

# The Importance of Integrate Green Management System Based on Performance Evaluation in Enterprise: A Systematic Literature Review

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## Abstract

Right from the outset, both green management and performance evaluation have played a pivotal role as essential components in enterprise management, new industrial management standards, and evolving environmental protection requirements. Initially, green management was introduced in specific industries and organizations, yielding exceptional outcomes in certain domains. In the contemporary business landscape, numerous eco-friendly management approaches exist within the enterprise management sector, offering environmentally-conscious avenues for development. However, it is noteworthy that some enterprises prioritize economic gains over prudent environmental stewardship. This paper aims to underscore the significance of the green management system in conjunction with performance evaluation within enterprises. The research outcomes unveil a positive correlation between green management implementation and performance outcomes within enterprises. This research contributes valuably to the advancement of green management practices within enterprises, while also laying a solid foundation for prospective investigations.

**Keywords:** Green Management ,Performance Evaluation,Sustainable Development,Management System,Environment Protection.

## Introduction

Termed as sustainable management or environmental management, green management has garnered escalating significance within the corporate realm. As ecological apprehensions surge, enterprises are confronted with mounting pressure to adopt green management strategies, aimed at curbing environmental ramifications and fostering sustainable progress (Czyewski et al., 2019). The imperative introduction of a Green management system is palpable in today's context, fueled by heightened environmental consciousness and the imperative to combat climate change (Sidik et al., 2019). The escalating stringency of environmental stipulations not only underscores the policy-based impetus for green management but also underscores its ecological indispensability within enterprises (Zhou, 2019).

A Green Management System embodies a comprehensive framework that centers on the assimilation of eco-conscious practices into an organization's operational fabric and decision-making protocols (David et al., 2019). The present study underscores the imperativeness of green management by highlighting the diversity of eco-friendly operational approaches, all integral to cultivating an environmentally conscientious enterprise (Ying & Mei, 2012). A performance evaluation mechanism harmonized with green management further emerges as instrumental in gauging the extent of environmental sensitivity achieved (Amini & Alinezhad, 2016).

### **Objectives of the study**

The primary goals of this research can be condensed into three key objectives.

- To emphasize the critical significance of incorporating green management practices and performance evaluation within corporate entities, thereby illuminating the mutually beneficial connection between environmental sustainability and business prosperity.
- To empirically confirm a positive association between the execution of green management strategies and improved performance results within organizations, providing tangible evidence of the advantages associated with environmentally responsible approaches.
- To contribute valuable insights and knowledge that can promote the adoption of green management practices within enterprises, laying the groundwork for future research and practical implementation in the pivotal realm of corporate sustainability.

### **Methodology of Research**

Incorporating the preferred reporting items for systematic reviews, this study utilized Google Scholar and Scopus as the designated databases for exploration. This section expounds upon the three constituent components of the employed methodology: an analysis of existing literature on green management within enterprises and the evaluation of performance within such entities, the fusion of green management and performance evaluation, and the relevant underpinning theories and models. This investigation meticulously opted for two widely recognized databases: Google Scholar and Scopus. The accessibility of Google Scholar without any subscription fee underscores its position as an open and free search engine (Houshyar & Sotudeh, 2018). Its indexing capabilities encompass both full text and metadata, spanning an extensive spectrum of publication formats and subject domains (Yang & Yan, 2017). Encompassing academic journals, books, conference papers, abstracts, technical reports, and preprints, Google Scholar comprises over 300 million documents sourced globally. Notably, it integrates seamlessly with reference management tools like RefWorks, RefMan, EndNote, and BibTeX. In contrast, Scopus, with its coverage of more than 30,000 journals and more than 10,000 publishers worldwide, mandates institutional subscription for access (Elsevier, 2020). This database spans diverse literature types and subject domains, offering an green management interface conducive to the literature reviews. The rationale behind selecting these two databases lies in capitalizing on the distinct strengths, a strategic choice profoundly influencing the caliber of outcomes. For reference, a portion of the keyword inventory is presented in Table 1 below.

Table 1. Keywords and Information Search Strategy

Database	Keywords
Google Scholar	[Integration of management OR Green management] AND [Enterprise management OR manufacture management] AND [Management system OR Management model]
Scopus	[Company performance OR Enterprise performance] AND [Performance evaluation OR Enterprise evaluation system]

Given the significance of the topic and the inherent nature of the study, it adopts a correlation-descriptive approach. The utilization of the correlation coefficient is geared towards providing a mathematical elucidation of the interconnection between green management and performance evaluation (Rao & Holt, 2005). This methodology facilitates the quantification of numerous factors associated with both green management and performance evaluation (Kim & Cha, 2007). The methodology frequently embraced across related research endeavors encompasses the utilization of questionnaires and sampling techniques (Agyabengmensah et al., 2019). For this study, a questionnaire founded on an evaluation model served as the primary instrument for data collection, enabling responses to the research hypotheses. To ascertain the questionnaire's validity and reliability, the application of Cronbach's Alpha coefficient was implemented (Javid et al., 2016). Following this, the amassed data underwent analysis employing SPSS Software.

