

## The mediating effect of green culture on the relationship between GHRM and green sustainable performance in Jordanian SME logistics companies



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### ARTICLE INFO

#### Article history:

Received 25 June 2024

Received in revised form

1 October 2024

Accepted 19 October 2024

#### Keywords:

Green culture

Sustainable performance

Green human resource management

Logistics companies

Environmental concerns

### ABSTRACT

The paper aims to explore the mediating effect of green culture (GC) on the relationship between Green Human Resource Management (GHRM) and Green Sustainable Performance (GSP) in small and medium logistics companies in Jordan. With increasing attention to environmental issues and sustainability becoming crucial for the future of the logistics sector, GHRM practices are gaining importance in enhancing sustainable performance. This study focuses on how promoting GC within organizations can strengthen the effectiveness of GHRM initiatives to achieve better sustainable outcomes. A quantitative research method was used to gather data from SME logistics companies in Jordan through structured questionnaires. Data analysis was conducted using SPSS-29 and SmartPLS 4. The results show that GHRM practices have a significant positive impact on GSP in Jordanian SME logistics companies. Key components of GHRM, such as green recruitment and selection, green training and development, and green reward and compensation, were found to be strong predictors of GSP. Furthermore, GC was identified as a mediator between GHRM practices and GSP, showing that GHRM practices contribute to the development of a GC in these organizations. The findings also reveal that a strong GC fully mediates the relationship between GHRM practices and sustainable performance, emphasizing the importance of cultivating a robust GC to enhance the positive effects of GHRM on organizational sustainability. These results provide insights for addressing gaps in sustainable practices within the logistics sector and offer recommendations for managers looking to implement green initiatives in their companies.

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### 1. Introduction


Green Human Resource Management (GHRM) is considered a key driver in fostering a culture of sustainability within organizations by encouraging employees to adopt environmentally responsible behaviors (Obeidat et al., 2023). Employee pro-environmental behavior can range from structured, work-related activities to self-initiated efforts that enhance overall environmental friendliness (Ghani et al., 2024). This approach reflects a commitment to resource conservation, waste reduction, and eco-friendly operational practices (Chaudhary, 2020).

GHRM offers a strategic framework for embedding environmental considerations into HRM practices (Zobi et al., 2023). In recent years, sustainability has gained increased recognition, supported by UN Sustainable Development Goal initiatives. Environmental performance is a complex issue closely linked with employee motivation and capability, both of which are crucial for effective environmental management systems (Obeidat et al., 2023). Given the significant pollution and environmental degradation worldwide, many organizations now recognize that maintaining sustainable operations is not only a moral responsibility but an existential necessity. Evidence suggests that failing to address environmental concerns can harm both the environment and an organization's financial health. Consequently, organizations are increasingly integrating environmental, social, and financial sustainability into their strategies and operations (Chaudhary,

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<https://doi.org/10.21833/ijaas.2024.10.025>

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2020; Jebril et al., 2024; Alshehadeh et al., 2024; Al-Taani et al., 2024).

Research highlights that eco-friendly behavior among employees is a critical factor in driving organizational environmental performance (Sobaih et al., 2020). Despite the growing interest and research on this topic, significant gaps remain. Specifically, while GHRM has been shown to positively influence employee pro-environmental behaviors and environmental performance (Chaudhary, 2020; Sobaih et al., 2020), much of the existing research focuses on large companies. There is limited scholarly attention on small and medium-sized enterprises (SMEs) (Singh et al., 2020), leaving SMEs as a missing link in this research (Sobaih et al., 2020; Ojo et al., 2022; Elshaer et al., 2023). In particular, the logistics SMEs in Jordan have received insufficient consideration in the context of sustainable practices and GHRM. To address this gap, this study examines the complex relationships between GHRM, environmentally friendly behavior, and environmental performance within Jordanian logistics SMEs, with a special focus on the mediating role of green culture (GC). This paper aims to enhance the understanding of sustainable business practices within SMEs, especially in emerging economies.

## 2. Literature review and hypothesis development

Recent literature has focused more on GHRM practices, environmentally conscious behavior, and environmental performance. The complexity and context-dependent nature of this relationship have been studied. Elshaer et al. (2023) assessed the environmental, economic, and social effects of green management practices (GMPs). They also explored the moderating effect of pro-environmental behavior among employees in SMEs. The positive relationships between GMPs and specific performance-related indicators were substantially enhanced by the moderating effect of workers' pro-environmental behavior. The study emphasized the proactive involvement of workers in green projects and the development of an environmental stewardship culture in SMEs to achieve better performance over time. In addition, Aldaas et al. (2022) evaluated the relationship between Green Supply Chain Management (GSCM) and environmental performance. Their findings suggested that many GHRM practices affect GSCM and environmental performance. Green training and innovation exerted an acceptable impact on GSCM, whereas green performance management and remuneration positively affected environmental performance.

Furthermore, Iftikar et al. (2022) found that GHRM likely had a positive effect on pro-environmental employee behavior, with green entrepreneurship serving as a mediator and green self-efficacy as a moderator. This study contributed to the understanding of GHRM's role in promoting pro-environmental behavior and environmentally

desirable outcomes, which is noteworthy for both theory and practice.

