

EMPIRICAL ARTICLE

The Impact of Green Human Resource Management Practices on Environmental Performance in a Developing Country: The Moderating Role of Green Information Management Systems

Md Jamirul Haque¹ | Mohammad Ahoshan Ullah² | Pahlaj Moolio³ | Kiranraj Pande⁴

¹NUM International College, National University of Management, Phnom Penh, Cambodia

²D.B.A Candidate, International American University, California, United States

³Faculty of Economics and Administrative Sciences, Paragon International University, Phnom Penh, Cambodia

⁴School of Business Administration, Dongbei University of Finance and Economics, Dalian, China

Correspondence

Corresponding author Md Jamirul Haque.
Email: mdjamirulhaque8786@yahoo.com

Abstract

Objective - This study investigates the impact of Green Human Resource Management (GHRM) practices on Environmental Performance (EP) in a developing country. In addition, it examines the moderating role of Green Information Management Systems (GIMS) in strengthening the relationship between GHRM and EP.

Approach - A cross-sectional survey design was used, collecting data from managers of medium to large-scale manufacturing firms in Cambodia. Structural equation modeling (SEM) was used to analyze data from 217 valid responses to test the proposed hypotheses.

Results - The results indicate that GHRM practices have a significant positive impact on EP. Furthermore, GIMS was found to directly enhance EP and moderate the GHRM-EP relationship. This shows the synergistic effects of integrating human resource practices with information systems to achieve sustainability goals.

Practical Implications - The study provides actionable insights for managers in developing countries on the adoption of GHRM practices and the use of GIMS to improve environmental performance. It highlights the importance of aligning green practices with technological capabilities and tailoring initiatives to local cultural and economic contexts.

Originality - This research contributes to the limited literature on GHRM and GIMS in developing countries, and introduces GIMS as a critical moderator in the GHRM-EP relationship, advancing theoretical frameworks such as the resource-based view and contingency theory. The study also addresses context-specific challenges and opportunities in implementing green practices in resource-constrained settings.

KEYWORDS

Green Human Resource Management; Green Information Management Systems; Environmental Performance; Developing Countries; Sustainability.

1 | INTRODUCTION

Since the global debacle of environmental degradation brought on by the Industrial Revolution, environmental challenges and sustainable development have become critical global concerns (Bonet and Lissillour 2023), including in developing countries. Firms face growing pressure to adopt green practices encompassing eco-friendly management approaches and sustainable products to meet international standards of

sustainability (Gupta 2018, Jabbour and de Sousa Jabbour 2016). Development institutions and agencies use these standards to identify and mitigate negative environmental and social impacts of projects. For example, the World Bank's Environmental and Social Standards (ESSs) include provisions for biodiversity conservation, labor conditions, and resource efficiency, serving as benchmarks to advance sustainability practices worldwide.

Environmental sustainability has increasingly permeated organizational decision-making processes, influencing functions such as finance, marketing, and supply chain management (Soo Wee and Quazi 2005).

In this context, the role of Human Resource Management (HRM) in developing countries is evolving as organizations recognize its potential to shape culture, policies, and strategies toward sustainability. Green Human Resource Management (GHRM) is emerging as a critical approach for integrating environmental goals into HR practices. By engaging employees and cultivating their commitment to environmental sustainability, GHRM has a direct impact on enhancing organizational environmental performance (EP) (Renwick et al. 2013).

Despite its importance, the manufacturing sector—a key driver of economic development in many developing countries (Marconi et al. 2016, Szirmai and Verspagen 2015)—faces significant challenges in adopting green practices due to poor managerial systems and limited resources. Consequently, adopting GHRM practices becomes imperative to reduce environmental harm while maintaining economic progress.

Furthermore, prior studies underscore the need to incorporate indigenous perspectives into global management practices (Rodriguez-Escobar 2024). This is particularly relevant for developing countries, where manufacturing processes must align with both local contexts and global sustainability objectives. However, there is limited research on GHRM implementation in the manufacturing sectors of developing economies. Addressing this gap, the present study examines the effect of GHRM practices on EP in Cambodian manufacturing firms. It identifies key GHRM practices and explores their impact on EP, offering actionable insights for HR managers in Cambodia to develop sustainable green initiatives.

This study contributes to the limited literature on GHRM in developing countries by exploring the interrelationships among GHRM, Green Information Management Systems (GIMS), and EP. By highlighting strategies that align HR practices with environmental objectives, this research fosters a green corporate culture and advances the understanding of sustainability initiatives in developing economies. The findings aim to provide theoretical insights and practical recommendations for organizations striving for sustainable development.

The remainder of this article is organized as follows: Section 2 reviews the relevant literature and develops the research hypotheses. Section 3 outlines the methodology used in this study, while Section 4 presents the results of the analysis. Section 5 discusses the findings in the context of prior research. Finally, Section 6 concludes with theoretical contributions, managerial implications, and directions for future research.

