sustainability

MDPI

Article

Green Human Resources Management and Green Performance: A Mediation–Moderation Mechanism for Green Innovation and Green Knowledge Sharing

William Makumbe

Potchefstroom Campus, Northwest University Business School, Potchefstroom 2531, South Africa; 26749300@mynwu.ac.za

Abstract: As the 'green version' of the Human Resources Management concept is under-explored, this investigation sought to examine the effect of intervening variables on the relationship between Green Human Resources Management (GHRM) and green performance in the SME sector. Drawing upon the Ability Motivation theory, this study examined green innovation as a mediator and green knowledge sharing as a moderator of the GHRM–green performance relationship. This study employed the partial least square structural equation modelling (PLS-SEM) to analyse 364 responses from senior managers in the SME sector in Zimbabwe. The empirical results confirmed that while GHRM profoundly impacted green performance, green innovation partially mediated the relationship between the two variables. Study results also established that green knowledge sharing positively moderated the relationship between GHRM and green innovation. This research signifies the effect of GHRM, green knowledge sharing, and green innovation on the SME's sustainability and environmental management performance. These results are essential for managerial decision-making.

Keywords: Green Human Resources Management; green knowledge sharing; green innovation; green performance; SMEs

Citation: Makumbe, W. Green Human Resources Management and Green Performance: A Mediation–Moderation Mechanism for Green Innovation and Green Knowledge Sharing. *Sustainability* **2024**, *16*, 10849. https://doi.org/10.3390/su162410849

Academic Editor: Jun (Justin) Li

Received: 7 November 2024
Revised: 1 December 2024
Accepted: 5 December 2024
Published: 11 December 2024

1. Introduction and Background

The United Nations Sustainable Development Goals emphasise the importance of sustainable business operations, ensuring that future generations can meet their needs [1] For this reason, the 21st-century organisation is required to protect the environment [2]. Therefore, it is unsurprising that the environmental protection agenda has emerged as one of the most pressing societal priorities [3]. Nowadays, governments and organisations alike are more concerned with the impact of business activity on the environment [4]. This is because most business activities involve resource depletion and environmental degradation [5]. Owing to this, green management has become a buzzword across many industries globally [6]. Green management facilitates the preservation of the natural ecosystem and its resources for future generations. Hence, it now occupies strategic space in boardroom discussions. Businesses are now expected to adopt environmental management policies and procedures that reduce the impact of organisational activity on the environment. However, adopting environmental management activities by an organisation can only have long-lasting effects if employees exhibit a positive mindset toward such activities [7]. In support of this, [8] argued that green activities cannot succeed without integrating human resource practices devoted to environmental management. Accordingly, business managers are now integrating human resource management activities with environmental management strategies, giving rise to the Green Human Resources Management (GHRM) concept.

The concept of GHRM has since become a topic of interest amongst researchers and practitioners (see [6–11]). This growing body of evidence confirms that GHRM enhances environmental outcomes through green training [9], green recruitment and selection, and green performance management. Prior studies on green management are skewed mainly

to the Western world and other parts of Asia (see [4,6,7,9,11,12]). Therefore, more needs to be empirically known about African green management studies [13]. This calls for more cross-functional research that cuts across functions, organisations, and regions [11], in Africa.

Authors such as [6] also argued that extant literature on organisational sustainability has generally focused more on larger firms than Small to Medium Enterprises (SMEs). This implies that SMEs are under-researched, yet they impact the environment through their commercial activities. For this reason, this study focused on the impact of GHRM on green performance in the Zimbabwean manufacturing SME sector. The Zimbabwean SME sector generally represents 90% of all businesses, contributing 60% to the Gross Domestic Product and a 50% share of total employment [14]. Specifically, 4.9% of all businesses in the Zimbabwean SME sector are in the manufacturing sector [14]. This implies that this sector cannot be ignored anymore, as it is an essential driver of economic growth. However, manufacturing processes pose a significant risk to the environment by emitting dangerous gases like carbon monoxide, dumping used packaging materials, and using scrapped material [5]. Hence, there is an urgent need to monitor the business operations of SMEs and their impact on the environment. A study of this nature has, therefore, become paramount.

Although the literature on HRM and firm performance is well established, the 'green version' of HRM has been under-researched [11]. Not only that but also, as [10] argued, HRM alone is not sufficient for achieving superior green performance; other intervening variables are necessary. This calls for empirical validation of comprehensive models with intervening variables that test the impact of GHRM on organisational outcomes such as green performance. These intervening variables improve an employee's ability and motivation for green creativity. Considering this, this study examined the impact of GHRM on green performance, with green knowledge sharing and green innovation as intervening variables.

This study yields significant contributions, both for academicians and practitioners. First, it addresses the frequent calls for further research on organisational sustainability issues across contexts and organisations [11]. Sustainability research work is mainly confined to Western contexts and large conglomerates. This investigation is critical because it offers new insights into GHRM research from the SME sector in a developing country. The results of this investigation can be compared with those from other jurisdictions. Second, while there is ubiquitous literature on the relationship between Human Resources Management and firm performance, the 'green version' of these concepts still needs to be improved. Hence, this study extends the existing GHRM research literature by examining intervening variables' mediation and moderation roles in the relationship between GHRM and green performance.