To identify the exact effect of Green HRM standards on employee pro-environmental behavior, Ojo et al. (2022) executed in-depth studies using the information technology (IT) sector. The results of their research demonstrated that GHRM practices such as engagement and empowerment, green behavior and development practices, and performance management are effective in promoting environmentally responsible IT conduct. Specifically, pro-environmental IT behavior proved significant and produced an interaction term with the HRM practices to moderate the influence of the GHRM practices on environmental IT performance. Besides, Khattak et al. (2021) revealed that the significant positive relationship between GHRM and environmental performance would be significantly moderated by task-related pro-environmental behaviour. According to Aldaas et al. (2022), the intricate linkages between environmental performance, GSCM, and GHRM practices offer a more nuanced understanding of how these components collectively contribute to long-term results. In addition, Al-Alawneh et al. (2024) found that GHRM practices positively enhanced environmental performance and influenced both MS and GOC. However, the results highlighted the mediating roles of MS and GOC in connecting GHRM practices with environmental performance, offering insights for fostering GCs and gaining management support within university settings to improve environmental performance. Likewise, a financial and nonfinancial incentive program known as "green compensation and rewards" aims to attract, maintain, and motivate individuals to support environmentally conscious practices.

Mehak and Batcha (2024) identified various dimensions of green rewards and compensation (GRC), including cognitive and interpersonal rewards, skill-based incentives, and recognition of green and sustainable technologies. They also emphasized the importance of fostering sustainable behavior. Kuo et al. (2022) found a strong positive link between GHRM practices, employees' environmental performance, and green innovation. These practices encompassed green compensation and incentives, performance management and evaluation focused on environmental goals, green training and development, and eco-friendly recruiting and selection. Their findings underline the crucial role of GHRM in building a culture of green innovation and achieving positive environmental outcomes.

Ba and Cao (2023) found that the impact of GHRM practices on environmental performance was significantly reduced when pro-environmental policies were in place. Their study also revealed that higher education levels moderated the effects of GHRM on environmental outcomes, with green incentives, hiring, and selection having the greatest impact. Ziyadeh et al. (2023) demonstrated that GHRM techniques improved corporate social

responsibility (CSR) and organizational citizenship behavior for the environment (OCBE), ultimately enhancing organizational sustainability (OS). This is particularly relevant for long-term sustainability in the healthcare sector, as it links GHRM with CSR, OCBE, and OS. Moreover, their findings showed that GHRM indirectly influences a company's environmental performance through green innovation.

Despite this, small and medium-sized enterprises (SMEs)—which play a significant role in the environmental impact of commercial activities—are often overlooked in the literature on organizational sustainability and resource efficiency, which has largely focused on larger corporations. Elshaer et al. (2021) highlighted that pro-environmental employee behaviors played a crucial role in moderating the relationship between GHRM and environmental performance within small tourism firms. While they did not find a direct link between GHRM and environmental performance, their study showed a significant indirect effect through proactive and task-related pro-environmental behaviors. Singh et al. (2020) indicated that green HRM practices serve as a mediator between green transformational leadership and green innovation.

As a result of academic study failure to include SMEs, there is a significant information gap about the sustainability practices of this vital industry. However, rising stakeholder pressure, along with the need to incorporate environmentally sensitive management practices (Latip et al., 2022; Hassan et al., 2024), has made it a common condition for enterprises operating in a wide range of industries and areas. To satisfy these sustainability demands, companies must employ intangible resources to deal with the numerous pressures that stakeholders exercise and to navigate the complexities of environmental sustainability. Similarly, empirical data from previous studies indicate that workers can have a significant impact on environmental performance, regardless of their functional roles or hierarchical roles within organizations.

Green awards, on the other hand, encourage the best potential work-life balance, which improves environmental performance greatly (Lewicka et al., 2024). Similar findings have been reported on the influence of green prizes and pay on work performance and the environment (Al-Alawneh et al., 2024). Workers who are keen to attempt new green projects benefit from incentives and recognition based on environmental performance (Rawashdeh, 2018). These measures suggest that environmental and sustainability-focused incentives and pay should be instantly tied to the company's environmental performance. Previous studies have also found that feeding monetary incentives to workers to participate in environmental activities enhanced their commitment to environmental sustainability schemes.

Green capacity to execute the job focuses on employee happiness through green rewards and assistance in enhancing environmental performance

(Lewicka et al., 2024; Chaudhary, 2020). Therefore, employees must get adequate training to equip them with the information and skills required to make sound judgments about green HRM practices (Ojo et al., 2022). As a result, they will be motivated to embrace eco-friendly practices. An additional essential element of green HRM practices is green training and development. As stated by Gill et al. (2021), education is "the process of preparing multi-talented individuals to improve instruction necessary for innovations." As part of training for green HRM practices, employees are taught fundamental skills, including gathering waste data and improving the organization's efficiency and environmental competency requirements (Ojo et al., 2022; Lewicka et al., 2024). Nevertheless, Environmental training is necessary if employees want to participate in eco-friendly initiatives.

As the emphasis on environmental sustainability has increased, so has research into how GHRM methods might help achieve those goals. A few studies in this nascent field have investigated how GHRM practices impact workers' knowledge, skills, pro-environmental behaviors, and competence. This study is critical because PEB can significantly reduce harmful environmental activities while also promoting green sustainability, which the hotel industry must consider. Except for green compensation, which did not show a significant natural relationship, green HRM practices were shown to relate to PEB via the mediating effect of GHC (Ogiewwonyi et al., 2023). HRM and high-performance and tactical career performance, as well as organizational performance, have been discovered to be favorably connected by GHRM and Environmental Performance Research (Sobaih et al., 2020). According to the previous study, workers who get proper HRM practices such as training, development, and incentives are more likely to perform well at work, affecting the company's general performance (Paillé et al., 2020).