2 | LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 | Green Human Resource Management (GHRM) and Environmental Performance (EP)

Green Human Resource Management (GHRM) plays a pivotal role in fostering employees' environmentally responsible behaviors by aligning

human resource practices with organizational environmental management objectives. This alignment facilitates the establishment of a green workplace culture, as highlighted by Cherian and Jacob (2012). The foundational relationship between HRM and environmental management was first noted in Wehrmeyer's seminal work *Greening People: Human Resources and Environmental Management* (Wehrmeyer 1996). Subsequent studies (Nalini and Bonnie 2004, Sudin 2011) have reinforced HRM's critical role in achieving environmental objectives.

Globally, the adoption of environmental management systems, such as ISO 14001, underscores HRM's significance in improving environmental dimensions of performance. Although still at an embryonic stage, these systems are increasingly adopted due to the growing need to meet international trade and investment requirements (Chan 2011, Jabbour and de Sousa Jabbour 2016). HRM serves as a critical driver to initiate and sustain green practices by raising employees' awareness and commitment to environmental objectives (Bhutto 2016, Mandip 2012).

GHRM contributes to the "triple bottom line" of social, economic, and environmental sustainability by integrating green objectives into HR practices. Evidence from developed economies demonstrates that organizations adopting GHRM practices enjoy enhanced financial performance alongside environmental benefits (O'Donohue and Torugsa 2016, Aftab et al. 2023, Mo et al. 2025). Such practices, including electronic filing, recycling programs, and energy-efficient workplace solutions, not only reduce environmental waste but also enhance organizational efficiency and employee engagement.

However, implementing GHRM in developing countries is fraught with challenges due to gaps in environmental policies and workplace behaviors. Nisar et al. (2021) studied GHRM in Malaysia, an upper-middle-income country, and emphasized the need for future research in manufacturing industries to address contextual differences (Haldorai et al. 2022, Amjad et al. 2021). Cultural and workforce diversity significantly influence the adaptation of green practices (Haddock-Millar et al. 2016), underscoring the importance of designing context-specific GHRM policies tailored to local cultural and economic environments. Based on these insights, the following hypothesis is proposed:

Hypothesis 1. *H1: The implementation of Green Human Resource Management (GHRM) practices positively influences Environmental Performance (EP).*

2.2 | Green Information Management System (GIMS) and Environmental Performance (EP)

The growing global concern for environmental sustainability has motivated organizations to adopt green practices, with green information management systems (GIMS) emerging as a critical enabler of enhanced environmental performance (EP). GIMS facilitates the development of energy-saving technologies and processes, reduces ecological footprints, and enhances environmental reputation (Lo et al. 2012). In addition, GIMS promotes transparency in environmental performance,

which can enhance stakeholder trust and provide competitive advantages (Seidel et al. 2013).

Described as information systems that support environmental management through efficient data collection, analysis, and reporting, GIMS assists sustainable decision making (Chen et al. 2018 2022, Lutfi et al. 2024). These systems streamline processes such as energy management, waste reduction, and emissions control, thereby positively impacting environmental performance (Zhu et al. 2023). GIMS also facilitates resource efficiency and reduces waste generation, as evidenced by Khan et al. (2023) and Wang et al. (2021). Furthermore, information sharing through GIMS enhances collaboration across supply chain partners, enabling holistic environmental footprint reductions (Li et al. 2022, Lissillour and Ruel 2023).

While studies on GIMS primarily focus on developed countries, there is a significant gap in understanding its adoption and impact in developing nations. Huang et al. (2024) emphasized the geographical and cultural limitations of existing research, calling for investigations into the effectiveness of GIMS in diverse contexts. To address this gap, the current study focuses on a developing country to explore the role of GIMS in enhancing environmental performance. Based on these findings, the following hypothesis is proposed:

Hypothesis 2. *H2: The implementation of Green Information Management Systems (GIMS) positively influences Environmental Performance (EP).*

2.3 | Moderating Role of Green Information Management Systems (GIMS)

Green HRM practices, such as green recruitment, training, and performance appraisal, are well-documented as enablers of improved environmental performance (Renwick et al. 2013). These practices align employees with organizational environmental objectives, minimizing resource use and waste generation but GHRM's effectiveness is often contingent on complementary systems that facilitate information flow and decision-making (Lissillour and Sahut 2023). Despite eventual resistance in the adoption of such information systems (Lissillour and Monod 2024, Lissillour and Rodríguez-Escobar 2020), GIMS are likely to play a crucial role in enabling GHRM by providing real-time access to environmental performance metrics and instilling transparency and accountability.

Studies have shown that GIMS enhances interdepartmental collaboration by providing a common platform for environmental data reporting and analysis, thereby strengthening the impact of GHRM practices (Wang et al. 2021, Li et al. 2022). However, limited research exists on the moderating role of GIMS in developing countries, where unique challenges impact GHRM and GIMS adoption.