The following section discusses the literature review and hypotheses development, followed by methodology, data analysis, and the discussion of results.

2. Literature Review and Hypotheses Development

2.1. Theoretical Framework

This study adopts the Ability Motivation Opportunity theory. This robust theory has been the most predominant theoretical perspective utilised in several sustainability studies [1]. The theory posits that engaging employees, providing opportunities that support employee involvement, and developing organisational capabilities are crucial in improving employee performance. In fulfilling the basic tenets of the AMO theory, GHRM improves green performance by providing green training (thus upskilling employees), recruiting environmentally conscious workers, and providing opportunities for employee participation (employee involvement) in green management initiatives [15].

2.2. Green Human Resources Management (GHRM)

GHRM has become an essential issue in enhancing environmental outcomes [9]. It refers to HR practices targeted at organisations' environmental and ecological influence [6]. In undertaking GHRM, top management must formulate policies that strengthen employees' participation in green behaviours to reduce the negative impact of business activity on the environment [6]. Previous research identifies three key components of GHRM:

building green abilities among employees, motivation for employee engagement, and providing green opportunities for employees [6]. Developing green abilities involves hiring environmentally conscious employees and training them to improve their environmental management skills. Environmentally conscious employees comprehend the impact of the organisational activity on the environment. On the other hand, green training increases eco-literacy [8]. Motivation for employee engagement involves rewarding employees who achieve environmental management targets. This can be conducted through developing targets that measure green performance targets [8]. Employees who achieve the targets are then rewarded accordingly. The provision of green opportunities for employees can include involving employees in actual environmental management activities such as economic use of resources and waste reduction [10].

2.3. Green Performance

Green Performance is a firm's initiative to achieve and surpass societal expectations [15] regarding protecting the environment. Green performance is also the eventual outcome of environmentally conscious operational activities [16]. Therefore, this study argues that green performance can be measured by how well an organisation implements pollution control initiatives and waste reduction methods in its business operations.

2.4. Green Innovation

Green innovation has received significant attention from academicians, practitioners, and politicians as a strategy to fight environmental degradation. The destruction of the ozone layer and the associated climatic changes have added further impetus to the need for green innovation. According to [12] green innovation introduces solutions that reduce natural resource use and decrease harmful substances' emissions during production cycles. Authors such as [6] opined that green innovation encompasses developing environmentally friendly products and processes by adopting eco-design principles to reduce harmful emissions. Furthermore, ref. [10] pointed out that green innovation involves saving energy, preventing pollution, and recycling waste, and eco-design. Prior studies have categorised green innovation into process, product, and managerial. Green product innovation refers to altering an existing product design to protect the environment throughout the product's production, use, and disposal [17]. This dimension enhances the product quality [12]. On the other hand, green process innovation involves adopting techniques that diminish the negative impact on the environment during material acquisition, production, and delivery [17]. This dimension enhances productive efficiency [4]. Managerial innovation involves implementing various management activities to reduce environmental impact. This can include developing organisational designs that are lean and flat for quick knowledge sharing. In summarising the benefits of green innovation, ref. [5] stated that green innovation reduces production costs and improves consistency and standards of products and resource productivity.

2.5. Green Knowledge Sharing

Knowledge sharing is defined as an action in which employees disseminate relevant information to other people in the workplace [6]. This definition reveals the critical role of knowledge sharing in the green management agenda. Green knowledge must be shared to achieve organisational outcomes such as green innovation and performance. In defining green knowledge sharing, ref. [17] stated that it is a process of transferring green knowledge among members of the organisation with the ultimate objective of developing new techniques and opportunities for effectively reducing harmful environmental impacts. In the context of this study, green knowledge sharing can encompass technological knowledge such as eco-design principles and pollution reduction techniques. Knowledge sharing is enhanced by factors such as a conducive organisational culture and technology [18,19].

2.6. Hypotheses Development

2.6.1. GHRM, Green Performance, and Green Innovation

HR systems and practices are related to green performance [15] primarily because GHRM efforts result in the recruitment of environmentally conscious employees [10]. Furthermore, GHRM strategies such as green employer branding enhance green performance. This is because a green brand will likely attract environmentally conscious employees who will exert much effort towards accomplishing green targets once they join the organisation. In support of this, ref. [18] argued that employees would likely embrace environmental sustainability efforts when their organisations demonstrate environmental awareness. Several GHRM strategies can improve green performance; these include green training and green performance management systems that seek to reward employees who achieve green targets [12].

On the other hand, GHRM practices can impact administrative, product, and process innovation. For example, GHRM practices dedicated to knowledge sharing at the workplace can positively impact innovation [15]. The exchange of ideas during knowledge-sharing platforms can enhance creativity in waste management and eco-design. GHRM can also foster innovation by designing flatter organisational structures that facilitate extensive communication and faster decision-making. Furthermore, recruiting and selecting environmentally conscious employees can enhance innovative behaviours.

