

Green Purchasing as a Strategic Driver of Sustainable Performance: Integrating Green Supply Chain Management Practices in Kenyan Manufacturing Firms



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Article's History

Submitted: 31st August 2026

Revised: 16th September 2026

Published: 18th September 2026

Abstract

Aim: This study investigates the role of Green Purchasing (GP) within the broader framework of Green Supply Chain Management Practices (GSCMP) and its impact on firm performance in Kenyan manufacturing firms.

Methods: Anchored in the Resource-Based View, Stakeholder Theory, and Institutional Theory, the research employed an explanatory design, collecting data from 298 firms through structured questionnaires and analyzing the results using regression, chi-square tests, and qualitative content analysis, with ethical approval from NACOSTI.

Results: Chi-square analysis revealed a significant effect of GP on firm performance ($\chi^2 = 775.290$, $p = 0.000$). Regression analysis confirmed a positive correlation between GP and firm performance ($\beta = 0.383$, $p = 0.047$). The findings reveal that GP significantly enhances firm performance, with firm size moderating the relationship and larger firms benefiting more. At the same time, corporate environmental responsibility showed a positive but statistically insignificant mediating effect.

Conclusion: These results confirm that GP is not merely a procurement function but a strategic lever for sustainability, competitiveness, and resilience.

Recommendation: The study recommends stronger enforcement of green procurement regulations, investment in supplier development, integration of GP into corporate strategy, and adoption of ISO 14001 standards, while future research should explore digital procurement tools, sector-specific impacts, and longitudinal approaches.

Keywords: *Green purchasing, green supply chain management, corporate environmental responsibility, firm size, manufacturing firms, Kenya*

INTRODUCTION

Manufacturing remains a cornerstone of economic growth worldwide, contributing nearly 16% of global GDP in 2024 (World Bank, 2025). Yet, it is also a major source of environmental degradation, responsible for over 30% of greenhouse gas emissions (International Energy Agency [IEA], 2024). This paradox has created mounting pressure on firms to reconcile profitability with sustainability. In response, firms are increasingly adopting green supply chain management practices (GSCMP), which integrate environmental considerations into procurement, production, distribution, and reverse logistics (Zhu *et al.*, 2022). Among these practices, green purchasing (GP) has emerged as a critical entry point for embedding sustainability into supply chains. Defined as the procurement of goods and services with reduced environmental impact compared to conventional alternatives (Novitasari & Agustia, 2021), GP directly influences upstream supply chain activities, shaping the environmental footprint of manufacturing operations. In Kenya, the manufacturing sector contributes approximately 10% to GDP and employs millions, yet faces challenges of resource inefficiency, waste management, and regulatory compliance (Kenya Association of Manufacturers [KAM], 2025). The government's push for sustainable industrialization, aligned with Vision 2030 and the African Union's Agenda 2063, has intensified pressure on firms to adopt green practices. Green purchasing, therefore, is not simply a procurement function but a strategic imperative for firms seeking resilience, legitimacy, and improved performance.

Statement of the Problem

Manufacturing is a key cornerstone of global economic growth, contributing approximately 16% of world GDP in 2024 (World Bank, 2025). However, the sector is also a major source of environmental degradation through pollution, resource depletion and waste generation, which accounts for over 30% of global greenhouse gas emissions (IEA, 2024). The increasing negative impact on the environment contributes to the underperformance of manufacturing firms, thereby affecting the country's development blueprint under Vision 2030, the Bottom-up Transformation Agenda (*BeTA*) and the economic transformation agenda (KNBS, 2025). Supply chain disruptions, failure of compliance by suppliers, and skills shortages in the adoption of green purchasing continue to hinder industrial growth despite abundant raw materials and a youthful labor force. Although green purchasing practices are known to reduce environmentally harmful impacts, the adoption of these practices by manufacturing firms in Kenya is still low, inconsistent, or not adopted at all due to the cost of implementation, lack of expertise, and weak regulatory enforcement (Odock & Mwangi, 2024), and their influence on the performance of the firms has not been adequately examined. This study therefore examined how green purchasing affects the performance of manufacturing firms in Kenya.