Principally, it has been demonstrated that GHRM improves employee environmental performance, green behavior and consciousness, and green innovativeness (Chaudhary, 2020; Singh et al., 2020). According to studies on environmental management, GHRM has a positive, direct impact on environmental performance (Al-Alawneh et al., 2024). Research has shown that GHRM practices, including green training and employee engagement, have a direct and significant impact on the environmental performance of hotels (Pham et al., 2020). Additionally, GHRM improves an organization's overall environmental performance and green corporate culture (Aggarwal and Agarwala, 2023). Research indicates that formal environmental management system implementation increases the likelihood of improved environmental performance for businesses. GHRM's practices and policies make up this acknowledged environmental management system. However, small tourism businesses like SME logistics companies are less likely to implement organized HRM practices due to

a lack of funding and HR assistance. Despite this, environmental management continues to improve small enterprises' environmental performance (Sobaih et al., 2020; Singh et al., 2020). Hence, this

paper introduces the research model presented in Fig. 1, accompanied by the proposed hypotheses outlined below.

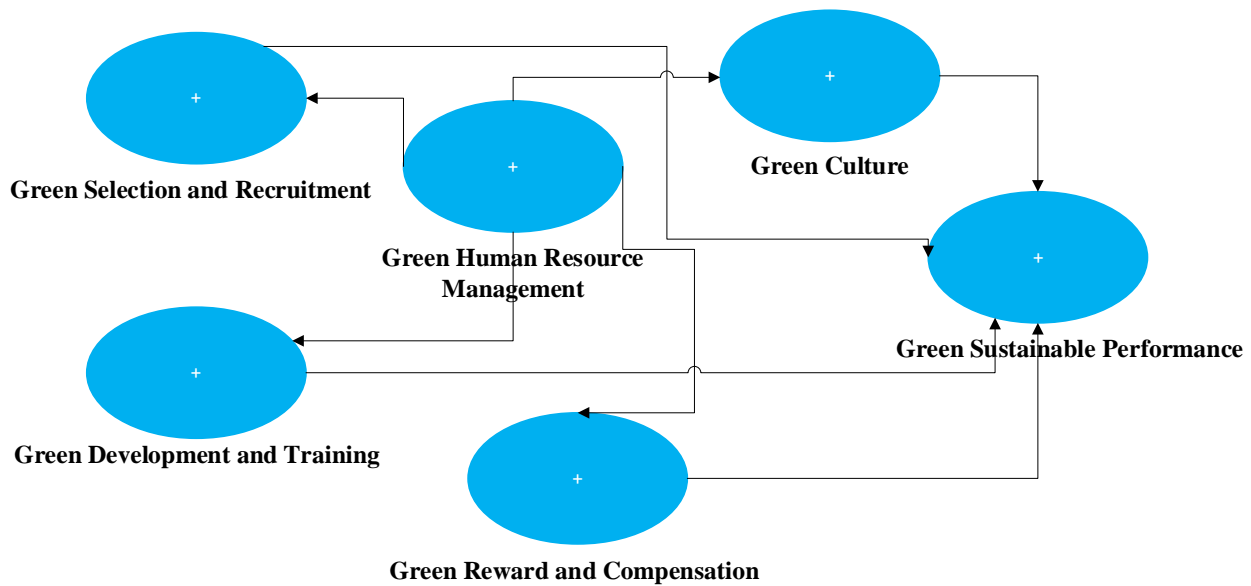


Fig. 1: Research model

**H1:** GHRM positively affects the green sustainable performance (GSP) in Jordanian SME logistics companies.

**H1.1:** GRC positively affects the GSP.

**H1.2:** Green development and training (GDT) positively affect the GSP.

**H1.3:** Green selection and recruitment (GSR) positively affect the GSP.

**H2:** GHRM positively affects the GC in Jordanian SME logistics companies.

**H3:** GC mediates the relationship between GHRM and GSP in Jordanian SME logistics companies.

### 3. Research methodology

An intensive sampling process was used to examine GC as a mediator between GSP and GHRM in Jordanian SME logistics companies. The participants were employees involved in logistics functions within Jordanian SMEs, as previous studies, such as those by Sobaih et al. (2020) and Singh et al. (2020), have highlighted this role as crucial in implementing impactful GHRM practices. These practices contribute to fostering an environmental culture and improving green supply performance. A total of 409 survey questionnaires were distributed through stratified random sampling to ensure representativeness. The response rate was approximately 68%. To enhance the response rate and minimize non-response bias, the survey was conducted in two waves. The validity and reliability of data collection instruments were confirmed with self-administered questionnaires incorporating validated measurement scales identified through an extensive literature review (Shubailat et al., 2024a; Jarah et al., 2024). The questions were reviewed and

refined by a panel of experts specializing in warehouse GHRM, GC, and the three dimensions of sustainability as presented by GSP, ensuring clarity, relevance, and comprehensiveness. A pilot test was conducted with a small group from the target population to identify potential issues with question wording or formatting. Internal consistency was analyzed using Cronbach's alpha test, and factor analysis was applied to assess construct validity, ensuring that the measures accurately reflected the theoretical constructs of GHRM, GC, and GSP. These rigorous steps ensured the reliability and validity of the data collection instruments, forming a robust foundation for analyzing the relationships between GHRM, GC, and GSP within Jordanian SME logistics companies.

### 4. Results

Following the procedure provided by Hair et al. (2016), the hypothesis was evaluated utilizing PLS-SEM, and the hypotheses generated were studied further using SEM. This technique is a good fit for the research since it works especially well with models with variable order and several components. Smart PLS-SEM Advantages: Smart PLS-SEM works better on a small number of samples. This makes it easy to simplify the calculation of model parameters when we work with sparse data and can be used for analysis (Hair et al., 2016; Shehzad et al., 2022; Khattak et al., 2021). Moreover, the research model in this study was tested through the Smart PLS4 tool. PLS-SEM (Partial Least Squares Structural Equation Modelling) was selected as it survives in both confirmatory and exploratory research. According to Sarstedt et al. (2014), PLS-SEM integrates two



essential methods of analysis: structural modeling and covariance-based (Shubailat et al., 2024b).