Building on existing literature, this study posits that GIMS amplifies the effectiveness of GHRM practices by facilitating data-driven decision-making and fostering organizational collaboration. The following hypothesis is proposed:

Hypothesis 3. *H3: Green Information Management Systems (GIMS) positively moderate the relationship between Green Human Resource Management (GHRM) practices and Environmental Performance (EP), such that the relationship is stronger when GIMS are effectively implemented.*

2.4 | Conceptual Framework

The conceptual model depicted in Figure 1 illustrates the relationships among Green Human Resource Management (GHRM), Green Information Management Systems (GIMS), and Environmental Performance (EP). The model posits direct relationships between GHRM and EP, as well as between GIMS and EP. Additionally, GIMS is hypothesized to moderate the relationship between GHRM and EP, enhancing its effectiveness.

3 | METHODOLOGY

3.1 | Participation

This study collected data from managers of medium- to large-scale manufacturing firms in Cambodia. Firms were defined as medium or large if they employed more than 50 workers. The participants were key decision-makers in their respective organizations, familiar with core activities and environmental practices. The manufacturing sector was chosen due to its significant contribution to Cambodia's economic development and its role as a major employer in the country.

A cross-sectional research design was adopted, utilizing a self-reported survey method to gather data. To enhance reliability and validity, multiple respondents from each firm were involved. Initially, a list of 25 manufacturing firms was randomly generated by contacting the Cambodian Chamber of Commerce. Human resource department heads were then approached with preliminary inquiries regarding their organizations' education or training programs focused on environmental sustainability. Only firms actively implementing Green Human Resource Management (GHRM) practices were invited to participate in the study.

The survey instrument was originally drafted in English and subsequently translated into Khmer following the back-translation method outlined by Brislin (1986). The translation process included modifications to ensure cultural relevance and linguistic clarity. Two rounds of piloting were conducted: the first with five participants and the second with eight participants. The initial round revealed ambiguities in some questionnaire items, prompting revisions. The subsequent round confirmed that the questionnaire was well-adapted to the Cambodian context.

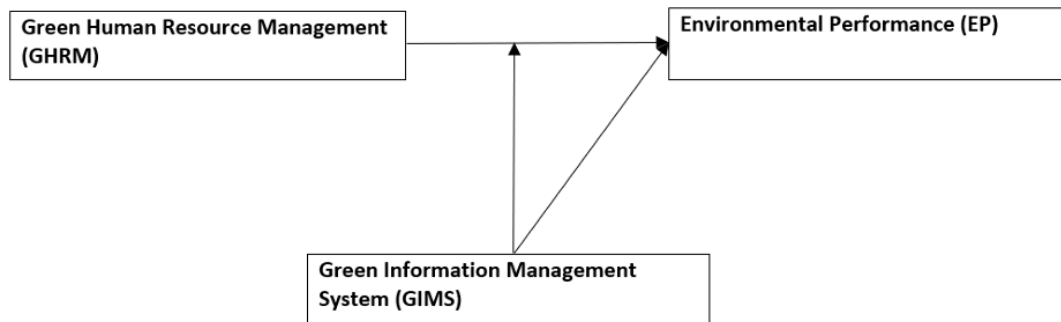


FIGURE 1 Conceptual Framework

3.2 | Measurement

The constructs of Green Human Resource Management (GHRM), Green Information Management Systems (GIMS), and Environmental Performance (EP) were measured using established scales from prior studies. The sources and corresponding items are detailed in Table 1.

The collected data were analyzed using structural equation modeling (SEM) in AMOS software. SEM was chosen for its efficiency in analyzing latent variables and their interrelationships within a theoretical framework. This approach provided robust statistical estimation to validate the proposed model. Prior studies have successfully employed SEM in similar contexts (Haque et al. 2022, Li et al. 2022).

The study yielded 217 valid responses. Among the respondents, 202 (93%) were male, and the majority (71.6%) were aged between 20 and 40 years. Approximately 66% of participants held a master's degree, while 60% had between 1 and 6 years of work experience. The predominant religious demographic was Buddhist, accounting for 95.2% of the respondents, consistent with Cambodia's cultural context.

4 | RESULTS

The results of the hypothesis testing provide crucial insights into the relationship between Green Human Resource Management (GHRM), Green Information Management Systems (GIMS), and Environmental Performance (EP).

H1: Green Human Resource Management Enhances Environmental Performance

The first hypothesis (H1) posited that GHRM improves environmental performance. The results supported this hypothesis, with a Beta coefficient of 0.56 and a p-value of 0.001, indicating a statistically significant relationship. The positive estimate underscores that GHRM practices, such as green hiring, employee training, and sustainability-focused engagement, have a substantial impact on organizational environmental performance. These findings reinforce that organizations implementing

GHRM practices can achieve notable improvements in their sustainability performance.