## Literature Review

### Green management in enterprises

The objective of this part of literature review is to analyze existing research concerning green management in enterprises, investigating fundamental concepts, obstacles, and potential advantages associated with its implementation.

a) Definition and Scope of Green Management. Green management encapsulates a diverse array of tactics and approaches implemented by enterprises to curtail the ecological footprint (Mancini et al., 2016). This entails the integration of eco-friendly technologies, waste reduction, conservation of natural resources, and the promotion of ethical sourcing (Fercoq et al., 2016). Scholarly sources define green management as an integral component of a company's corporate social responsibility and sustainable business practices (Popescu, 2019).

b) Drivers and Motivations for Green Management Adoption. The literature underlines a multitude of catalysts and incentives compelling enterprises to embrace green management strategies (Sarkis et al., 2011). These motivating factors encompass more stringent environmental regulations, consumer demand for environmentally conscious products and services, the pursuit of cost-efficiency through resource optimization, and the aspiration to enhance corporate reputation and stakeholder engagement (Hart & Dowell, 2011).

c) Challenges and Barriers. Nonetheless, the incorporation of green management practices is not exempt from challenges. The literature pinpoints prevalent barriers encountered by enterprises, which encompass the initial high costs associated with adopting green technologies, the necessity for employee training and education, internal resistance to organizational change, and the intricacies of accurately gauging and quantifying environmental impacts (Smith & Alan, 2012).

d) Integration of Green Management into Business Strategy. A pivotal facet of effective green management entails its seamless assimilation into a company's overarching business strategy. Scholarly works underscore the necessity for green practices to align harmoniously with a

company's mission, vision, and long-term objectives in order to engender substantive environmental influence and to ensure an enduring commitment to sustainability endeavors (Bansal & Desjardine, 2014).

e) Green Marketing and Consumer Perception. Green marketing has evolved into an indispensable facet of green management strategies. The literature delves into how enterprises harness eco-labeling, environmental certifications, and sustainability communication to heighten consumer perception and cultivate brand loyalty among environmentally-conscious consumers (Luchs et al., 2012).

f) Performance and Competitive Advantage. Research exploring the connection between green management and enterprise performance has yielded mixed outcomes. While certain studies posit that companies exhibiting robust environmental performance also achieve enhanced financial results and attain a competitive edge, other research contends that the relationship is intricate and context-dependent (Aragon et al., 2007).

g) Employee Engagement and Green Management. Employee engagement and dedication are pivotal for the successful implementation of green management practices. The literature scrutinizes methods through which employee involvement and motivation can be bolstered, including sustainability training, the establishment of a green organizational culture, and the acknowledgment and rewarding of eco-friendly behaviors (Renwick & Maguire, 2013).

This literature review underscores the integral role that green management in enterprises plays within modern business paradigms. By embracing environmentally sustainable strategies, enterprises can address environmental challenges, enhance the corporate image, and attain a competitive advantage (Hart & Dowell, 2011). Nevertheless, challenges persist, warranting continuous research efforts and innovative solutions to fully harness the potential of green management in steering a more sustainable future (Schaltegger et al., 2016). The main concepts of Green management in enterprises was summarized in the table below.

Table 2. Key concepts of Green management in enterprises

Key concepts	Description
Definition and Scope	Ecologically friendly practices, technologies, and responsible procurement adopted by enterprises
Drivers and Motivations	Driving factors include environmental regulations, cost savings, consumer demand, reputation enhancement, and more
Challenges and Barriers	Barriers encompass high initial costs, employee training, resistance to internal organizational change, precise measurement of environmental impact, and others
Integration into Business Strategy	Aligning green practices with the company's mission, vision, and long-term objectives
Green Marketing and Consumer Perception	Utilizing ecological labels, certifications, and communication to enhance brand loyalty
Performance and Competitive Advantage	Research findings regarding the connection between environmental performance and financial success vary
Employee Engagement and Green Management	Inspiring employee engagement through training, fostering a green culture, and acknowledging environmentally friendly behaviors

**Literature Review****Performance Evaluation in Enterprise**

Performance assessment within enterprises entails a structured procedure for assessing and gauging the effectiveness and efficiency of diverse facets within the organization, encompassing individuals, teams, departments, and overall business operations (Aguinis & Pierce, 2008). It assumes a pivotal role in instigating ongoing enhancement, pinpointing growth prospects, and aligning individual and organizational aspirations with overarching strategic goals (Franco et al., 2013). The evaluation of performance in enterprises encompasses an extensive array of activities and practices, several of which are expounded upon below:

a) Individual Performance Appraisal. Individual performance appraisal pertains to the evaluation of employees' performance based on job responsibilities, pivotal performance indicators, and established objectives (Garengo et al., 2022). Typically, this appraisal transpires through performance assessments, which can occur annually, quarterly, or with varying frequency contingent on organizational protocols (Denisi, 2010). The aim is to offer employees feedback on the performance, discern strengths and areas necessitating improvement, and facilitate professional development (Elena et al., 2020).

b) Team Performance Evaluation. The evaluation of team performance encompasses the assessment of collective accomplishments and contributions of employees collaborating toward shared objectives. This evaluation considers elements such as team synergy, collaboration, communication, and the achievement of team-specific aims (Hackman, 2012). Understanding team performance facilitates the optimization of team structures, amplification of efficiency, and cultivation of a positive team ethos (Savage, 2012).