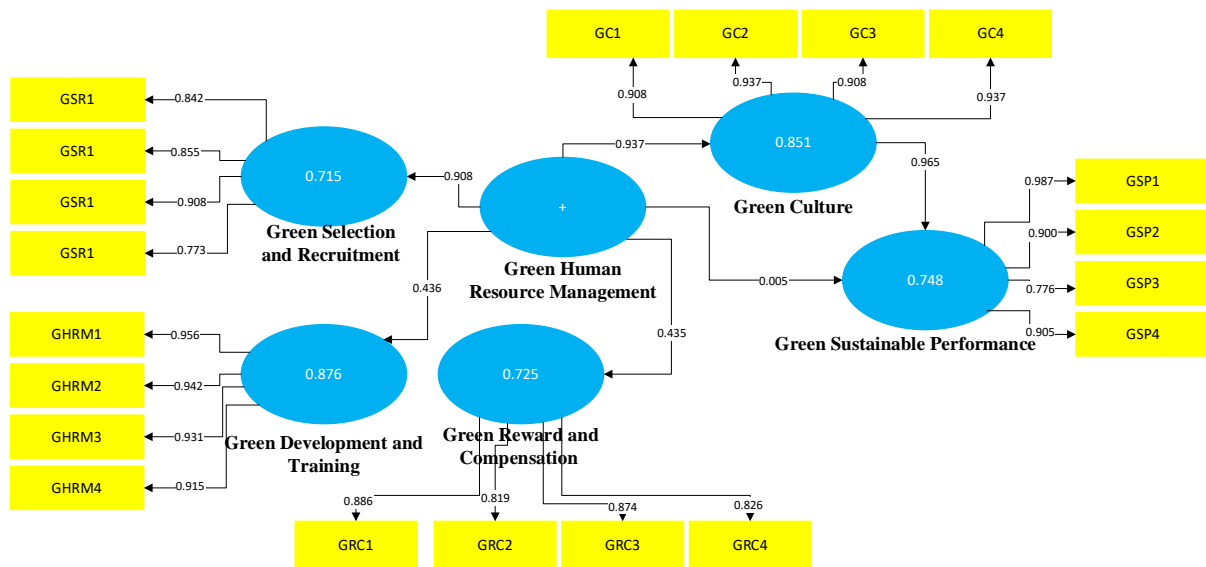
The evaluation results confirm the validity and reliability of each concept included in this study, providing strong evidence that all constructs within the measurement model are unidimensional. Quantitative data was gathered through a questionnaire to assess the constructs. Ensuring construct validity and reliability of research variables is essential for accurately reflecting the underlying concepts. The results indicate that all indicator loadings exceed 0.7 (Table 1). The

reliability of the model was assessed through factor loading and Cronbach's alpha. Additionally, Cronbach's alpha, average variance extracted (AVE), and composite reliability were used to evaluate how consistently multiple measures of a construct align with one or more variables. Composite reliability scores ranged from 0.85 to 0.96, well above the threshold of 0.70 or 0.60, demonstrating strong reliability and validity for each tested research hypothesis. As presented in Table 1 and Fig. 2, the factor loadings, composite reliability, and Cronbach's alpha values confirm the reliability of the indicators.

**Table 1: Reliability testing**

Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
GSP	0.888	0.907	0.922	0.748
GC	0.942	0.950	0.958	0.851
GDT	0.953	0.956	0.966	0.876
GRC	0.874	0.885	0.913	0.725
GSR	0.868	0.914	0.909	0.715

GSP: Green sustainable performance; GC: Green culture; GDT: Green development and training; GRC: Green reward and compensation; GSR: Green selection and recruitment



**Fig. 2: Measurement model**

This article used statistical analysis with SmartPLS4 to investigate different indicators for evaluating hypotheses. However, some of the indicators used in statistical analysis to assess hypotheses include t-statistics, p-values, and original value sample estimates. Important details on the nature and significance of relationships between variables are provided by these indicators. The numerical calculation obtained from the sample data is named the original value sample estimate (O). A score close to +1 denotes a positive correlation between the variables, whereas a result around -1 denotes a negative correlation. T-statistics (T) are also used to assess the link's significance.

An association is considered significant when the T-statistics score is more than 1.96 at the 95% confidence level. Another important factor in determining significance is P-values (P). The statistical importance of the company is shown by a p-value that is smaller than the selected importance threshold, usually less than 0.05. Researchers can utilize original value sample estimates (O), t-

statistics (T), and p-values (P) to assess the significance of the connection and its direction by taking these indications into account. Students can make well-supported statistical findings based on the insights gleaned from hypothesis test results. Conversely, the accompanying Fig. 3 shows the P-values, AVE, and path coefficients.

One phase in the hypothesis testing process is the evaluation of research hypotheses, as Fig. 3 illustrates. For this testing, the route coefficients that were previously specified are required. The results of the hypothesis testing for direct effects are displayed in Table 2, which is displayed below. It also provides a comprehensive overview of the correlations between the variables. Researchers can choose whether to accept or reject the study hypotheses by analyzing the values in Table 2, considering the observed direct effects between variables. When assessing the outcomes of the hypothesis testing process, Table 2 is a helpful tool. Table 2 presents the results of the direct effects hypothesis test together with the sample mean (M),

standard deviation (STDEV), T statistics (|O/STDEV|), and P-values. The link between independent factors (like GHRM) and dependent variables (like GSP and GC) is examined in the section on direct impacts. The direction and

importance of these associations are shown by the P-values and T statistics. A positive beta coefficient with a low P-value, for example, indicates a significant positive link. This analysis also looks at the direct correlations between the variables.