Employees who exhibit environmental awareness traits are eager to learn about environmental management and strive to put into practice their environmental management skills. They can creatively apply the acquired environmental management skills to enhance innovation. Prior studies confirm a positive relationship between GHRM and organisational outcomes such as green performance [8,10,15] and green innovation [15]. It can therefore be hypothesised that:

H1: *GHRM positively impacts green performance.*

H2: *GHRM positively influences green innovation.*

2.6.2. Green Innovation and Green Performance

Innovation, in general, has been identified as a strong predictor of firm performance 16]. However, green innovation research is still in its infancy [11], and studies investigating the link between green innovation and green performance are minimal [5]. This study investigated green innovation in the SME sector. Prior studies confirm that green innovation reduces negative externalities such as pollution and improves eco-design principles [15], thus improving environmental performance. Modified products can be manufactured through green product innovation and processes to help conserve the environment. These modified products and green processes can limit negative externalities such as pollution and harmful waste [10]. According to [15], eco-design strategies such as utilising green raw materials and minimal materials in product design can enhance green performance primarily by reducing harmful substance emissions and eco-efficiencies. Past research also supports the positive relationship between green innovation and green performance [15]. It can, therefore, be proposed that:

H3: *Green innovation positively influences green performance.*

2.6.3. The Mediating Role of Green Innovation

The mediating role of green innovation is recognised in the literature [5,20], and prior studies also suggest that GHRM positively influences green performance [6,10]. However, intervening variables such as green innovation are also critical in aiding the link between GHRM and green performance. GHRM activities are crucial in aiding green, innovative behaviours at the workplace. These include green training and green performance reward

mechanisms. Green training facilitates creativity amongst employees, which triggers green innovation. Rewarding employees for excellent environmental performance encourages out-of-the-box thinking in the workplace to receive more rewards. Hence, creativity and out-of-the-box thinking are innovative behaviours that aid GHRM in achieving exceptional green performance. It can, therefore, be hypothesised that:

H4: *Green innovation positively mediates the relationship between GHRM and green performance.*

2.6.4. The Moderating Role of Green Knowledge Sharing

In the context of this research, green knowledge sharing is expected to strengthen the relationship between GHRM and green innovation. This is because innovation activities depend on employees' knowledge, skills, and experience related to organisational activities. Hence, GHRM initiatives such as green training and environmental education [8] and critical green knowledge-sharing platforms are likely to trigger green innovation. The dissemination of green knowledge through GHRM mechanisms can enhance employees' understanding of the ecological impact of green schemes. Equipped with environmental knowledge, the application of employees' green innovative behaviours, such as saving energy, preventing pollution, adopting eco-design principles, and recycling waste [10], can be enhanced. Past research has confirmed the moderating role of knowledge sharing in green management studies [21,22]. It can, therefore, be proposed that:

H5: *Green knowledge sharing positively moderates the relationship between GHRM and green innovation.*

The research model shown in Figure 1 below can be proposed in line with the discussion above.

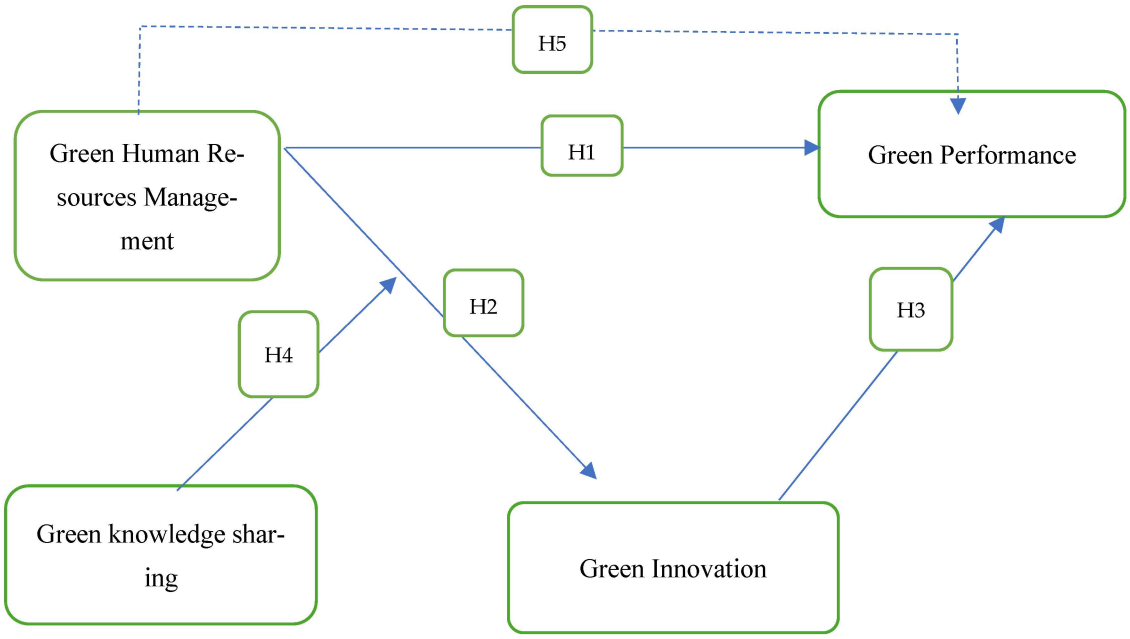

Figure 1. Research Model. Source: Own Construction.