c) Departmental Performance Appraisal. The evaluation of departmental performance entails assessing the effectiveness and efficiency of distinct departments or functional units within the organization (Maniora, 2017). This evaluation aids in identifying bottlenecks, areas of redundancy, and avenues for streamlining processes and resource allocation, by evaluating departmental performance, organizations can enhance overall operations and foster interdepartmental cooperation (Romme & Endenburg, 2006).

d) Key Performance Indicators. Key Performance Indicators denote specific metrics adopted to measure progress toward organizational objectives. These indicators can differ based on industry, organizational structure, and strategic priorities. They may encompass financial benchmarks, operational metrics, customer contentment scores, employee engagement levels, and sustainability objectives, among others (Parmenter, 2015).

e) Performance Management Systems. Many organizations employ performance management systems that integrate qualitative and quantitative data to evaluate performance. These systems frequently incorporate self-evaluation by employees, evaluations by managers or supervisors, and objective data derived from performance metrics. They present a comprehensive outlook on individual or team performance and facilitate ongoing performance development and feedback (Fleener & John, 2015).

f) Performance Reviews and Feedback. Periodic performance reviews and feedback sessions stand as vital components of performance evaluation. These sessions afford managers and employees the opportunity to converse about progress, achievements, challenges, and areas necessitating improvement. Constructive feedback helps employees comprehend expectations, discern growth avenues, and synchronize the endeavors with organizational objectives (Benneworth, 2016).

g) Performance-Based Incentives and Rewards. Numerous organizations link performance evaluation with incentive and reward frameworks. Employees who exhibit exceptional performance, achieve ambitious goals, or significantly contribute to organizational accomplishments may receive bonuses, salary increments, promotions, or alternative forms of recognition and rewards (Cascio & Boudreau, 2014).

In conclusion, performance evaluation within enterprises is a multifaceted process encompassing the assessment of individual, team, and organizational performance to propel ongoing improvement and attain strategic aims. By employing performance evaluation data to inform decision-making, organizations can discern strengths, address weaknesses, and cultivate a culture of excellence, thereby ultimately contributing to enduring success and sustainable advancement. The fundamental concepts of performance evaluation within enterprises have been consolidated and presented in the table provided below.

Table 3. Key concepts of Performance evaluation in Enterprise

Key concepts	Description
Individual Performance Appraisal	Evaluating employees based on responsibilities
Team Performance Evaluation	Assess collective achievements of employees working together
Departmental Performance Appraisal	Evaluate effectiveness and efficiency of distinct departments
Key Performance Indicators	Metrics measuring progress toward organizational goals
Performance Management Systems	Use qualitative and quantitative data
Performance Reviews and Feedback	Vital for discussing progress, challenges, improvement
Performance-Based Incentives and Rewards	Link performance with rewards like bonuses, promotions

### The integration of green management and performance evaluation

The incorporation of green management and performance evaluation stands as a pivotal element in guaranteeing that sustainability endeavors within enterprises transcend mere symbolic gestures and instead yield tangible and quantifiable impacts on environmental outcomes (Abi et al., 2018). By interlinking green management practices with performance evaluation, organizations can harmonize sustainability objectives with overarching business goals, monitor advancement, and propel ongoing enhancement (Iaki et al., 2012). Key considerations pertaining to the integration of green management and performance evaluation:

#### (a) Establishment of Clear and Quantifiable Environmental Objectives

Effectively amalgamating green management and performance evaluation necessitates the establishment of explicit and measurable environmental objectives by enterprises. These objectives should possess specificity, relevance, and time-bound parameters, facilitating routine assessment of progress and identification of areas warranting improvement (Sarkis et al., 2011). By aligning these objectives with the broader business strategy, organizations can ensure the integration of sustainability endeavors into core operations rather than treating them as isolated initiatives (Driver, 2012).

#### (b) Identification of Key Performance Indicators for Green Management

The identification and definition of key performance indicators hold paramount significance in assessing the efficacy of green management practices. These indicators may vary contingent on the industry and the particular environmental impacts requiring attention. Common key performance indicators encompass energy consumption, greenhouse gas emissions, water usage, waste generation, and the adoption of sustainable procurement practices. Consistent monitoring and analysis of these key performance indicators empower organizations to oversee environmental performance and pinpoint avenues for enhancement (Lozano & Huisingh, 2011).

(c) Incorporation into Performance Evaluation and Incentive Frameworks

Incorporating green management into performance evaluation and incentive frameworks is imperative to engrain it within the organizational culture. This fusion serves to reinforce sustainability aims and incentivize employees to actively engage in green initiatives. Acknowledging and rewarding individuals and teams for the contributions to sustainability objectives can cultivate a sense of ownership and dedication to green management (Delmas & Toffel, 2008).

(d) Emphasis on Reporting and Transparency

The practice of transparently reporting environmental performance holds indispensable value for stakeholders, including customers, investors, and regulatory bodies. Public dissemination of environmental performance data showcases accountability and fosters trust with stakeholders. Furthermore, transparent reporting permits benchmarking against industry peers, enabling organizations to identify best practices and areas requiring attention (Jeffre et al., 2014).