H2: Green Information Management Systems Positively Influence Environmental Performance

The second hypothesis (H2) proposed that the implementation of GIMS positively affects EP. This hypothesis was also supported, with a Beta coefficient of 0.16 and a p-value of 0.005, demonstrating statistical significance. The findings suggest that adopting GIMS, which involve collecting, managing, and analyzing environmental data through advanced information systems, significantly contributes to improving environmental performance.

H3: GIMS Moderates the Relationship Between GHRM and Environmental Performance

The third hypothesis (H3) examined whether GIMS positively moderates the relationship between GHRM and EP. The results indicated strong support, with a Beta coefficient of 0.70 and a p-value of less than 0.001. These findings highlight the pivotal role of GIMS in strengthening the impact of GHRM on environmental performance. By enabling real-time monitoring, analysis, and management of green HR initiatives, GIMS enhance organizational capacity to achieve superior environmental outcomes. The significant moderating effect of GIMS underscores its critical function in bridging gaps in data management, communication, and implementation of green HR strategies, thereby fostering a synergistic relationship between human resources and technology.

5 | CONCLUSION AND IMPLICATIONS

5.1 | Conclusion

The findings of this study highlight the significant role of Green Human Resource Management (GHRM) and Green Information Management

TABLE 1 Measurement Items and Sources

Construct	Items
Green Human Resource Management (GHRM) adapted from Renwick et al. (2013), Jabbour and de Sousa Jabbour (2016)	<ul style="list-style-type: none"> • Recruitment prioritizes candidates with environmental values. • Provides training focused on green practices. • Performance appraisals include environmental criteria. • Rewards employees for environmentally responsible behavior. • Effectively communicates green policies and initiatives.
Green Information Management Systems (GIMS) adapted from Dubey et al. (2017), Luthra et al. (2016)	<ul style="list-style-type: none"> • Technology is used to monitor environmental performance. • Environmental data is regularly collected and analyzed. • Employees access systems for reporting green practices or violations. • GIMS integrate green policies into daily operations. • GIMS ensure compliance with environmental regulations.
Environmental Performance (EP) adapted from Dangelico and Pontrandolfo (2015), Zhu et al. (2008)	<ul style="list-style-type: none"> • Reduced energy consumption. • Effective waste management practices implemented. • Reduced environmental risks through green practices. • Compliance with local and international environmental standards. • Improved resource efficiency.

TABLE 2 Path Coefficient and Hypothesis Testing

Hypothesis Statement	Estimates	Significance	Result
H1: Green human resource management enhances environmental performance	0.56	0.001	Supported
H2: The implementation of a Green Information Management System (GIMS) positively influences Environmental Performance (EP).	0.16	0.005	Supported
H3: Green Information Management System positively moderates the relationship between green human resource management and environmental performance	0.70	0.001	Supported

Systems (GIMS) in improving Environmental Performance (EP). GHRM practices, including green recruitment, training, and performance evaluation, have been shown to positively impact organizational environmental outcomes by fostering a green workplace culture and aligning

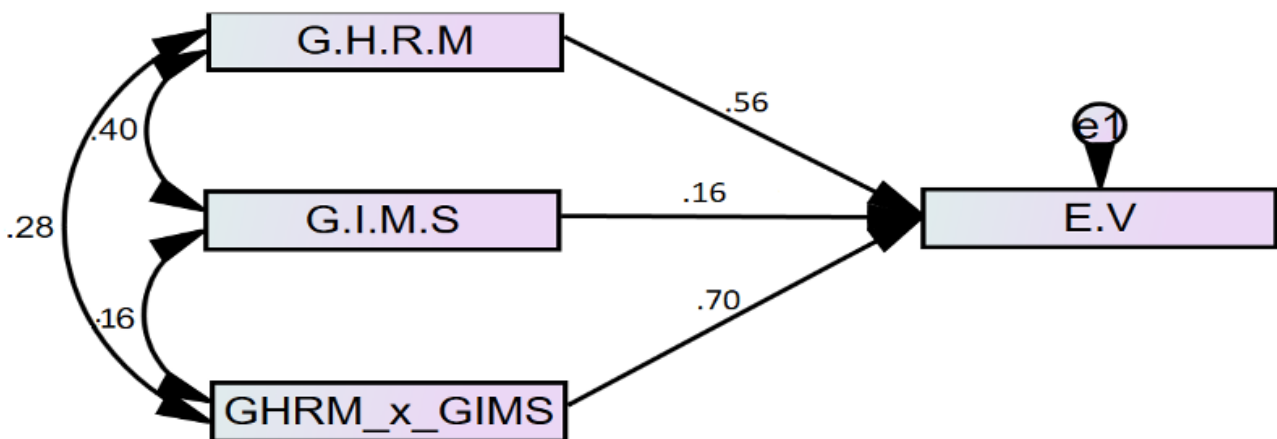


FIGURE 2 Path Analysis

employee goals with environmental objectives. These results are consistent with previous studies such as Renwick et al. (2013) and Cherian and Jacob (2012).