3. Materials and Methods

3.1. Research Context

The data for this investigation were collected from Small to Medium Enterprises in Zimbabwe. The Zimbabwean manufacturing landscape has a strong presence of small businesses whose commercial activities directly impact the environment. This sector

needs to be addressed in various research endeavours because it offers a rich reservoir of knowledge.

3.2. Population and Sampling

This study targeted 4000 senior managers in Small to Medium Business Enterprises. Senior managers understood the purpose of this investigation. According to [23], a sample size of 364 participants is considered sufficient for a population of such a magnitude. This study followed all ethical guidelines and procedures. Furthermore, participants were assured of confidentiality and could opt out of the research at any time without any coercion. A structured questionnaire with a section on informed consent was developed and uploaded onto the Google Forms platform. An online link generated from the platform was sent to the participants' email addresses, which were obtained from the HR division. Of the approximately 450 potential participants, 370 responses were collected, yielding a response rate of 82%. The participant's demographics are summarised in Table 1 below.

Table 1. Participants Demographics.

		Percentage	**Percentage**
Gender			
Male		53%	
Female			47%
Education Level			
O Level		12%	
Advanced Level		15%	
First Degree		65%	
Post Graduate Degree		8%	
Organisation Tenure	<10 Years	20%	
	10–15 years	45%	
	>15 years	35%	

The demographic details of the respondents are shown in Table 1. Among the respondents, 47% were female employees, and 53% were males. Most of the respondents had a tenure of over 10 years. This implies that the participants had the institutional memory of the organisations they worked for, significantly impacting their responses' quality. In terms of education, most of the respondents were well-educated and possessed professional skills. Over half of the respondents had graduate qualifications (Master's: 8%; Bachelor: 65%). This means that the respondents could understand this research's background and objective. This again improved the overall quality of this investigation.

4. Measures

With slight modifications, each research variable was examined using previously validated measurement items in the literature. The questionnaire items were piloted with individuals from the research population. A five-point Likert scale was used to measure the constructs ranging from 1 "strongly disagree" to 5 "strongly agree".

Green Human Resources Management: GHRM was operationalised with a scale developed by [24]. A sample item from the scale was: 'My company sets green goals for its employees'.

Green Innovation: A scale developed by [10] was used to measure green innovation. A sample item in the questionnaire was 'Our company uses materials that produce minimal pollution during product design and development'.

Green Knowledge Sharing: Green knowledge sharing was measured using items adapted from the work of [24]. A sample item was: "I enjoy sharing environment-friendly knowledge with my colleagues'.

Green Performance Scale: A three-item scale developed by [6] was applied to measure the green performance variable. A sample item from this scale was: 'Environmental activities significantly reduced costs'.

4.1. Reliability and Validity

The data were assessed for validity and reliability. As shown in Table 2 below, the values were within acceptable limits.

Table 2. Factor Score, Mean, Standard Deviation, Alpha, Average Variance Extracted (AVE), and Composite Reliability (CR).

	Construct	**Factor Score**	**Mean**	**Standard Deviation**	**Alpha**	**AVE**	**CR**
	Acceptable Thresholds	>0.50			>0.60	>0.50	>0.80
	Green Human Resources Management				0.82	0.57	0.88
GHRM1	My company sets green goals for its employees	0.770	3.84	1.12			
GHRM2	My company provides employees with green training to develop the knowledge and skills required for green management	0.783	3.87	1.17			
GHRM3	My company considers employees' workplace green behaviours in performance appraisals	0.773	3.88	1.13			
GHRM4	My company considers employees' workplace green behaviours in promotions	0.734	4.40	1.16			
GHRM5	My company considers employees' workplace green behaviours in allocating rewards and compensation	0.717	3.89	1.14			
	Green Innovation				0.70	0.53	0.70
GI1	Our company uses materials that produce minimal pollution during product design development	0.807	4.02	1.16			
GI2	Our company prefers materials that save energy in product design development	0.775	4.50	1.02			
GI3	Our company has adopted manufacturing processes that have scaled down the emission of hazardous wastes	0.767	3.67	1.08			
GI4	Our company has adopted manufacturing processes that allow the reuse of treated waste emissions	0.780	3.87	1.04			
	Green Knowledge Sharing				0.78	0.61	0.87
GKS1	I enjoy sharing environmentally friendly knowledge with my colleagues	0.734	4.44	1.17			
GKS2	I always share green knowledge obtained from newspapers, magazines, journals, television and other sources	0.824	4.10	1.07			
GKS3	In my organisation, people share expertise from work experience with each other	0.518	3.90	1.16			
GKS4	Sharing green knowledge with colleagues is pleasurable	0.775	3.97	1.17			
	Green Performance				0.85	0.77	0.88
GP1	Environmental activities significantly reduced costs	0.854	4.25	1.27			
GP2	Environmental activities significantly reduced waste within the entire value chain process.	0.881	4.37	1.13			
GP3	Environmental activities significantly enhanced product/process quality	0.901	4.89	1.21			

4.2. Discriminant Validity

Discriminant validity can be assessed using the Fornell–Larcker criterion, which states that the square root of the AVE of each construct should be greater than the correlation with other constructs. As shown in Table 3 below, discriminant validity was achieved (*values are shown diagonally in bold*).