(e) Evaluation of Financial Implications

A noteworthy facet of integrating green management and performance evaluation involves comprehending its ramifications on financial performance. While sustainability initiatives might initially incur costs, they can culminate in long-term savings through resource efficiency, diminished waste, and an enhanced brand reputation. Enterprises should analyze the financial repercussions of green management practices to make well-informed decisions congruent with overarching financial objectives (Karpf & Mandel, 2017).

(f) Cultivation of Continuous Improvement and Learning

Green management and performance evaluation should not remain static processes but rather iterative and dynamic endeavors. Enterprises need to nurture a culture of continuous improvement and learning, motivating employees to devise innovative solutions to environmental challenges. Regular scrutiny of performance data, engagement in consultations with stakeholders, and participation in sustainability networks can yield invaluable insights and concepts for bolstering green management practices (Flammer, 2016).

Summation of the Integration Process

The fusion of green management and performance evaluation is indispensable for enterprises to effectively confront environmental hurdles and champion sustainable development. Through the establishment of clear objectives, definition of pertinent key performance indicators, integration of sustainability within performance evaluation frameworks, transparent reporting practices, and perpetual learning from performance data, organizations can foster a culture of sustainability that aligns harmoniously with business aims (Wagner & Schaltegger., 2012). This integration not only contributes to environmental preservation but also holds potential to enhance financial performance and fortify competitive standing within the market.

## Discussion

The integration of green management and performance evaluation constitutes a pivotal element in ensuring that sustainability endeavors undertaken by enterprises transcend mere symbolic gestures, instead yielding tangible and quantifiable effects on environmental outcomes (Lozano, 2011). By forging a connection between green management practices and performance evaluation, organizations can harmonize sustainability objectives with overarching business aims, monitor the trajectory of progress, and propel continuous enhancement (Rodríguez., 2010). The primary focus of discussion revolves around the amalgamation of green management and performance evaluation. Primarily, the establishment of clear and quantifiable environmental goals holds immense significance for effective green management (Delmas & Toffel, 2008). To seamlessly integrate green management and performance evaluation, enterprises must define explicit and measurable environmental goals. These objectives should be precise, pertinent, and bounded by time-frames, allowing for regular assessments of progress and identification of areas necessitating refinement (Wagner & Schaltegger., 2012). Through alignment of these objectives with the comprehensive business strategy, organizations can ensure the assimilation of sustainability efforts into core operations, rather than treating them as isolated undertakings. Secondly, the identification and delineation of key performance indicators constitute a critical facet for appraising the efficacy of green management practices (Hart & Caggiano, 2003). Key performance indicators may vary contingent upon the industry and the specific environmental impacts that warrant attention. Common key performance indicators encompass energy consumption, greenhouse gas emissions, water usage, waste generation, and the adoption of sustainable procurement practices (Lozano & Huisingh, 2011). Vigilant and systematic tracking and analysis of these key performance indicators empower organizations to oversee environmental performance and pinpoint areas necessitating improvement. Furthermore, the integration of green management within performance appraisal and incentive systems stands as a pivotal strategy (Lozano & Huisingh, 2011). This fusion ensures that green management becomes an integral facet of the organizational culture. Such integration serves to reinforce sustainability goals and instigate employee engagement in green initiatives. Acknowledging and rewarding individuals and teams for the contributions toward sustainability objectives can cultivate a sense of ownership and dedication to green management (Bansal & Desjardine, 2014). Lastly, a crucial dimension of integrating green management and performance evaluation lies in comprehending its implications for financial performance. Although sustainability initiatives might initially entail costs, they have the potential to yield long-term cost savings through resource efficiency, waste reduction, and an elevated brand reputation. Enterprises should meticulously assess the financial consequences of green management practices, enabling them to make well-informed decisions in alignment with overarching financial objectives (Eccles & Krzus, 2012).

## Related theories or models

Nine theories or models employed were summarized in the 25 articles (see Table 4). Eco-efficiency Theory was used in three articles (Schaltegger et al., 2012; Fidrikova et al., 2014). Life cycle assessment was used in two articles (Cooper et al., 2010; Jeroen & Heijungs, 2011). Circular economy was used in two articles (Bocken et al., 2016; Geissdoerfer et al., 2017). Balanced scorecard was used in one articles (Kaplan & Norton, 2013). Key performance indicators was used in three articles (Parmenter, 2015; Tundys & Yudi, 2019; Melnyk et al., 2014). Total quality management was used in two articles (Oakland & Tanner, 2007; Yu et al.,



2021). Environmental management system was mentioned with highest frequency for five times (Hinds, 2007; Schaltegger et al., 2012; Christ & Burritt, 2013; Melnyk et al., 2014; Linnenluecke, 2010). Environmental performance index (Prajapati & Tripathi, 2008; Mohamad et al., 2016; Uzzaman, 2017) and green supply chain management (Govindan et al., 2013; Pagell & Zhao, 2009; Wichmann et al., 2016; Seuring & Müller, 2008) were mentioned with high frequency, for three and four times respectively.

