environmental Research and Public Health*, 18(20): 10953. <https://doi.org/10.3390/ijerph182010953>
- [8] Singh, S.K., Del Giudice, M., Chierici, R., Graziano, D. (2020). Green innovation and environmental performance: The role of green transformational leadership and green human resource management. *Technological Forecasting and Social Change*, 150: 119762. <https://doi.org/10.1016/j.techfore.2019.119762>
- [9] Singh, S.K., El-Kassar, A.N. (2019). Role of big data analytics in developing sustainable capabilities. *Journal of Cleaner Production*, 213: 1264-1273. <https://doi.org/10.1016/j.jclepro.2018.12.199>
- [10] Badar, K., Kundi, Y.M., Siddiquei, A.N., Abualigah, A. (2023). Linking environmentally-specific empowering leadership to hotel employees' green creativity: Understanding mechanisms and boundary conditions. *Journal of Service Theory and Practice*, 33(3): 412-435. <https://doi.org/10.1108/JSTP-07-2022-0158>
- [11] Ur Rehman, Z., Shafique, I., Khawaja, K.F., Saeed, M., Kalyar, M.N. (2023). Linking responsible leadership with financial and environmental performance: Determining mediation and moderation. *International Journal of Productivity and Performance Management*, 72(1): 24-46. <https://doi.org/10.1108/IJPPM-12-2020-0626>
- [12] Hameed, Z., Naeem, R.M., Misra, P., Chotia, V., Malibari, A. (2023). Ethical leadership and environmental performance: The role of green IT capital, green technology innovation, and technological orientation. *Technological Forecasting and Social Change*, 194: 122739. <https://doi.org/10.1016/j.techfore.2023.122739>
- [13] Perez, J.A.E., Ejaz, F., Ejaz, S. (2023). Green transformational leadership, GHRM, and proenvironmental behavior: An effectual drive to environmental performances of small-and medium-sized enterprises. *Sustainability*, 15(5): 4537. <https://doi.org/10.3390/su15054537>
- [14] Usman, M., Ali, M., Ogbonnaya, C., Babalola, M.T. (2021). Fueling the intrapreneurial spirit: A closer look at how spiritual leadership motivates employee intrapreneurial behaviors. *Tourism Management*, 83: 104227. <https://doi.org/10.1016/j.tourman.2020.1047>
- [15] Wang, Y., Jin, Y., Cheng, L., Li, Y. (2021). The influence of spiritual leadership on harmonious passion: A case study of the hotel industry in China. *Frontiers in Psychology*, 12: 730634. <https://doi.org/10.3389/fpsyg.2021.730634>
- [16] Abualigah, A., Badar, K. (2024). Does spiritual leadership promote employees' green creativity? The mediating effect of green work engagement. *Journal of Organizational Effectiveness: People and Performance*. <https://doi.org/10.1108/JOEPP-09-2023-0387>
- [17] Bayighomog, S.W., Arasli, H. (2022). Reviving employees' essence of hospitality through spiritual wellbeing, spiritual leadership, and emotional intelligence. *Tourism Management*, 89: 104406. <https://doi.org/10.1016/j.tourman.2021.104406>
- [18] Ali, M., Usman, M., Shafique, I., Garavan, T., Muavia, M. (2022). Fueling the spirit of care to surmount hazing: Foregrounding the role of spiritual leadership in inhibiting hazing in the hospitality context. *International Journal of Contemporary Hospitality Management*, 34(10): 3910-3928. <https://doi.org/10.1108/IJCHM-09->

- [19] Ali, M., Usman, M., Pham, N.T., Agyemang-Mintah, P., Akhtar, N. (2020). Being ignored at work: Understanding how and when spiritual leadership curbs workplace ostracism in the hospitality industry. *International Journal of Hospitality Management*, 91: 102696. <https://doi.org/10.1016/j.ijhm.2020.102696>
- [20] Karatepe, T., Ozturen, A., Karatepe, O.M., Uner, M.M., Kim, T.T. (2022). Management commitment to the ecological environment, green work engagement and their effects on hotel employees' green work outcomes. *International Journal of Contemporary Hospitality Management*, 34(8): 3084-3112. <https://doi.org/10.1108/IJCHM-10-2021-1242>
- [21] Hobfoll, S.E., Halbesleben, J., Neveu, J.P., Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior*, 5: 103-128. <https://doi.org/10.1146/annurev-orgpsych-032117-104640>
- [22] Hobfoll, S.E. (2011). Conservation of resources theory: Its implication for stress, health, and resilience. In *The Oxford Handbook of Stress, Health, and Coping* Chapter 7, Oxford University Press, 127-147.