Table 3. Discriminant Validity.

	Green Human Resources Management	Green Innovation	Green Performance	Green Knowledge Sharing
Green Human Resources Management	**0.756**			
Green Innovation	0.511	**0.782**		
Green Performance	0.600	0.500	**0.879**	
Green Knowledge Sharing	0.499	0.615	0.420	**0.722**

5. Results

Figure 2 below shows the path coefficients from the PLS-SEM analysis performed using SMART PlS 4.

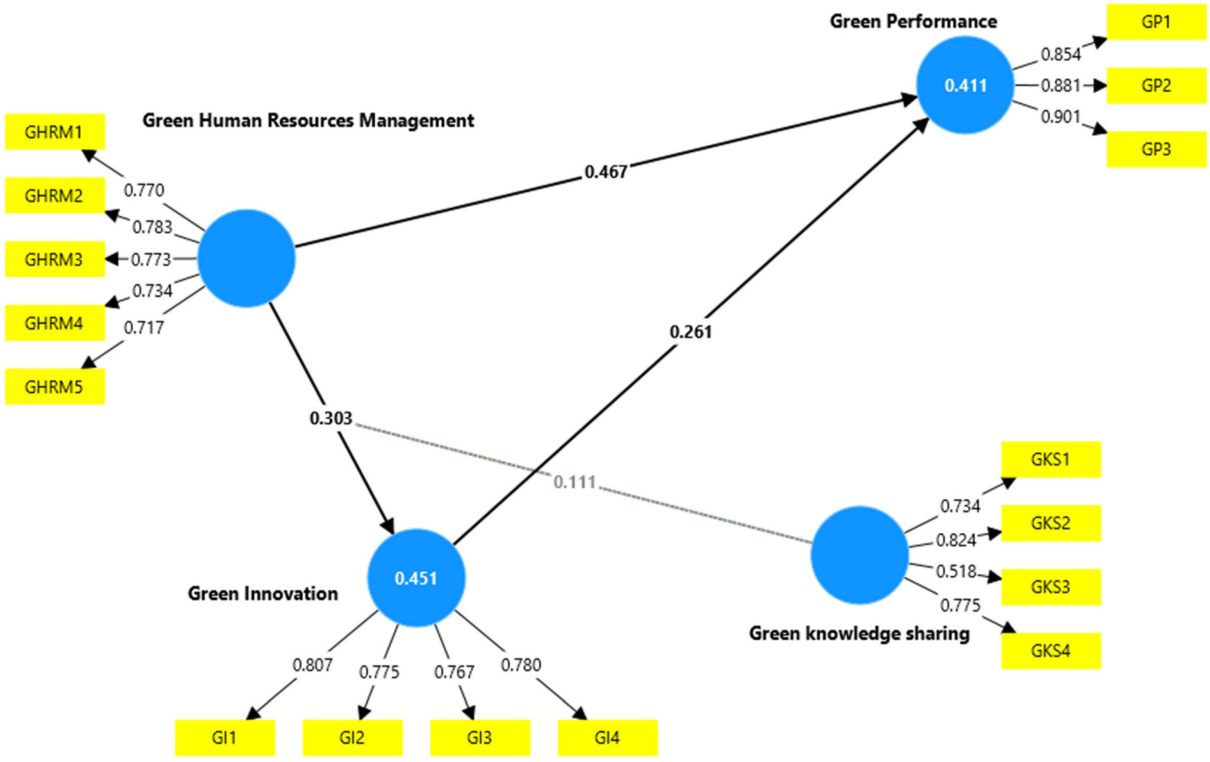

Figure 2. PLS-SEM Diagram.

5.1. Direct Effects

Table 4 below shows that GHRM significantly impacted green performance and organisational commitment (β = 0.467, *p*-value = 0.00; β = 0.303, *p*-value = 0.00). Hence, H1 and H2 were accepted. Furthermore, green innovation significantly impacted the green performance variable (β = 0.261, *p*-value = 0.00). Hence, H3 was accepted.

Table 4. Path Relationships.

	Path	Beta Value	*p* Value	Decision
H1	GHRM >>>>> green performance	0.467	0.00	Accepted
H2	GHRM >>>>> green innovation	0.303	0.00	Accepted
H3	Green Innovation >>>>> Green performance	0.261	0.00	Accepted

5.2. Mediation Effects of Green Innovation and the Moderating Effect of Green Knowledge Sharing

The mediation analysis showed that green innovation partially mediated the relationship between GHRM and green innovation (β = 0.08; *p*-value = 0.03); hence, H4 was accepted. The results also revealed that green knowledge sharing positively moderated the relationship between GHRM and green innovation (β = 0.111, *p* = 0.00).