Table 4. Overview of Theories and Models Employed

Theories or models	Frequency	Reference
Eco-efficiency Theory	3	Schaltegger et al., 2012; Fidrikova et al., 2014
Life Cycle Assessment	2	Cooper et al., 2010; Jeroen & Heijungs, 2011
Circular Economy	2	Bocken et al., 2016; Geissdoerfer et al., 2017
Balanced Scorecard	1	Kaplan & Norton, 2013
Key Performance Indicators	3	Parmenter, 2015; Tundys & Yudi, 2019; Melnyk et al., 2014
Total Quality Management	2	Oakland & Tanner, 2007; Yu et al., 2021
Environmental Management System	5	Hinds, 2007; Schaltegger et al., 2012; Christ & Burritt, 2013; Melnyk et al., 2014; Linnenluecke, 2010
Environmental Performance Index	3	Prajapati & Tripathi, 2008; Mohamad et al., 2016; Uzzaman, 2017
Green Supply Chain Management	4	Govindan et al., 2013; Pagell & Zhao, 2009; Wichmann et al., 2016; Seuring & Müller, 2008

### Research Contribution

The paper's contribution lies in its synthesis of these concepts and the exploration of the integration. By highlighting the importance of aligning green management practices with performance evaluation, the paper emphasizes that environmental sustainability should be an integral part of an organization's strategic goals and daily operations. This kind of integration not only ensures the measurement of environmental progress but also fosters a culture of continuous improvement and innovation.

### Significance

The significance of implementing green management system can be understood from different perspectives. From the aspect of environmental conservation, one of the primary objectives of a green management system is to reduce the negative impact of business activities on the environment. By adopting eco-friendly practices, such as waste reduction, energy efficiency, and sustainable sourcing, an organization can contribute to the

conservation of natural resources and ecosystems (Mangla et al., 2018). Greenhouse gas emissions from human activities are major contributors to climate change. By implementing sustainable practices, such as adopting renewable energy sources and reducing carbon footprints, companies can play a vital role in mitigating the adverse effects of climate change (Richard, 2020). Taking action now is crucial to safeguarding the planet for future generations. This proactive approach can help mitigate the environmental damage caused by various industries (Moridaira & Kobayashi, 2018). From the aspect of cost savings, green management systems often lead to cost savings in the long run. Energy-efficient processes and waste reduction measures can help lower operational costs and optimize resource utilization. Additionally, avoiding environmental violations and associated fines can protect businesses from potential financial losses (Ahammad et al., 2016). From the aspect of innovation and competitive advantage, embracing green practices often stimulates innovation within a company. Seeking environmentally friendly alternatives may lead to the development of new technologies and products that can provide a competitive edge in the market. In a world where sustainable practices are becoming increasingly valued, being at the forefront of green initiatives can be a significant advantage (Taylor, 2001).

Overall, a green management system is not just about minimizing negative impacts; it is a strategic approach that offers numerous benefits to the organization, the environment, and society as a whole. By embracing sustainable practices and taking an active role in environmental stewardship, businesses can create a brighter and greener future.

### **Conclusion**

Findings of this review research showed the importance of green management system related to enterprise performance evaluation and a positive relationship between green management and performance in enterprise. This review underscores that the successful integration of these two aspects requires clear and measurable environmental goals, the identification of relevant key performance indicators, and the incorporation into performance appraisal and incentive systems. Transparency in reporting environmental performance and considering the financial implications of sustainability efforts are also crucial elements of the integration process. This integration contributes not only to environmental preservation but also to improved financial performance and enhanced market competitiveness.

Ultimately, The research presented in this paper serves as a valuable resource for enterprises aiming to adopt sustainable practices while maximizing the operational efficiency and profitability. The comprehensive exploration of green management and performance evaluation, coupled with the insights into the integration, provides a foundation for informed decision-making and strategic planning. In the same time the research not only contributes to the existing body of knowledge but also paves the way for further research and practical implementation of green management practices in the context of performance evaluation within enterprises. The major conclusion that related to the review was presented in Table 5.

Table 5 Major Conclusion of the Review

Aspect	Main concept
Green management in enterprises	practices and strategies implemented by enterprises to minimize the ecological footprint
	Drivers and motivations for green management Adoption
	Green Management in business strategy
	Green marketing has become an essential component of green management strategies
Performance Evaluation in Enterprise	green management practices
	Individual performance evaluation
	Team performance evaluation
	Departmental Performance evaluation
	Key Performance Indicators
The integration of green management and performance evaluation	Performance Management Systems
	Setting Clear and Measurable Environmental Goals
	Key Performance Indicators for Green Management
	Integration into Performance Appraisal and Incentive Systems
	Impact on Financial Performance
	Continuous Improvement and Learning

In summary, this research paper has made substantial contributions to the fields of green management and performance assessment within enterprises. It underscores the vital significance of integrating green management practices with performance evaluation, highlighting the importance of well-defined environmental objectives, relevant key performance indicators, and alignment with overall business strategies. The paper not only emphasizes a positive correlation between green management and enhanced performance but also provides insights into the financial implications and the importance of transparency in reporting. This study bridges the divide between environmental sustainability and business success, emphasizing the necessity for organizations to prioritize green management as a strategic element, with potential benefits including cost savings, innovation, and a competitive edge. Moreover, it serves as a valuable resource for enterprises seeking to embrace sustainable practices while optimizing operational efficiency and profitability. In a broader context, the research addresses contemporary environmental challenges and offers a roadmap for businesses to assume environmental responsibility while maintaining competitiveness. Additionally, it lays the groundwork for further research and practical implementation of green management practices, contributing to a more sustainable and environmentally conscious business landscape.