- [23] Hobfoll, S.E., Tirone, V., Holmgreen, L., Gerhart, J. (2016). Conservation of resources theory applied to major stress. In *Stress: Concepts, Cognition, Emotion, and Behavior* Chapter 7, Academic Press., 65-71. <https://doi.org/10.1016/B978-0-12-800951-2.00007-8>
- [24] Leifels, K., Bowen, P. (2021). The dark side of teamwork—the relationship between social stressors, social resources and team member well-being in monocultural and multicultural work teams. *Cross Cultural & Strategic Management*, 28(4): 867-893. <https://doi.org/10.1108/CCSM-08-2020-0172>
- [25] Jnaneswar, K. (2024). Demystifying the relationships among green HRM, green work engagement, green innovation and environmental performance: A serial mediation model. *Social Responsibility Journal*, 20(6): 1193-1213. <https://doi.org/10.1108/SRJ-08-2023-0457>
- [26] Niazi, A., Qureshi, M.I., Iftikhar, M., Obaid, A. (2024). The impact of GHRM practices on employee workplace outcomes and organizational pride: A conservation of resource theory perspective. *Employee Relations: The International Journal*, 46(2): 383-407. <https://doi.org/10.1108/ER-05-2023-0249>
- [27] Nisar, Q.A., Haider, S., Ali, F., Gill, S.S., Waqas, A. (2024). The role of green HRM on environmental performance of hotels: Mediating effect of green self-efficacy & employee green behaviors. *Journal of Quality Assurance in Hospitality & Tourism*, 25(1): 85-118. <https://doi.org/10.1080/1528008X.2022.2109235>
- [28] Ali, M., Puah, C.H., Ali, A., Raza, S.A., Ayob, N. (2022). Green intellectual capital, green HRM and green social identity toward sustainable environment: A new integrated framework for Islamic banks. *International Journal of Manpower*, 43(3): 614-638. <https://doi.org/10.1108/IJM-04-2020-0185>
- [29] Aboramadan, M. (2022). The effect of green HRM on employee green behaviors in higher education: The mediating mechanism of green work engagement. *International Journal of Organizational Analysis*, 30(1): 7-23. <https://doi.org/10.1108/IJOA-05-2020-2190>
- [30] De Cuyper, N., Mäkikangas, A., Kinnunen, U., Mauno, S., Witte, H.D. (2012). Cross-lagged associations between perceived external employability, job insecurity, and exhaustion: Testing gain and loss spirals according to the conservation of resources theory. *Journal of Organizational Behavior*, 33(6): 770-788. <https://doi.org/10.1002/job.1800>
- [31] Fawehinmi, O., Yusliza, M.Y., Wan Kasim, W.Z., Mohamad, Z., Sofian Abdul Halim, M.A. (2020). Exploring the interplay of green human resource management, employee green behavior, and personal moral norms. *Sage Open*, 10(4). <https://doi.org/10.1177/2158244020982292>
- [32] Liu, Z., Li, Y., Guo, Y., Zhang, M., Ramsey, T. (2025). Does green human resource management foster green advocacy? A perspective of conservation of resources theory. *Journal of Organizational Change Management*. 38(2): 414-435. <https://doi.org/10.1108/JOCM-03-2024-0160>
- [33] Abualigah, A., Koburtay, T., Bourini, I., Badar, K., Gerged, A.M. (2023). Towards sustainable development in the hospitality sector: Does green human resource management stimulate green creativity? A moderated mediation model. *Business Strategy and the Environment*, 32(6): 3217-3232. <https://doi.org/10.1002/bse.3296>
- [34] Mahran, K., Albarrak, H., Ibrahim, B.A., Elamer, A.A. (2025). Leadership and sustainability in tourism and hospitality: A systematic review and future research agenda. *International Journal of Contemporary Hospitality Management*, 37(7): 2219-2242. <https://doi.org/10.1108/IJCHM-07-2024-0985>
- [35] Zhang, Y., Yang, F. (2021). How and when spiritual leadership enhances employee innovative behavior. *Personnel Review*, 50(2): 596-609. <https://doi.org/10.1108/PR-07-2019-0346>
- [36] Rezapouraghdam, H., Alipour, H., Arasli, H. (2019). Workplace spirituality and organization sustainability: A theoretical perspective on hospitality employees' sustainable behavior. *Environment, Development and Sustainability*, 21: 1583-1601. <https://doi.org/10.1007/s10668-018-0120-4>
- [37] Ababneh, O.M.A. (2021). How do green HRM practices affect employees' green behaviors? The role of employee engagement and personality attributes. *Journal of Environmental Planning and Management*, 64(7): 1204-1226. <https://doi.org/10.1080/09640568.2020.1814708>
- [38] Chaudhary, R. (2020). Green human resource management and employee green behavior: An empirical analysis. *Corporate Social Responsibility and Environmental Management*, 27(2): 630-641. <https://doi.org/10.1002/csr.1827>
- [39] Pham, N.T., Thanh, T.V., Tučková, Z., Thuy, V.T.N. (2020). The role of green human resource management in driving hotel's environmental performance: Interaction and mediation analysis. *International Journal of Hospitality Management*, 88: 102392. <https://doi.org/10.1016/j.ijhm.2019.102392>
- [40] Suliman, M.A., Abdou, A.H., Ibrahim, M.F., Al-Khaldy, D.A.W., Anas, A.M., Alrefae, W.M.M., Salama, W. (2023). Impact of green transformational leadership on employees' environmental performance in the hotel industry context: Does green work engagement matter? *Sustainability*, 15(3): 2690.