Even if the implementation of such systems more often than not leads to internal resistance (Lissillour 2021ab), the results further emphasize the critical enabling role of GIMS in improving the effectiveness of GHRM strategies. GIMS provides organizations with tools to monitor, evaluate, and refine their environmental practices, enhancing transparency and accountability. This finding supports previous research by Li et al. (2022), which underline the enabling capacity of GIMS in fostering sustainable practices. The implementation of GIMS enhances the efficiency of GHRM practices, as organizations equipped with sound information systems are better positioned to track and improve their environmental performance.

However, the study also underscores challenges in implementing GHRM and GIMS in developing countries. Issues such as inadequate infrastructure, limited environmental awareness among employees, and cultural variables pose significant barriers to the effective adoption of green initiatives. This aligns with findings by Haddock-Millar et al. (2016), who identified workforce diversity and cultural differences as significant factors influencing the implementation of GHRM. Additionally, environmental management systems in these contexts are often in nascent stages, as noted by Chan (2011), necessitating the strategic alignment of human resources and technology.

The research also reveals the need for context-specific implementation of GHRM and GIMS practices. Local cultural and economic conditions play a pivotal role in shaping the effectiveness of these practices, as evidenced by prior studies such as (Haldorai et al. 2022) and Amjad et al. (2021). For example, while the adoption of GHRM in Malaysia has been commendable (Nisar et al. 2021), similar efforts in other developing countries, such as Cambodia, may require tailored approaches to account for local challenges and opportunities.

GIMS have also been identified as key facilitators in integrating environmental concerns throughout supply chain networks, fostering close coordination with stakeholders to achieve environmental sustainability goals. This finding is particularly relevant for organizations in developing countries, where supply chain inefficiencies often hinder environmental performance, as noted by Khan et al. (2023).

Overall, this study contributes to the growing body of literature on green management practices by addressing the significant gaps in understanding the role of GHRM and GIMS in developing countries, while answering a recent call for more research into green innovation and environmental management in these contexts (Huang et al. 2024).

5.2 | Theoretical Implications

The study makes important theoretical contributions by introducing GIMS as a moderator in the GHRM-EP relationship, thereby expanding the understanding of how green HR practices interact with technological systems to achieve sustainability goals. While previous studies have established the direct effects of GHRM on EP, this research highlights

the synergistic relationship between GHRM and GIMS. The findings extend earlier frameworks, such as the Resource-Based View (RBV), by emphasizing the interplay between human resources and digital infrastructure in achieving sustainability outcomes. Notably, this research builds on foundational works such as Barney (1991) to contextualize the integration of green practices with organizational resources and capabilities.

Additionally, the study identifies the need for contextualizing green management practices in developing countries, addressing the unique challenges and opportunities presented by these settings. This aligns with the Practice-based approach (Lissillour and Silva 2024), which underscores the importance of adapting practices to specific environmental and organizational contexts.

5.3 | Managerial Implications

The findings provide actionable insights for practitioners aiming to integrate green practices into their HR and operational strategies. Managers in manufacturing firms in developing countries should prioritize adopting GHRM practices, such as green recruitment, training, and performance appraisal, to instill environmental values among employees. Recognizing and rewarding environmentally responsible behaviors can further promote a green workplace culture.

The adoption of GIMS can enhance decision-making processes and ensure compliance with international sustainability standards. Tools like energy monitoring systems, recycling data collection, and green compliance tracking can significantly reduce environmental risks while fostering competitive advantages. By strategically integrating GHRM and GIMS, managers can create a cohesive, information-driven approach to sustainability, leveraging digital training modules, virtual team-building exercises, and automated performance tracking.

Firms that align their green practices with international standards will be better positioned to access global markets, improve their reputation, and enhance market competitiveness (Lissillour 2022). This study provides a roadmap for managers to develop and implement green strategies that align with organizational and environmental objectives.

5.4 | Limitations and Future Research Directions

While this study offers valuable insights, it is not without limitations. The cross-sectional design limits the ability to capture dynamic changes in the relationships between GHRM, GIMS, and EP over time. Future research could adopt longitudinal designs to explore the evolving impact of these practices. The study's focus on the manufacturing sector in Cambodia may limit the generalizability of the findings. Expanding the research to other industries, such as services or agriculture, could validate the results across diverse sectors. Additionally, incorporating larger and more diverse samples would strengthen the robustness of the findings.

Relying on self-reported questionnaires introduces the potential for response bias. Future studies could improve validity by incorporating the principles of practice-based research (Lissillour and Ruel 2023) to look at the impact of the implementation of GIMS on the organizational power structure. Exploring employee perceptions of GHRM practices and their internalization of green initiatives within organizations would provide valuable insights into the acceptability and effectiveness of these practices. Furthermore, despite the ethical challenges inherent to the use of artificial intelligence (Sahut et al. 2023ba), future research could look at its role in enhancing GIMS capabilities.

Future comparative studies across different developing countries could shed light on contextual factors influencing the adoption and effectiveness of GHRM and GIMS practices. These studies could also explore the interplay between cultural, economic, and regulatory factors in shaping green management practices.