#### Declaration of Interests

We affirm that there are no pertinent financial or non-financial conflicts of interest to disclose.

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**References**

- Abi, M. , Kessler, A. , Oosterveer, P. , & Tolossa, D. . (2018). Understanding the spontaneous spreading of stone bunds in ethiopia: implications for sustainable land management. *Sustainability*, 10(8).
- Aguinis, H., & Pierce, C. A. (2008). Enhancing the relevance of organizational behavior by embracing performance management research. *Journal of Organizational Behavior*, 29(1), 139-145.
- Agyabengmensah, Y. , Ahenkorah, E. N. K. , & Korsah, G. N. A. . (2019). The mediating roles of supply chain quality integration and green logistics management between information technology and organisational performance. *Journal of Supply Chain Management Systems*, 8(4), 1-17.
- Ahammad, M. F. , Tarba, S. Y. , Liu, Y. , & Glaister, K. W. . (2016). Knowledge transfer and cross-border acquisition performance: the impact of cultural distance and employee retention. *International Business Review*, 66-75.
- Amini, A. , & Alinezhad, A. . (2016). Development of data envelopment analysis for the performance evaluation of green supply chain with undesirable outputs. *International Journal of Supply and Operations Management*, 3(2), 1267-1283.
- Aragon-Correa, J. A. , Garcia-Morales, V. J. , & Cordon-Pozo, E. . (2007). Leadership and organizational learning's role on innovation and performance: lessons from spain. *Industrial Marketing Management*, 36(3), 349-359.
- Bansal, P. , & Desjardine, M. R. . (2014). Business sustainability: it is about time. *Strategic Organization*, 12(1), págs. 70-78.
- Benneworth, P. S. . (2016). Strategies for the new economy. *5th ASEM Rectors' Conference and Students' Forum, ARC 2016: Employability: Asia and Europe Prepare the new generation*.
- Bocken, N. M. P. , De Pauw, I. , Bakker, C. , & Bram, V. D. G. . (2016). Product design and business model strategies for a circular economy. *Journal of Industrial and Production Engineering*, 33(5), 1-13.
- Cascio, W. , & Boudreau, J. . (2014). Hr strategy: optimizing risks, optimizing rewards. *Journal of Organizational Effectiveness: People and Performance*(1).
- Christ, K. L. , & Burritt, R. L. . (2013). Environmental management accounting: the significance of contingent variables for adoption. *Journal of Cleaner Production*, 41(FEB.), 163-173.
- Cooper, J. , Vigon, B. , Curran, M. A. , & Franklin, B. . (2010). Life cycle assessment in management, product and process design, and policy decision making: a conference report. *Integrated Environmental Assessment & Management*, 1(1), 60-65.
- Czyewski, B. , Matuszczak, A. , Grzelak, A. , Guth, M. , & Majchrzak, A. . (2019). Environmental sustainable value in agriculture revisited: how investment subsidies foster eco-efficiency. *Roczniki (Annals)*, 2019.
- David Patón-Romero, Baldassarre, M. T. , Moisés Rodríguez, & Piattini, M. . (2019). Auditing green it governance and management with cobit 5. *ISACA Journal*, 4, 1-5.
- Delmas, M. A. , & Toffel, M. W. . (2008). Organizational responses to environmental demands: opening the black box. *Strategic Management Journal*, 29(10).
- Denisi, A. S. , & Pritchard, R. D. . (2010). Performance appraisal, performance management and improving individual performance: a motivational framework. *Management and Organization Review*, 2(2), 253-277.
- Driver, M. . (2012). An interview with michael porter:social entrepreneurship and the transformation of capitalism. *Academy of management learning & education*(3), 11.
- Eccles, R. G. , & Krzus, M. P. . (2012). One report (integrated reporting for a sustainable