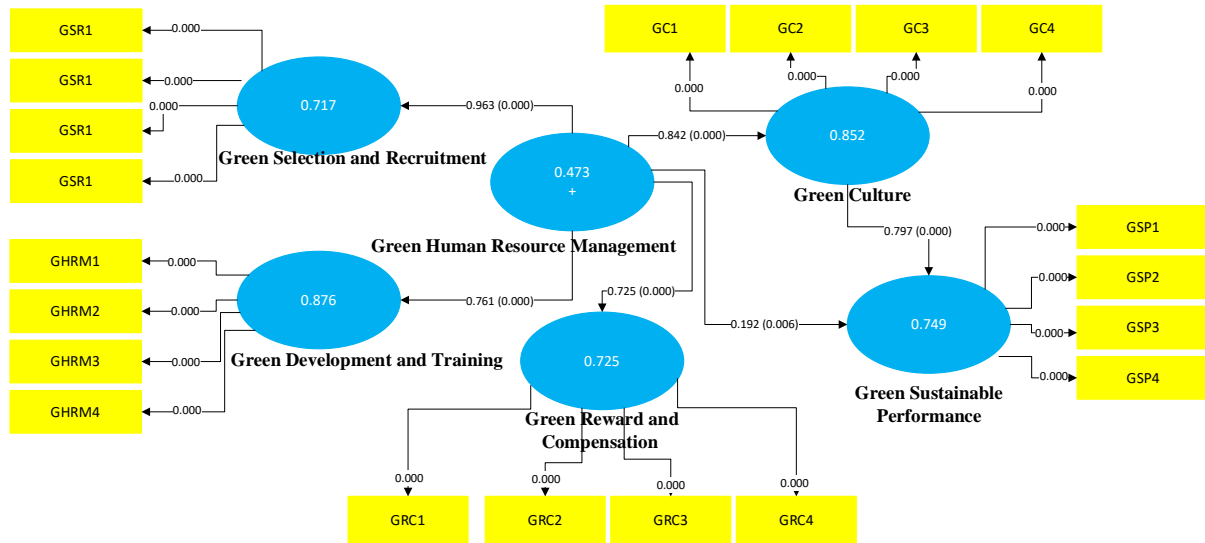


Fig. 3: Structure model

Table 2: P-values and hypothesis testing results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T-statistics ( O/STDEV )	P-values
<b>Total direct effect</b>					
GHRM → GSP	0.863	0.865	0.028	31.110	0.000
GHRM → GC	0.842	0.845	0.029	29.485	0.000
GHRM → GDT	0.761	0.754	0.074	10.230	0.000
GHRM → GRC	0.725	0.725	0.067	10.756	0.000
GHRM → GSR	0.863	0.867	0.023	38.201	0.000
GC → GSP	0.797	0.797	0.061	13.170	0.000
<b>Total indirect effect</b>					
GHRM → GSP	0.671	0.673	0.056	11.938	0.000

GHRM: Green human resource management; GSP: Green sustainable performance; DC: Green culture; GDT: Green development and training; GRC: Green reward and compensation; GSR: Green selection and recruitment

This paper expands on examining the overall effects of GHRM on Green Supply Performance (GSP), GC, GRC, GDT, and green recruitment and selection, as outlined in the total effects section in Table 2. It provides insights into the general impact of Green HRM on these factors. Additionally, the paper investigates the mediating role of GC, with the overall indirect effects section analyzing the indirect influence of GHRM on GSP. Statistical metrics such as T-statistics, P-values, and beta coefficients are used to illustrate how GHRM indirectly impacts GSP.

The connections between independent variables (e.g., GHRM and GC) and GSP are explored in the direct effects section, which is a key part of hypothesis testing. Statistical indicators, including beta coefficients, t-values, and p-values, are employed to assess the direction and significance of these relationships. The beta coefficient indicates the strength and direction of the relationship between variables; a positive beta coefficient suggests a positive association, while a negative coefficient indicates a negative one. The magnitude of the coefficient reflects the strength of the relationship. A positive beta coefficient with a low p-value implies a statistically significant relationship, meaning the association is unlikely to be due to chance. In other words, when researchers observe a positive beta

coefficient with a low p-value, they can be confident in the existence of a significant and positive relationship between the independent variables (such as GC and human resource management) and GSP. Table 3 presents the results of mediation tests, focusing on the mediating role of GC in the interactions between the independent variables (GSP and GHRM) and GC. This research offers a more comprehensive understanding of how GC influences GSP and clarifies the intermediary processes through which these interactions occur.

Table 3: Result of mediation testing

Path	β	Standard deviation	T-values	P-values
GHRM → GC → GSP	0.673	0.056	11.938	0.000

GC mediated the effect of GHRM on GSP in Jordanian SME logistics companies. This is evidenced by the significant indirect effect, as indicated in Table 3 (GHRM → GC → GSP), with a P-value of 0.000 (which is <0.05), B = 0.673, and a T-value of 11.938 (greater than 1.96). Therefore, H3 is supported. All hypotheses of this study, including the direct, indirect, and mediation effects, are confirmed, as demonstrated in Fig. 4 through a bootstrapping analysis conducted 5,000 times.