- <https://doi.org/10.3390/su15032690>
- [41] Iskandar, I., Handoko, R., Hartono, D. (2020). Transmission of tourism impacts on regional economic growth through regional tourism revenues: Panel data model approach. In *Disasters and Regional Development in Indonesia*, 95.
- [42] Sambodo, M.T., Yuliana, C.I., Hidayat, S., Novandra, R., Handoyo, F.W., Farandy, A.R., Yuniarti, P.I. (2022). Breaking barriers to low-carbon development in Indonesia: Deployment of renewable energy. *Heliyon*, 8(4): e09304 <https://doi.org/10.1016/j.heliyon.2022.e09304>
- [43] Mertler, C.A. (2024). *Introduction to Educational Research*. Sage Publications.
- [44] Sekaran, U. (2016). *Research Methods for Business: A Skill Building Approach*. John Wiley & Sons.
- [45] Silva, S., Couto, M.J. (2023). Gender bias in the hospitality sector: Female and male jobs. In *Proceedings of the 6th International Conference on Tourism Research, ICTR 2023*, pp. 292-297.
- [46] Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Thiele, K.O. (2017). Mirror, mirror on the wall: A comparative evaluation of composite-based structural equation modeling methods. *Journal of the Academy of Marketing Science*, 45: 616-632. <https://doi.org/10.1007/s11747-017-0517-x>
- [47] Pawar, B.S. (2014). Leadership spiritual behaviors toward subordinates: An empirical examination of the effects of a leader's individual spirituality and organizational spirituality. *Journal of Business Ethics*, 122(3): 439-452. <https://doi.org/10.1007/s10551-013-1772-5>
- [48] Usakli, A., Kucukergin, K.G. (2018). Using partial least squares structural equation modeling in hospitality and tourism: Do researchers follow practical guidelines? *International Journal of Contemporary Hospitality Management*, 30(11): 3462-3512. <https://doi.org/10.1108/IJCHM-11-2017-0753>
- [49] Gusti, M.A., Satrianto, A., Juniardi, E., Fitra, H. (2024). Artificial intelligence for employee engagement and productivity. *Problems and Perspectives in Management*, 22(3): 174. [http://doi.org/10.21511/ppm.22\(3\).2024.14](http://doi.org/10.21511/ppm.22(3).2024.14)
- [50] Sarstedt, M., Hair Jr, J.F., Nitzl, C., Ringle, C.M., Howard, M.C. (2020). Beyond a tandem analysis of SEM and PROCESS: Use of PLS-SEM for mediation analyses. *International Journal of Market Research*, 62(3): 288-299. <https://doi.org/10.1177/1470785320915686>
- [51] Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5): 879-903. <https://doi.org/10.1037/0021-9010.88.5.879>
- [52] Gusti, M.A., Lukito, H., Satrianto, A., Prima, H.S. (2024). Effect of COVID-19 fear on nurse performance through insecurity and job satisfaction. *Problems and Perspectives in Management*, 22(1): 662-672. [https://doi.org/10.21511/ppm.22\(1\).2024.52](https://doi.org/10.21511/ppm.22(1).2024.52)
- [53] Kock, N. (2017). Common method bias: A full collinearity assessment method for PLS-SEM. *Partial Least Squares Path Modeling*, 245-257. [https://doi.org/10.1007/978-3-319-64069-3\\_11](https://doi.org/10.1007/978-3-319-64069-3_11)
- [54] Henseler, J., Müller, T., Schuberth, F. (2018). New guidelines for the use of PLS path modeling in hospitality, travel, and tourism research. In *Applying Partial Least Squares in Tourism and Hospitality Research*, pp. 17-33. <https://doi.org/10.1108/978-1-78756-699-620181002>
- [55] Ali, F., Rasoolimanesh, S.M., Sarstedt, M., Ringle, C.M., Ryu, K. (2018). An assessment of the use of partial least squares structural equation modeling (PLS-SEM) in hospitality research. *International Journal of Contemporary Hospitality Management*, 30(1): 514-538. <https://doi.org/10.1108/IJCHM-10-2016-0568>
- [56] Usman, M., Akhtar, M.W., Zahoor, N., Khan, M.A.S., Adomako, S. (2025). Triggering employee green activism through green human resource management: The role of green organizational learning and responsible leadership. *Business Strategy and the Environment*, 34(1): 1085-1096. <https://doi.org/10.1002/bse.4028>