6. Discussion

This study investigated the impact of GHRM on green performance and the effect of two intervening variables: knowledge sharing and green innovation. There are several viewpoints to be considered. First, as hypothesised, GHRM positively correlated with the green performance variable (β = 0.467, *p* = 0.00). This finding resonates with the prior studies [20,25]. In line with this finding, the literature confirms that GHRM activities facilitate the building of green abilities amongst employees at the workplace. These green abilities are a product of GHRM initiatives such as green training and development. Green training provides employees with the requisite attitude and skills, which are critical ingredients in the green performance matrix. Through green training, employees learn how to reduce waste in the production cycle and comprehend strategies that reduce the emission of dangerous gases into the atmosphere. Furthermore, HR activities such as green performance evaluation can improve environmental performance. Setting pro-environmental management targets is critical in eliciting a high level of performance from employees, especially if reward mechanisms are tied to targets. As employees compete to achieve targets, the results are likely to be seen in such areas as effective waste recycling management, economical use of resources, and pollution management. All this results in improved green performance.

Second, in agreement with previous research [26], GHRM significantly impacted green innovation (β = 0.303, *p* = 0.00). This is because the GHRM environmental learning strategy improves employees' knowledge and abilities, which are critical in process and product innovation. Upskilling employees' knowledge can enhance innovation, which is a critical ingredient. Not only that, but the development of reward mechanisms that are linked to environmental targets motivates the workforce to continue to devise unique environmental management behaviours.

Third, as hypothesised, green innovation positively impacted green performance (β = 0.261, *p* = 0.00). This finding corroborates earlier research [15]. An organisation focusing on green innovation can enjoy double benefits, such as creating sustainable products and financial rewards [27]. On the one hand, sustainable products enhance eco-efficiencies by reducing carbon emissions. On the other hand, financial rewards facilitate the acquisition of technology that can be deployed to improve eco-friendly production processes. All this increases green performance. Fourth, green innovation partially mediated the relationship between GHRM and green performance (β= 0.08, *p* = 0.02). The mediation effect is minimal due to the underdeveloped innovation landscape in countries like Zimbabwe. Although the impact is weak, innovative behaviours such as creative thinking aid GHRM activities such as green training in achieving exceptional green performance. Last, this research confirmed the moderating role of knowledge sharing in strengthening the relationship between GHRM and green innovation (β = 0.111, *p* = 0.00). This finding is in line with prior studies [21,22]. In support of the moderating role of knowledge sharing, authors such as [27] opined that activities that germinate green innovation require extensive and timely knowledge efforts through the support of the HR department. The HR department

creates a conducive knowledge acquisition, storage, and sharing environment. This can be conducted through green benchmarking visits, training, education, and conferences. Such knowledge management efforts are crucial in upskilling employees' innovative pro-environmental behaviours.

6.1. Theoretical Implications

The results of this investigation have made manifold contributions to theory. First, the investigation advances the AMO theory. As indicated earlier, the AMO theory posits that the performance of employees is based on three critical attributes: individual abilities, motivation, and opportunities to participate [15]. In line with this, GHRM ability-enhancing practices such as green training, green hiring, and green play a pivotal role in improving green performance. Furthermore, the recruitment and selection of environmentally conscious employees lead to the development of self-efficacy, which is an essential attribute in the exceptional performance of employees. GHRM motivating enhanced practices such as evaluation, pay, and the provision of incentives also add further impetus to the environmental management agenda. Reward mechanisms can be linked to the achievement of green targets. Linking rewards to effort is a solid motivating factor for employees as they strive to outcompete each other. GHRM opportunity-enhancing strategies such as participation and involvement are also vital in improving environmental performance. Participation and involvement can be conducted by creating teams to develop pro-environmental systems such as recycling and waste management facilities. In team-based structures, employees share knowledge, which can improve green management.

Second, this research advances the 'green version' of HRM research in SMEs, which, to date, has been underexplored in the literature [6], especially in Sub-Saharan Africa. Study findings, therefore, validate the predictors of green performance. Although the intervening variables are crucial in green performance, the model tested in this study revealed that GHRM has the most significant impact on green performance ($\beta = 0.467$, $p = 0.00$). Therefore, the model results of this study can act as a basis for future research in other contexts for comparative purposes.

6.2. Practical Implications

Green management has gained prominence in corporate discussions emphasising sustainable business practices. Hence, this research is essential for organisational sustainability and environmental management, not just for SMEs but also for big corporations. The practical implications of this study support the employment of green practices in SMEs to protect the environment. This study confirmed that GHRM is a strong predictor of green performance. Hence, SME managers must prioritise HR initiatives such as hiring environmentally conscious employees. Environmentally conscious employees have a positive mindset towards protecting the environment. They can exhibit organisational citizenship behaviours towards environmental management issues. This can improve green performance. Green training and development should also be part of the SME's upskilling strategy. Training and development can resource employees with the requisite knowledge crucial for pro-environmental innovation behaviours.

This research has also underscored the importance of green knowledge sharing in strengthening the link between GHRM and green innovation. Green knowledge sharing can occur both within and outside the oganisation. Internally, various initiatives can be explored, such as idea time and debates. An organisation can set aside time for employees to brainstorm about green management. During the discussions, green ideas can be debated and explored further. The HR departments can also take the lead and host green knowledge-sharing symposiums. Experts can be invited to present ideas about green management in the workplace. In the context of Zimbabwe, HR practitioner bodies such as the Institute of Personal Management in Zimbabwe (IPMZ) can host green management conferences. The idea here is to share ideas about environmental protection issues. Another critical step is to include green management as part of curricula offered in different learning institutions

at tertiary and lower levels. The idea is to embed green management amongst the youth. The private sector can take the lead and lobby relevant government departments to include green management in curricula. This will ensure extensive knowledge sharing about environmental awareness.