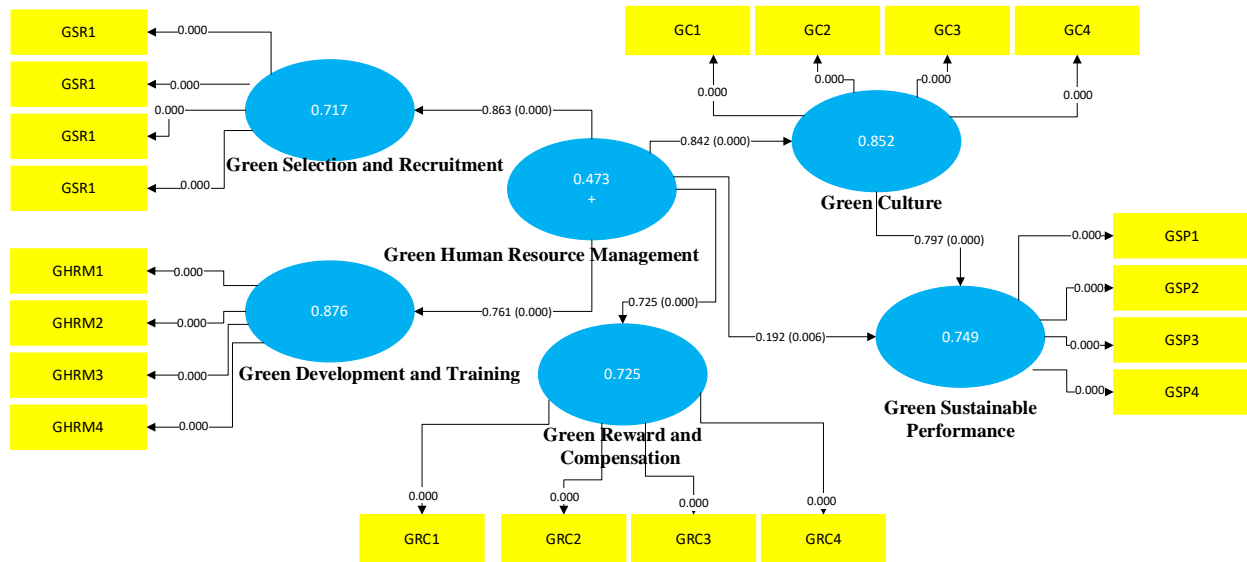


Fig. 4: Final structure model

### 5. Discussion

The main aim of this paper is to investigate the mediating effect of GC between GHRM and GSP in Jordanian SME logistics companies. However, by using Smart PLS4, the findings of this paper support all the hypotheses. For H1: GHRM positively affects sustainable performance in Jordanian SME logistics companies. This study's findings firmly back up this hypothesis. The research has repeatedly shown that in the context of SME logistics enterprises, GHRM practices, and GSP have a beneficial association. According to research by Al-Alawneh et al. (2024), there is a favorable correlation between enhanced environmental performance and GHRM practices, such as green hiring and selection (H1.3) and green training and development (H1.2). This result, which is consistent with a previous study, emphasizes the importance of GHRM in raising GSP for Jordanian SME logistics companies. Sub-hypothesis H1.1 addressed the influence of GRC on GSP. The findings support the positive association and are consistent with previous investigations. GRC has been acknowledged as a successful technique for motivating employees to implement sustainable practices (Chaudhary, 2020). Therefore, the findings support the hypothesis that GRC has a positive influence on GSP in Jordanian SMEs that deal with logistics. Furthermore, Hypothesis H1.2 suggests a positive link between GDT and GSP. Moreover, the results of H1.3, which looked at the connection between GSP and GSR, validate this expectation. Research indicates that improving environmental performance requires hiring people who have an environmental attitude (Al-Alawneh et al., 2024). The results of our investigation corroborate these assertions and highlight the significance of GSR in affecting GSP. Moreover, Hypothesis 2, which proposed a favorable correlation between GHRM and GC, is empirically supported by this study. These findings are supported by our data, which shows that GHRM practices have a beneficial effect on the growth of a green organizational culture in Jordanian

SME logistics businesses. Furthermore, the link between GHRM and GSP was examined via the lens of GC in H3, the third and final hypothesis. Our study's identification of the mediation effect has theoretical and practical ramifications that align with current research (Chaudhary, 2020).

The mediating function of GC has been emphasized as a critical driver connecting GHRM practices to GSP, ensuring that employees' pro-environmental actions are consistent with company aims. The important role that GC plays in modulating the relationship between GHRM and GSP is further highlighted by our results, which underscore the importance of GC in the context of Jordanian SME logistics companies. Nevertheless, the correlations between GHRM, GSP, GRC, GDT, GSR, and GC among Jordanian SME logistics enterprises are well supported empirically by the study's findings. The findings align with previous studies, highlighting the significance of these factors in improving environmental performance and cultivating a sustainable organizational culture. Still, the study makes a significant contribution by concentrating on small and medium-sized logistics firms in the Jordanian setting and offering insightful information to scholars and industry professionals who wish to advance sustainability in this field.