AUTHOR CONTRIBUTIONS

The authors contributed equally to conceptualization, writing, reviewing, editing and addressing reviewer comments.

ACKNOWLEDGMENTS

The authors thank the editor and anonymous reviewers for their contributions to this paper.

FINANCIAL DISCLOSURE

None reported.

CONFLICT OF INTEREST

The authors declare no potential conflict of interests.

REFERENCES

- Aftab, J., Abid, N., Cucari, N. & Savastano, M. (2023) Green human resource management and environmental performance: The role of green innovation and environmental strategy in a developing country. *Business Strategy and the Environment*, 32(4), 1782–1798. doi:10.1002/bse.3247.
- Amjad, F., Abbas, W., Zia-Ur-Rehman, M., Baig, S.A., Hashim, M., Khan, A. et al. (2021) Effect of green human resource management practices on organizational sustainability: The mediating role of environmental and employee performance. *Environmental Science and Pollution Research*, 28, 28191–28206. doi:10.1007/s11356-021-13192-5.
- Barney, J. (1991) Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. doi:10.1177/014920639101700108.
- Bhutto, M.Y. (2016) Green hrm: A prerequisite for sustainable environmental performance. *International Journal of Multidisciplinary Research and Development*, 3(1), 34–37.
- Bonet, D. & Lissillour, R. (2023) Regards croisés sur la digitalisation, le développement durable et la gestion des ressources humaines dans la supply chain. *Revue Française de Gestion Industrielle*, 37(1), 3–6. doi:10.53102/2023.37.01.1178.
- Brislin, R.W. (1986) The wording and translation of research instruments. *Field Methods in Cross-Cultural Research*, 8(6), 137–164.
- Chan, E.S.W. (2011) Implementing environmental management systems in small- and medium-sized hotels: Obstacles. *International Journal of Hospitality Management*, 30(3), 296–302. doi:10.1016/j.ijhm.2010.09.013.
- Chen, X., Tang, Y. & Zhang, L. (2022) Green information systems and their role in sustainable business practices. *Journal of Cleaner Production*, 345, 130957. doi:10.1016/j.jclepro.2022.130957.
- Chen, Y., Wang, Y., Nevo, S., Jin, J., Wang, L. & Chow, W.S. (2018) It capability and organizational performance: The roles of business process agility and environmental factors. *European Journal of Information Systems*, 23(3), 326–342. doi:10.1057/ejis.2013.4.
- Cherian, J. & Jacob, J. (2012) A study of green hr practices and its effective implementation in the organization: A review. *International Journal of Business and Management*, 7(21), 25–33. doi:10.5539/ijbm.v7n21p25.
- Dangelico, R.M. & Pontrandolfo, P. (2015) Being 'green and competitive': The impact of environmental actions and collaborations on firm performance. *Business Strategy and the Environment*, 24(6), 413–430. doi:10.1002/bse.1828.
- Dubey, R., Gunasekaran, A., Childe, S.J., Wamba, S.F. & Papadopoulos, T. (2017) The impact of big data on world-class sustainable manufacturing. *The International Journal of Advanced Manufacturing Technology*, 84(1), 631–645. doi:10.1007/s00170-015-7674-1.
- Gupta, S. (2018) Green human resource management: Impact on environmental sustainability. *Journal of Cleaner Production*, 218, 582–592. doi:10.1016/j.jclepro.2019.01.324.
- Haddock-Millar, J., Sanyal, C. & Müller-Camen, M. (2016) Green human resource management: A comparative qualitative case study of a united states multinational corporation. *The International Journal of Human Resource Management*, 27(2), 192–211. doi:10.1080/09585192.2015.1052087.
- Haldorai, K., Kim, W.G. & Garcia, R.F. (2022) Top management green commitment and green intellectual capital as enablers of hotel environmental performance: The mediating role of green human resource management. *Tourism Management*, 88, 104431. doi:10.1016/j.tourman.2021.104431.
- Haque, M.J., Nawaz, M.Z., Shaikh, H.A. & Tariq, M.Z. (2022) Spiritual leadership and unit productivity: Does psychological need mediate the relationship between spiritual leadership and unit productivity? *Public Integrity*, 24(7), 615–628. doi:10.1080/10999922.2021.1957271.
- Huang, L., Solangi, Y.A., Magazzino, C. & Solangi, S.A. (2024) Evaluating the efficiency of green innovation and marketing strategies for long-term sustainability in the context of environmental labeling. *Journal of Cleaner Production*, 450, 141870. doi:10.1016/j.jclepro.2024.141870.
- Jabbour, C.J.C. & de Sousa Jabbour, A.B.L. (2016) Green human resource management and green supply chain management: Linking two emerging agendas. *Journal of Cleaner Production*, 112, 1824–1833. doi:10.1016/j.jclepro.2015.01.052.
- Khan, S., Ahmed, R. & Ali, T. (2023) Exploring the relationship between green is adoption and waste reduction. *Journal of Environmental Management*, 329, 117068. doi:10.1016/j.jenvman.2023.117068.
- Li, X., Zhang, Q. & Zhao, J. (2022) Supply chain collaboration and green information systems: Implications for environmental performance. *International Journal of Production Economics*, 247, 108421. doi:10.1016/j.ijpe.2022.108421.
- Lissillour, R. (2021) Contradiction institutionnelle et catégories cognitives : un couplage mis à mal suite à la mise en place de progiciels de gestion intégrée. *Management & Prospective*, 38(5), 19–47. doi:10.3917/g2000.385.0019.
- Lissillour, R. (2021) La déviance positive face au pluralisme normatif. le cas de l'implémentation d'un progiciel de gestion intégré dans la filiale chinoise d'une entreprise manufacturière internationale. *RIMHE: Revue Interdisciplinaire Management, Homme(s) & Entreprise*, (1), 3–26. doi:10.3917/rimhe.042.0003.
- Lissillour, R. (2022) Dispositions and conditioning towards sustainability in the supply chain: a habitus perspective in the field of shipping. *Supply Chain Forum: An International Journal*, 23(4),