Globally, the results of this investigation are crucial in facilitating the development of a sustainable planet and society, especially the attainment of Sustainable Development Goals 12 and 15. SDG 12 states that organisations must ensure sustainable consumption and production patterns. This research confirms GHRM as an essential driver of green innovation, a critical ingredient of sustainable production patterns. GHRM practices equip employees with innovative knowledge of recycling, sustainable packaging, and material reuse. These sustainable practices reduce pollution, waste, and production costs, thus facilitating the attainment of SDG 12.

On the other hand, SDG 15 states that organisations must protect, restore, and promote the use of terrestrial ecosystems sustainably, manage forests, combat desertification, reverse land degradation, and halt biodiversity. In facilitating the fulfilment of SDG 15, GHRM practices such as green training equip employees with knowledge that can be used in the management of environmental concerns such as land degradation, desertification, and pollution. In addition, GHRM practices such as green recruitment ensure the hiring of environmentally conscious employees who are aware of the dangers of land degradation, desertification, and water pollution. Once hired, these employees can actively reclaim the environment and adopt methods that reduce environmental pollution.

Although this research suggests practical initiatives to adopt GHRM practices in SMEs, potential obstacles exist. First, most SMEs need more management expertise to advance the environmental management agenda. GHRM practices such as green strategic planning, green training, green target setting, and green evaluation require people with environmental management expertise, and such talent might not be available in small businesses. Second, eco-friendly strategies such as designing and creating recycling facilities require significant financial budgets. Most SMEs need more financial wherewithal to fund huge green budgets. Technology is also required to advance pro-environmental behaviours; however, SMEs are confronted with a talent shortage and need more financial resources to acquire the technology. Third, as the green version of HR is still emerging in SMEs, resistance to change from employees and management is a possible obstacle.

7. Conclusions

This study investigated the effect of GHRM on green performance and sought to find out the impact of green innovation and green knowledge as intervening variables. Study results conclude that GHRM has a profound impact on green performance. This implies that SMEs should develop HRM policies and practices to support green policy achievement through the green behaviour of employees. Green HRM policies and practices increase employees' awareness of pro-environmental behaviours and equip employees with the necessary skills to expedite the implementation of green practices. This investigation underscored that GHRM alone is insufficient to increase green performance, but intervening variables such as green knowledge sharing could be more effective. SMEs must continuously look for green information and exchange this to enhance their environmental consciousness.

8. Research Limitations and Future Research

This study addresses an important concept in business management and has improved our understanding of green management from an HR perspective. However, we caution readers to generalise our findings beyond the study context as they have limitations. Study context that utilises SMEs in Zimbabwe limits the generalisability of study findings to firms outside the country. This study utilised a cross-sectional design; it is recommended that future studies use a longitudinal design to facilitate investigations of mediation and moderation over time. This investigation used self-reported measures. In such a scenario, respondents may provide answers they think are socially acceptable and may also fail to

report sensitive information. This may result in bias. However, despite these limitations, this study has provided practical empirical evidence demonstrating the relationship among the variables investigated.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data may be available upon reasonable request.

Conflicts of Interest: The author declares no conflicts of interest.