### 6. Conclusion

This paper explores the complex interrelationships among GHRM, GSP, and GC in Jordanian SMEs engaged in logistics. The goal of our research is to gain a thorough understanding of how GHRM practices affect GSP and how GC functions as a mediator in the setting of SME logistics enterprises in Jordan. The results showed that GHRM practices had a considerable influence on GSP among Jordanian SME logistics enterprises. This highlights the need to incorporate environmental issues into HRM operations for small and medium-sized logistics enterprises operating in Jordan. Furthermore, it was observed that each of the

different GHRM parts, GSR, GDT, and GRC, had a favorable and independent effect on GSP. These findings are consistent with previous research that has highlighted the relevance of incentives, training, and recruiting tactics in encouraging sustainable behaviors. As a result, the study indicated that GHRM had a favorable impact on Jordanian SME logistics enterprises' efforts to develop a GC. This outcome is consistent with previous research that has highlighted the importance of GHRM in establishing a long-term corporate culture. Similarly, the study found that GC mediates the relationship between GHRM and GSP. According to this mediation effect, establishing a green organizational culture is critical for improving environmental performance in Jordanian SME logistics firms. As a result, organizations must prioritize building a green organizational culture that drives people to act in an environmentally responsible manner. This may be done by instilling sustainable ideals in the business culture. Furthermore, GHRM policies should prioritize training and development programs to equip staff with the information and skills required for long-term patterns. Continuous training programs can increase GSP. This study adds to the body of knowledge by shining light on the distinct dynamics of GHRM, GSP, and GC in the context of Jordanian SME logistics companies. These findings show the importance of GHRM practices in improving environmental performance while again emphasizing the mediating function of GC. This study's useful findings can assist in improving the sustainability of SMEs in the logistics industry. Further research should investigate other situational aspects that may influence GSP and GC in the context of Jordanian SME logistics. Analyzing the influence of external causes, industry-specific issues, and government regulations can help you gain a better understanding of sustainability in this environment. Furthermore, comparative studies performed in other locations may indicate regional differences in the correlations between GHRM, GSP, and GC. Longitudinal studies may deliver vital insights into the long-term implications of GHRM practices on sustainability, perhaps leading to significant advancements in sustainability management.

### Compliance with ethical standards

### Ethical considerations

All participants provided informed consent, and their anonymity and confidentiality were strictly maintained. Data collection adhered to ethical guidelines and relevant data protection standards.

### Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### References

- Aggarwal P and Agarwala T (2023). Relationship of green human resource management with environmental performance: Mediating effect of green organizational culture. *Benchmarking: An International Journal*, 30(7): 2351-2376. <https://doi.org/10.1108/BIJ-08-2021-0474>
- Al-Alawneh R, Othman M, and Zaid AA (2024). Green HRM impact on environmental performance in higher education with mediating roles of management support and green culture. *International Journal of Organizational Analysis*, 32(6): 1141-1164. <https://doi.org/10.1108/IJOA-02-2023-3636>
- Aldaas R, Mohamed R, Hareeza Ali M, and Ismail NA (2022). Green supply chain management and SMEs environmental performance: Green HRM practices as antecedent from service sector of emerging economy. *International Journal of Emergency Services*, 11(3): 422-444. <https://doi.org/10.1108/IJES-12-2021-0085>
- Alshehadeh AR, Al-Zaqeba MAA, Elrefae GA, Al-Khawaja HA, and Aljawarneh NM (2024). The effect of digital zakat and accounting on corporate sustainability through financial transparency. *Asian Economic and Financial Review*, 14(3): 228-249. <https://doi.org/10.55493/5002.v14i3.5016>
- Al-Taani AHMA, Al-Zaqeba MAA, Maabreh HMA, and Jarah BAF (2024). Exploring the impact of digital accounting and digital zakat on improving business sustainability in the Middle East and Malaysia. *International Journal of Advanced and Applied Sciences*, 11(1): 56-67. <https://doi.org/10.21833/ijaas.2024.01.007>
- Ba Y and Cao L (2023). Assessing the impact of green human resource management practices on environmental performance in China: Role of higher education. *Environmental Science and Pollution Research*, 30(41): 94386-94400. <https://doi.org/10.1007/s11356-023-28523-8>  
**PMid:37531058**
- 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>
- Elshaer IA, Azazz AM, and Fayyad S (2023). Green management and sustainable performance of small-and medium-sized hospitality businesses: Moderating the role of an employee's pro-environmental behaviour. *International Journal of Environmental Research and Public Health*, 20(3): 2244. <https://doi.org/10.3390/ijerph20032244>  
**PMid:36767609 PMCID:PMC9915901**
- Elshaer IA, Sobaih AEE, Aliedan M, and Azazz AM (2021). The effect of green human resource management on environmental performance in small tourism enterprises: Mediating role of pro-environmental behaviors. *Sustainability*, 13(4): 1956. <https://doi.org/10.3390/su13041956>
- Ghani B, Mubarik MS, and Memon KR (2024). The impact of green HR practices on employee proactive behaviour. *The International Journal of Human Resource Management*, 35(8): 1403-1448. <https://doi.org/10.1080/09585192.2023.2294073>
- Gill A, Ahmad B, and Kazmi S (2021). The effect of green human resource management on environmental performance: The mediating role of employee eco-friendly behavior. *Management Science Letters*, 11(6): 1725-1736. <https://doi.org/10.5267/j.msl.2021.2.010>
- Hair Jr JF, Sarstedt M, Matthews LM and Ringle CM (2016). Identifying and treating unobserved heterogeneity with FIMIX-PLS: Part I—method. *European Business Review*, 28(1): 63-76. <https://doi.org/10.1108/EBR-09-2015-0094>
- Hassan OA, Romilly P, and Khadaroo I (2024). The impact of corporate environmental management practices on environmental performance. *Business Ethics*, the