- 409–424. doi:10.1080/16258312.2022.2137428.
- Lissillour, R. & Monod, E. (2024) L'instrumentalisation de la transparence : les jeux de pouvoirs lors de l'implémentation de l'intelligence artificielle. *Revue internationale de psychosociologie et de gestion des comportements organisationnels*, 30(80), 79–114. doi:10.3917/rips1.080.0079.
- Lissillour, R. & Rodríguez-Escobar, J.A. (2020) Flexible coupling-weakness or strength? evidence in the post-implementation of an erp system. *Recherches en Sciences de Gestion*, 141(6), 31–65. doi:10.3917/resg.141.0031.
- Lissillour, R. & Ruel, S. (2023) Chinese social media for informal knowledge sharing in the supply chain. *Supply Chain Forum: An International Journal*, 24(4), 443–461. doi:10.1080/16258312.2022.2130006.
- Lissillour, R. & Sahut, J.M. (2023) Uses of information systems to develop trust in family firms. *Business & Information Systems Engineering*, 65(2), 127–141. doi:10.1007/s12599-022-00776-6.
- Lissillour, R. & Silva, M.E. (2024) Going forward and beyond: on the track of a practice turn in supply chain sustainability studies. *RAUSP Management Journal*, doi:10.1108/RAUSP-09-2023-0181.
- Lo, S.H., Peters, G.J.Y. & Kok, G. (2012) A review of determinants of and interventions for pro-environmental behaviors in organizations. *Journal of Applied Social Psychology*, 42(12), 2935–2967. doi:10.1111/j.1559-1816.2012.00969.x.
- Lutfi, A., Al-Hiyari, A., Elshaer, I.A., Alrawad, M. & Almaiah, M.A. (2024) Green environmental management system and environmental performance: Results from pls-sem and fsqa. *Sustainable Futures*, 8, 100276.
- Luthra, S., Garg, D. & Haleem, A. (2016) The impacts of critical success factors for implementing green supply chain management towards sustainability: An empirical investigation of indian automobile industry. *Journal of Cleaner Production*, 121, 142–158. doi:10.1016/j.jclepro.2016.01.095.
- Mandip, G. (2012) Green hrm: People management commitment to environmental sustainability. *Research Journal of Recent Sciences*, 1(4), 244–252.
- Marconi, N., de Borja Reis, C.F. & de Araújo, E.C. (2016) Manufacturing and economic development: The actuality of kaldor's first and second laws. *Structural Change and Economic Dynamics*, 37, 75–89. doi:10.1016/j.strueco.2015.12.002.
- Mo, Z., Liu, M.T. & Lai, I.K.W. (2025) The dynamic joint roles of green human resource management and environmentally specific transformational leadership on team green behavior. *Tourism Management*, 107, 105046. doi:10.1016/j.tourman.2024.105046.
- Nalini, G. & Bonnie, J. (2004) Greening organizations through hrm: Changing organizational culture. *International Journal of Business*, 9(1), 76–90.
- Nisar, Q.A., Haider, S., Ali, F., Jamshed, S., Ryu, K. & Gill, S.S. (2021) Green human resource management practices and environmental performance in malaysian green hotels: The role of green intellectual capital and pro-environmental behavior. *Journal of Cleaner Production*, 311, 127504. doi:10.1016/j.jclepro.2021.127504.
- O'Donohue, W. & Torugsa, N.A. (2016) The moderating effect of 'green' hrm on the association between proactive environmental management and financial performance in small firms. *The International Journal of Human Resource Management*, 27(2), 239–261. doi:10.1080/09585192.2015.1063078.
- Quashigah, S. & Amuzu, J. (2024) Innovation culture and millennial characteristics: determinants of millennial turnover intention in the banking sector. *Management Research Quarterly*, 1(1), 42–54. doi:10.63029/8x367t04.
- Renwick, D.W.S., Redman, T. & Maguire, S. (2013) Green human resource management: A review and research agenda. *International Journal of Management Reviews*, 15(1), 1–14. doi:10.1111/j.1468-2370.2011.00328.x.
- Rodriguez-Escobar, J.A. (2024) Advancing global management knowledge: promoting indigenous scholarship from africa and asia. *Management Research Quarterly*, 1(1), 1–3. doi:10.63029/31r4xr24.
- Sahut, J.M., Braune, F. & Lissillour, R. (2023) Développement de l'ia et questions éthiques: passage d'une perspective statique à une perspective dynamique. *Management Avenir*, 137(5), 137–158. doi:10.3917/mav.137.0137.
- Sahut, J.M., Braune, F. & Lissillour, R. (2023) Viewpoint: A problematization of artificial intelligence ethics: deliberative democracy versus agonistic pluralism. *Management & Prospective*, 40(6), 186–199. doi:10.3917/g2000.406.0186.
- Seidel, S., Recker, J., Pimmer, C. & vom Brocke, J. (2013) Enablers and barriers to the organizational adoption of sustainable business practices. *Journal of Business Ethics*, 114(3), 373–388. doi:10.1007/s10551-012-1351-3.
- Soo Wee, Y. & Quazi, H.A. (2005) Development and validation of critical factors of environmental management. *Industrial Management & Data Systems*, 105(1), 96–114. doi:10.1108/02635570510575216.
- Sudin, S. (2011) Strategic green hrm: A proposed model. *Australian Journal of Basic and Applied Sciences*, 5(12), 157–163.
- Szirmai, A. & Verspagen, B. (2015) Manufacturing and economic growth in developing countries, 1950–2005. *Structural Change and Economic Dynamics*, 34, 46–59. doi:10.1016/j.strueco.2015.06.002.
- Wang, Z., Li, H. & Gao, Y. (2021) Impact of green information systems on organizational sustainability: Evidence from carbon management practices. *Environmental Impact Assessment Review*, 89, 106580. doi:10.1016/j.eiar.2021.106580.
- Wehrmeyer, W. (1996) Greening people: Human resources and environmental management. *Sheffield Academic Press*.
- Zhu, J., Wang, R. & Chen, Y. (2023) Digitalization and sustainability: The role of green information management systems in environmental performance. *Sustainable Development*, 31(4), 897–910. doi:10.1002/sd.2409.
- Zhu, Q., Sarkis, J. & Lai, K. (2008) Confirmation of a measurement model for green supply chain management practices implementation. *International Journal of Production Economics*, 111(2), 261–273. doi:10.1016/j.ijpe.2006.11.029.

SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

AUTHORS BIOGRAPHY

Dr. Md Jamirul Haque is a dedicated academician with over a decade of experience. Currently teaching at the National University of Management (NUM), he has supervised MBA, PhD, and DBA theses. As a reviewer for the Journal of Business Ethics since 2018, Dr. Jamirul has published several research articles in ABS-ranked and Web of Science journals and has led funded research projects with SPIDER and KOICA. He specializes in innovative teaching methodologies and curriculum development and is proficient in PLS, AMOS, E-Views, and SPSS. His research areas are HRM, workforce diversity management, Artificial intelligence, and Spiritual Leadership.

Mohammad Ahoshan Ullah pursuing his doctoral degree at International American University, USA. He has done his bachelor's with a fully funded government scholarship from India and a Master's

degree with a fully funded government scholarship from China in Financial Management. His research interests are internal factors for Bankruptcy, Corporate Finance, and Management.

Prof. Dr. Pahlaj Moolio is a distinguished mathematician, statistician, and econometrician with an impressive international career. He pursued higher education in Pakistan and Bangladesh, where he built a strong foundation in mathematics, statistics, and economics. Over the years, he has contributed significantly to academia and research across multiple countries. His professional journey includes teaching, research, and organizational positions in Pakistan, Bangladesh, Thailand, Germany, the United States of America, and Cambodia. Since 2002, Prof. Moolio has been based in Cambodia, where he continues his impactful work in teaching mathematics, statistics, and econometrics, actively participating in research and academic development in the region. He has more than 500 citations. In Germany, he served as a DAAD Guest Professor, sharing his multidisciplinary expertise in research and fostering cross-cultural academic exchanges. In the USA, he is a Research Fellow of Yale University's Global Justice Program.

Dr. Kiranraj Pande is a PhD graduate from the School of Business Administration, Dongbei University of Finance and Economics, Dalian, China. He has published his research articles in top-tier journals indexed in SSCI-Q1 and has served as a reviewer for leading academic journals, including *Tourism Management*, *Journal of Hospitality and Tourism Management*, and *Tourism Recreation Research*. Dr. Pande also has teaching experience in International Business Strategy. His primary research interests include visitor experience, heritage tourism, attraction management, and sustainable development.