- strategy) || it\'s time for one report. , *10.1002/9781119199960*, 145-179.
- Elena, F. T. , Mihaela, M. , Elena, B. G. , & Kurth, B. L. . (2020). Study on methods for evaluating employees performance in the context of digitization. *Proceedings of the International Conference on Business Excellence*.
- Fercoq, A. , Lamouri, S. , & Carbone, V. . (2016). Lean/green integration focused on waste reduction techniques. *Journal of Cleaner Production*, *137*(nov.20), 567-578.
- Fidrikova, A. S. , Grishina, O. S. , Marichev, A. P. , & Rakova, X. M. . (2014). Energy-efficient technologies in the construction of school in hot climates. *Applied Mechanics & Materials*, *587-589*, 287-293.
- Flammer, C. . (2016). Does corporate social responsibility lead to superior financial performance? a regression discontinuity approach. *Social Science Electronic Publishing*, *61*(11), págs. 2549-2568.
- Fleenor, & John, W. . (2015). Herman aguinis. performance management. 3rd edition, boston, ma: pearson, 2013, 322 pages, \$146.60 hardcover. *Personnel Psychology*, *68*(1), 217–220.
- Franco-Santos, M. , Kennerley, M. , Micheli, P. , Martinez, V. , Mason, S. , & Marr, B. , et al. (2013). Towards a definition of a business performance measurement system. *International Journal of Operations & Production Management*, *27*(8), 784-801.
- Garengo, P. , Sardi, A. , Nudurupati, S. S. , Huatuco, D. L. , & Shaw, D. N. . (2022). Human resource management (hrm) in the performance measurement and management (pmm) domain: a bibliometric review. *International journal of productivity and performance management*.
- Geissdoerfer, M. , Savaget, P. , Bocken, N. M. P. , & Hultink, E. J. . (2017). The circular economy a new sustainability paradigm?. *Journal of cleaner production*(Feb.1), 143.
- Govindan, K. , Khodaverdi, R. , & Jafarian, A. . (2013). A fuzzy multi criteria approach for measuring sustainability performance of a supplier based on triple bottom line approach. *Journal of Cleaner Production*, *47*(may), 345-354.
- Hackman, J. R. . (2012). From causes to conditions in group research. *Journal of Organizational Behavior*, *33*(3), 428-444.
- Hart, S. L. , & Caggiano, M. J. . (2003). Creating sustainable value [and executive commentary]. *The Academy of Management Executive* (1993-2005), *17*(2), 56-69.
- Hart, S. L. , & Dowell, G. . (2011). A natural-resource-based view of the firm: fifteen years after. *Journal of management*(5), 37.1464-1479.
- Hinds, A. . (2007). Houston world's 10th largest port -- combines business with respect for environment through iso 14001. *ISO Management Systems*(1), 7.
- Houshyar, M. , & Sotudeh, H. . (2018). A reflection on the applicability of google scholar as a tool for comprehensive retrieval in bibliometric research and systematic reviews. *International Journal of Information Science and Management*, *16*(2), 1-17.
- Iaki, Heras-Saizarbitoria, Olivier, & Boiral. (2012). Iso 9001 and iso 14001: towards a research agenda on management system standards\*. *International Journal of Management Reviews*, *15*(1), 47-65.
- Javid, H. , Monfared, F. S. A. , & Aghamoosa, R. . (2016). Internal brand management relationship with brand citizenship behavior, job satisfaction and commitment in saipa teif company. *Procedia Economics and Finance*, *36*, 408-413.
- Jeffre, C. D. V. , De Villiers, C. , Rinaldi, L. , & Unerman, J. . (2014). Accounting, auditing & accountability journal integrated reporting: insights, gaps and an agenda for future research. *Accounting, Auditing & Accountability Journal*, *27*(7), 1042-1067.

- Jeroen B. Guinée, & Heijungs, R. . (2011). Life cycle sustainability analysis. *Journal of Industrial Ecology*, 15(5).
- José S.I. Juan Romero Rodríguez. (2010). "vision 2050. the new agenda for business". *Revista de Fomento Social*, 162-163.
- Kaplan, R. S. , & Norton, D. P. . (2013). The strategy map: guide to aligning intangible assets. *Strategy & Leadership*, 32(5), 10-17.
- Karpf, A. , & Mandel, A. . (2017). Does it pay to be green?. *Social Science Electronic Publishing*.
- Kim, J. H. , Shin, D. W. , & Cha, H. S. . (2007). Development of the construction waste management performance evaluation tool (wmpet): quantification of waste management performance factors and establishment of waste management performance evaluation tool. *Isarc Proceedings*, 8(4), 128-136.
- Lee, C. , & Nowell, B. . (2014). A framework for assessing the performance of nonprofit organizations. *American Journal of Evaluation*.
- Linnenluecke, M. K. , & Griffiths, A. . (2010). Corporate sustainability and organizational culture. *Journal of World Business*, 45(4), 357-366.
- Lozano, R. , & Huisingh, D. . (2011). Inter-linking issues and dimensions in sustainability reporting. *Journal of Cleaner Production*, 19(2-3), 99-107.
- Lozano, R. . (2011). The state of sustainability reporting in universities. *International Journal of Sustainability in Higher Education*, 12(1), 67-78.
- Luchs, M. G. , Brower, J. , & Chitturi, R. . (2012). Product choice and the importance of aesthetic design given the emotion-laden trade-off between sustainability and functional performance. *Journal of Product Innovation Management*, 29(6), p.903-916.
- Mancini, M. S. , Galli, A. , Niccolucci, V. , Lin, D. , Bastianoni, S. , & Wackernagel, M. , et al. (2016). Ecological footprint: refining the carbon footprint calculation. *Ecological Indicators*, 61(FEB.PT.2), 390-403.
- Mangla, S. K. , Luthra, S. , Mishra, N. , Singh, A. , & Dwivedi, Y. . (2018). Barriers to effective circular supply chain management in a developing country context. *Production Planning and Control*, 29(6), 551-569.
- Maniora, J. . (2017). Is integrated reporting really the superior mechanism for the integration of ethics into the core business model? an empirical analysis. *Springer Netherlands*(4).
- Melnyk, S. A. , Bititci, U. , Platts, K. , Tobias, J. , & Andersen, B. . (2014). Is performance measurement and management fit for the future?. *Management Accounting Research*, 25(2), 173-186.
- Mohamad Asrul Mustapha, Zainuddin Abdul Manan, Sharifah Rafidah Wan, & Alwi. (2016). A new green index as an overall quantitative green performance indicator of a facility. *Clean Technologies & Environmental Policy*.
- Moridaira, S. , Ito, H. , & Kobayashi, H. . (2018). An analysis of notes linked to the solactive sustainable development goals world rc eur index issued by the world bank. *Communications of the Japan Association of Real Options and Strategy*, 10(1), 29-41.
- Mousa, R. M. A. . Nutritional assessment of biscuits formulated by simultaneous substitution with sweet white lupinoil and extracted flour after germination. *Food & Public Health*.
- Oakland, J. S. , & Tanner, S. . (2007). Successful change management. *Total Quality Management & Business Excellence*, 18(1-2), 1-19.
- Pagell, M. , & Zhaohui, W. U. . (2009). Building a more complete theory of sustainable supply chain management using case studies of ten exemplars. *Journal of Supply Chain Management*, 45(2), 37-56.