References

1. Tanova, C.; Bayighomog, S.W. Green human resource management in service industries: The construct, antecedents, consequences, and outlook. *Serv. Ind. J.* **2022**, *42*, 412–452. [CrossRef]
2. Yoo, D.Y. Eco-Leadership in Action: Integrating Green HRM and the New Ecological Paradigm to Foster Organizational Commitment and Environmental Citizenship in the Hospitality Industry. *Sustainability* **2024**, *16*, 9044. [CrossRef]
3. Pinzone, M.; Guerci, M.; Lettieri, E.; Redman, T. Progressing in the change journey towards sustainability in healthcare: The role of "Green" HRM. *J. Clean. Prod.* **2016**, *122*, 201–211. [CrossRef]
4. Pham, N.T.; Tučková, Z.; Chiappetta Jabbour, C.J. Greening the hospitality industry: How do green human resource management practices influence organizational citizenship behavior in hotels? A mixed-methods study. *Tour. Manag.* **2019**, *72*, 386–399. [CrossRef]
5. Abu Seman, N.A.; Govindan, K.; Mardani, A.; Zakuan, N.; Mat Saman, M.Z.; Hooker, R.E.; Ozkul, S. The mediating effect of green innovation on the relationship between green supply chain management and environmental performance. *J. Clean. Prod.* **2019**, *229*, 115–127. [CrossRef]
6. Singh, S.K.; Giudice, M.; Del Chierici, R.; Graziano, D. Green innovation and environmental performance: The role of green transformational leadership and green human resource management. *Technol. Forecast. Soc. Change* **2020**, *150*, 119762. [CrossRef]
7. Gomes, D.R.; Ribeiro, N.; Gomes, G.; Ortega, E.; Semedo, A. Green HRM's Effect on Employees'Eco-Friendly Behavior and Green Performance: A Study in the Portuguese Tourism Sector. *Sustainability* **2024**, *16*, 10005. [CrossRef]
8. Paillé, P.; Valéau, P.; Renwick, D.W. Leveraging green human resource practices to achieve environmental sustainability. *J. Clean. Prod.* **2020**, *260*, 121137. [CrossRef]
9. Úbeda-García, M.; Claver-Cortés, E.; Marco-Lajara, B.; Zaragoza-Sáez, P. Corporate social responsibility and firm performance in the hotel industry. The mediating role of green human resource management and environmental outcomes. *J. Bus. Res.* **2021**, *123*, 57–69. [CrossRef]
10. Muisyo, P.K.; Qin, S. Enhancing the FIRM'S green performance through green HRM: The moderating role of green innovation culture. *J. Clean. Prod.* **2021**, *289*, 125720. [CrossRef]
11. Zaid, A.A.; Jaaron, A.A.M.; Talib Bon, A. The impact of green human resource management and green supply chain management practices on sustainable performance: An empirical study. *J. Clean. Prod.* **2018**, *204*, 965–979. [CrossRef]
12. Ben Arfi, W.; Hikkerova, L.; Sahut, J.M. External knowledge sources, green innovation, and performance. *Technol. Forecast. Soc. Change* **2018**, *129*, 210–220. [CrossRef]
13. Agyabeng-Mensah, Y.; Ahenkorah, E.; Afum, E.; Nana Agyemang, A.; Agnikpe, C.; Rogers, F. Examining the influence of internal green supply chain practices, green human resource management, and supply chain environmental cooperation on firm performance. *Supply Chain Manag.* **2020**, *25*, 585–599. [CrossRef]
14. International Trade Centre: Promoting SME.Competitiveness in Zimbabwe: Drive Growth Through Business Networks and Technology. Geneva, Switzerland. 2023. Available online: http://www.intracen.org (accessed on 4 November 2024).
15. Awan, F.H.; Dunnan, L.; Jamil, K.; Gul, R.F. Stimulating environmental performance via green human resource management, green transformational leadership, and green innovation: A mediation-moderation model. *Environ. Sci. Pollut. Res.* **2023**, *30*, 2958–2976. [CrossRef]
16. Sahoo, S.; Kumar, A.; Upadhyay, A. How do green knowledge management and green technology innovation impact corporate environmental performance? Understanding the role of green knowledge acquisition. *Bus. Strategy Environ.* **2023**, *32*, 551–569. [CrossRef]
17. Song, M.; Yang, M.X.; Zeng, K.J.; Feng, W. Green Knowledge Sharing, Stakeholder Pressure, Absorptive Capacity, and Green Innovation: Evidence from Chinese Manufacturing Firms. *Bus. Strategy Environ.* **2020**, *29*, 1517–1531. [CrossRef]
18. Kokt, D.; Makumbe, W. Towards the innovative university: What is the role of organisational culture and knowledge sharing? *SA J. Hum. Resour. Manag.* **2020**, *18*, a1325. [CrossRef]
19. Fullwood, R.; Rowley, J.; McLean, J. Exploring the factors that influence knowledge sharing between academics. *J. Furth. High. Educ.* **2019**, *43*, 1051–1063. [CrossRef]
20. Wang, C.H. How organizational green culture influences green performance and competitive advantage: The mediating role of green innovation. *J. Manuf. Technol. Manag.* **2019**, *30*, 666–683. [CrossRef]

21. Guo, J. The significance of green entrepreneurial self-efficacy: Mediating and moderating role of green innovation and green knowledge sharing culture. *Front. Psychol.* **2022**, *13*, 1001867. [CrossRef]
22. Khan, K.; Shams, M.S.; Khan, Q.; Akbar, S.; Niazi, M.M. Relationship Among Green Human Resource Management, Green Knowledge Sharing, Green Commitment, and Green Behavior: A Moderated Mediation Model. *Front. Psychol.* **2022**, *13*, 924492. [CrossRef] [PubMed]
23. Israel, G.D. Determining Sample Size.pdf. 1992. Available online: https://www.gjimt.ac.in/wp-content/uploads/2017/10/2_Glenn-D.-Israel_Determining-Sample-Size.pdf (accessed on 7 December 2024).
24. Rubel, M.R.B.; Kee, D.M.H.; Rimi, N.N. The influence of green HRM practices on green service behaviors: The mediating effect of green knowledge sharing. *Empl. Relat.* **2020**, *43*, 996–1015. [CrossRef]
25. Kumar, S. The impact of talent management practices on employee turnover and retention intentions. *Glob. Bus. Organ. Excell.* **2022**, *41*, 21–34. [CrossRef]
26. Munawar, S.; Yousaf, D.H.Q.; Ahmed, M.; Rehman, D.S. Effects of green human resource management on green innovation through green human capital, environmental knowledge, and managerial environmental concern. *J. Hosp. Tour. Manag.* **2022**, *52*, 141–150. [CrossRef]
27. Zhou, M.; Govindan, K.; Xie, X. How fairness perceptions, embeddedness, and knowledge sharing drive green innovation in sustainable supply chains: An equity theory and network perspective to achieve sustainable development goals. *J. Clean. Prod.* **2020**, *260*, 120950. [CrossRef]