- Environment and Responsibility, 33(3): 449-467.  
<https://doi.org/10.1111/beer.12618>
- Iftikar T, Hussain S, Malik MI, Hyder S, Kaleem M, and Saqib A (2022). Green human resource management and pro-environmental behaviour nexus with the lens of AMO theory. *Cogent Business and Management*, 9(1): 2124603.  
<https://doi.org/10.1080/23311975.2022.2124603>
- Jarah BAF, Alghadi MY, Al-Zaqeba MAA, Mugableh MI, and Zaqaibeh B (2024). The influence of financial technology on profitability in Jordanian commercial banks. *Humanities and Social Sciences Letters*, 12(2): 176-188.  
<https://doi.org/10.18488/73.v12i2.3661>
- Jebiril I, Al-Zaqeba M, Al-Khawaja H, Obaidy A, and Marashdah O (2024). Enhancing estate governance using blockchain technology through risk management in estate governance of business sustainability. *International Journal of Data and Network Science*, 8(3): 1649-1658.  
<https://doi.org/10.5267/j.ijdns.2024.3.002>
- Khattak H, Rahman K, Cavaliere LPL, Imran M, Hussain B, and Asadullah MF (2021). Linking GHRM with environmental performance: Importance role of task-related pro-environmental behaviour. *Multicultural Education*, 7(5): 155-163.
- Kuo YK, Khan TI, Islam SU, Abdullah FZ, Pradana M, and Kaewsang-On R (2022). Impact of green HRM practices on environmental performance: The mediating role of green innovation. *Frontiers in Psychology*, 13: 916723.  
<https://doi.org/10.3389/fpsyg.2022.916723>  
**PMid:35774953 PMCID:PMC9239378**
- Latip M, Sharkawi I, Mohamed Z, and Kasron N (2022). The impact of external stakeholders' pressures on the intention to adopt environmental management practices and the moderating effects of firm size. *Journal of Small Business Strategy*, 32(3): 45-66. <https://doi.org/10.53703/001c.35342>
- Lewicka D, Pec M, and Zając P (2024). Green HRM. In: Glińska-Noweś A and Ulkuniemi P (Eds.), *The human dimension of the circular economy*: 252-282. Edward Elgar Publishing, Cheltenham, UK.  
<https://doi.org/10.4337/9781035314225.00022>
- Mehak SS and Batcha HM (2024). Analyzing the influence of green human resource practices on organizational sustainability: the role of green attitudes and performance of employees'. *Environment, Development and Sustainability*.  
<https://doi.org/10.1007/s10668-024-05157-5>
- Obeidat SM, Abdalla S, and Al Bakri AAK (2023). Integrating green human resource management and circular economy to enhance sustainable performance: An empirical study from the Qatari service sector. *Employee Relations: The International Journal*, 45(2): 535-563.  
<https://doi.org/10.1108/ER-01-2022-0041>
- Ogiemwonyi O, Alam MN, and Alotaibi HS (2023). Connecting green HRM practices to pro-environmental behavior through green human capital in the hospitality sector. *Business Strategy and Development*, 6(4): 1053-1071.  
<https://doi.org/10.1002/bsd2.297>
- Ojo AO, Tan CNL, and Alias M (2022). Linking green HRM practices to environmental performance through pro-environment behaviour in the information technology sector. *Social Responsibility Journal*, 18(1): 1-18.  
<https://doi.org/10.1108/SRJ-12-2019-0403>
- Paillé P, Valéau P, and Renwick DW (2020). Leveraging green human resource practices to achieve environmental sustainability. *Journal of Cleaner Production*, 260: 121137.  
<https://doi.org/10.1016/j.jclepro.2020.121137>
- Pham NT, Hoang HT, and Phan QPT (2020). Green human resource management: A comprehensive review and future research agenda. *International Journal of Manpower*, 41(7): 845-878. <https://doi.org/10.1108/IJM-07-2019-0350>
- Rawashdeh A (2018). The impact of green human resource management on organizational environmental performance in Jordanian health service organizations. *Management Science Letters*, 8(10): 1049-1058.  
<https://doi.org/10.5267/j.msl.2018.7.006>
- Sarstedt M, Ringle CM, Henseler J, and Hair JF (2014). On the emancipation of PLS-SEM: A commentary on Rigdon. *Long range planning*, 47(3): 154-160.  
<https://doi.org/10.1016/j.lrp.2014.02.007>
- Shehzad MU, Zhang J, Le PB, Jamil K, and Cao Z (2022). Stimulating frugal innovation via information technology resources, knowledge sources and market turbulence: A mediation-moderation approach. *European Journal of Innovation Management*, 26(4): 1071-1105.  
<https://doi.org/10.1108/EJIM-08-2021-0382>
- Shubailat O, Al-Zaqeba M, Madi A, and Ababneh A (2024b). Customs intelligence and risk management in sustainable supply chain for general customs department logistics. *Uncertain Supply Chain Management*, 12(1): 387-398.  
<https://doi.org/10.5267/j.uscm.2023.9.013>
- Shubailat O, Al-Zaqeba M, Madi A, and Alheet A (2024a). Analyzing the improvement of estate governance and management in Jordan using blockchain. *International Journal of Data and Network Science*, 8(2): 1059-1072.  
<https://doi.org/10.5267/j.ijdns.2023.12.002>
- Singh SK, Del Giudice M, Chierici R, and 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>
- Sobaih AEE, Hasanein A, and Elshaer I (2020). Influences of green human resources management on environmental performance in small lodging enterprises: The role of green innovation. *Sustainability*, 12(24): 10371.  
<https://doi.org/10.3390/su122410371>
- Ziyadeh MW, Othman M, and Zaid AA (2023). Effects of green human resource management on organisational sustainability: The mediating role of corporate social responsibility and organisational citizenship behaviour. *International Journal of Organizational Analysis*, 32(2): 357-372. <https://doi.org/10.1108/IJOA-11-2022-3506>
- Zobi M, Al-Zaqeba M, and Jarah B (2023). Taxation and customs strategies in Jordanian supply chain management: Shaping sustainable design and driving environmental responsibility. *Uncertain Supply Chain Management*, 11(4): 1859-1876.  
<https://doi.org/10.5267/j.uscm.2023.6.005>