- Parmenter, D. . (2015). *Key Performance Indicators: Developing, Implementing, and Using Winning KPIs, Third Edition*.
- Popescu, D. I. . (2019). Social responsibility and business ethics: ix. green management and sustainable development of the firm. *Quality - Access to Success*, 20(168), 135-138.
- Prajapati, S. K. , & Tripathi, B. D. . (2008). Anticipated performance index of some tree species considered for green belt development in and around an urban area: a case study of varanasi city, india. *Journal of Environmental Management*(4), 88.
- Rao, P. , & Holt, D. . (2005). Do green supply chains lead to economic performance?. *International Journal of Operations & Production Management*, 25(9), 898-916.
- 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.
- Richard, C. . (2020). Renewables must grow faster to electrify most polluting sectors. *Windpower monthly*(10), 36.
- Romme, A. G. L. , & Endenburg, G. . (2006). Construction principles and design rules in the case of circular design. *Organization Science*, 17(2), 287-297.
- Sarkis, J. , Zhu, Q. , & Lai, K. H. . (2011). An organizational theoretic review of green supply chain management literature. *INTERNATIONAL JOURNAL OF PRODUCTION ECONOMICS.* , 130(1), 1-15.
- Savage, P. . (2012). Effective teamwork: practical lessons from organizational research. *Chemistry in Australia*(7), 79.
- Seuring A, S. , & Martin Müller b. (2008). From a literature review to a conceptual framework for sustainable supply chain management. *Journal of Cleaner Production*, 16( 15), 1699-1710.
- Schaltegger, S. , Florian Lüdeke-Freund, & Hansen, E. G. . (2012). Business cases for sustainability: the role of business model innovation for corporate sustainability. *Inderscience Publishers Ltd*(2).
- Schaltegger, S. , Hansen, E. G. , & Florian Lüdeke-Freund. (2016). Business models for sustainability: origins, present research, and future avenues. *SAGE Publications*(1).
- Sidik, M. H. J. , Yadiati, W. , Lee, H. , & Khalid, N. . (2019). The dynamic association of energy, environmental management accounting and green intellectual capital with corporate environmental performance and competitive. *International Journal of Energy Economics and Policy*, 9.
- Smith, & Alan, D. . (2012). Green manufacturing in the packaging and materials industry: case study of small-to-medium sized corporate eco-friendly initiatives. *International Journal of Logistics Systems & Management*, 11(4), 429-449.
- Taylor, C. G. (2001). Globalization and the environment: determinants of firm self-regulation in china. *Journal of International Business Studies*, 32(3), 439-458.
- Tundys, B., & Yudi, F. (2019). Sustainable supply chain management - key performance indicators (kpi) as an element for measuring of processes. *Transport Economics and Logistics*, 83, 31-50.
- Uzzaman, A. (2017). Impact of co2 emission, per capita income and hdi on environmental performance index: empirical evidence from bangladesh. *International Journal of Green Economics*, 10(4).
- Wagner, M., & Schaltegger, S. (2012). Sustainable entrepreneurship and sustainability innovation: categories and interactions. *Business Strategy & the Environment*, 32(2),



110-111.

- Wichmann, B. K. , Carter, C. R. , Kaufmann, L. , & Wilson, J. R. . (2016). Making environmental scm initiatives workmoving beyond the dyad to gain affective commitment. *Journal of supply chain management*(1), 52.
- Yang, D. , Zhang, A. N. , & Yan, W. . (2017). Performing literature review using text mining, Part I: Retrieving technology infrastructure using Google Scholar and APIs. *IEEE International Conference on Big Data*. IEEE.
- Ying-Tin, Z. , & Mei-Tian, W. . (2012). Research on the performance evaluation of petrochemical enterprise green logistics based on fuzzy comprehensive evaluation. *Contemporary Chemical Industry*.
- Yu, Y. , Zhang, M. , & Huo, B. . (2021). The impact of supply chain quality integration on green supply chain management and environmental performance. *Quality Control and Applied Statistics*(5/6), 66.
- Zhou, Y. . (2019). Research on enterprise green management under the background of ecological civilization construction. *International Core Journal of Engineering*, 5(11), 130-134.