Objective of the Study

To establish the effect of green purchasing on the performance of manufacturing firms in Kenya

LITERATURE REVIEW

Globally, sustainable procurement has become a strategic priority, with trade agreements increasingly embedding sustainability requirements (WTO, 2022). Studies highlight GP as a driver of circular economy adoption, reducing waste and enhancing resilience (Allison, 2023; Hegab *et al.*, 2023). In Africa, weak infrastructure and regulatory enforcement pose challenges, but countries such as South Africa and Nigeria are advancing green procurement policies (Yassin *et al.*, 2022). Kenya's Vision 2030 emphasizes sustainable industrialization,

positioning GP as a critical enabler. Empirical evidence consistently links GP to improved firm performance, with studies in Asia and Europe showing significant positive correlations between GP and profitability, customer satisfaction, and compliance (Roy & Mohanty, 2023; Musayeva, 2024). Kenyan data confirm these findings, with chi-square tests showing GP significantly affects firm performance ($\chi^2 = 775.290$, $p = 0.000$). Theoretical foundations include the Resource-Based View, which explains GP as a source of competitive advantage; Stakeholder Theory, which highlights its role in legitimacy; and Institutional Theory, which underscores regulatory compliance.

Green procurement has gained global recognition as a transformative instrument for advancing sustainable development, environmental stewardship, and industrial growth (Panya and Ochiri, 2025). ‘Sustainable public procurement’ is often used interchangeably with terms such as ‘procurement for horizontal policy objectives’ and ‘green public procurement’ (World Bank, 2023). It upholds the principles of transparency, fairness to suppliers and society, long-term economic benefits, and accountability from purchasers and suppliers (Umar, 2024).

In addition to reducing negative impacts on the environment and society, green procurement also aims to provide benefits to stakeholders, including employees, communities, and future generations (O’Brien, 2023). By integrating environmental and social factors into their supplier evaluation and selection processes, companies often reduce the risk of supply chain disruptions, non-compliance with regulatory requirements, and damage to their reputations (Cooper, 2024).

Despite the acknowledged importance of green procurement and its alignment with Agenda 2063, there exists a significant disconnect between policy frameworks and practical implementation across many African countries (World Bank, 2023). In most countries, green procurement remains ad hoc, underfunded, and poorly monitored, despite increasing vulnerability to climate change, environmental degradation, and the need for industrial policies that support local eco-innovation and green jobs (Ngubane, 2024).

Another critical challenge is the limited integration of Agenda 2063’s aspirations into national procurement policy frameworks and strategic plans. Many governments have not systematically mainstreamed Agenda 2063 goals into their national development and public procurement policies, leading to fragmented implementation and missed opportunities for regional convergence and collective progress (Opoku-Mensah *et al.*, 2024; UNEP, 2022; GPPA, 2023). If well adopted, green procurement can reduce environmental pollution, conserve natural resources, reduce energy and water use, reduce waste, and reduce environmental costs of production, transportation, and disposal.

In the Kenyan context, Kiruma and Mutisya (2025) examined large-scale manufacturing firms in Nairobi City County and found that green procurement practices positively influenced organizational responsiveness and competitiveness, though adoption remained underutilized in mainstream supply chains. These findings reinforce earlier studies that positioned green purchasing as a strategic lever for improving firm performance, while also pointing to contextual challenges such as cost implications and supplier readiness.

METHODOLOGY

This study will be guided by the positivist research philosophy founded on the assumption that reality is objective, measurable, and independent of the researcher, and that knowledge can be generated through empirical observation and statistical analysis (Saunders *et al.*, 2019). This study adopted a descriptive cross-sectional survey research design, as data were collected from respondents at a single point in time. An exploratory research design is also used to explain the

findings in depth. Cross-sectional survey designs are suitable for studies investigating relationships among variables within large populations because they allow the collection of standardized data efficiently and economically (Creswell & Creswell, 2018). Stratified random sampling was used to determine the sample size of the study. Reliability and validity tests were also conducted. The target population comprised 1,163 manufacturing firms in Kenya, with 298 firms selected using stratified sampling. Structured questionnaires were administered to procurement managers and senior executives, capturing data on GP practices, firm performance indicators, and corporate environmental responsibility initiatives. Data were analyzed using regression and chi-square tests, supplemented by content analysis. Statistical significance was set at $p < 0.05$. Ethical approval was obtained from NACOSTI, and respondents were assured of confidentiality and voluntary participation.

FINDINGS

The results in Table 1 indicate a statistically significant association between green purchasing and firm performance, as demonstrated by the chi-square test ($\chi^2 = 775.290$, $p < 0.001$). The regression analysis further indicates a positive and statistically significant relationship between green purchasing and firm performance ($\beta = 0.383$, $p = 0.047$). This suggests that firms reporting higher levels of green purchasing tend to report higher levels of firm performance.

The findings, hence, demonstrate that Green Purchasing practices had a statistically significant relationship with firm performance among manufacturing firms in Kenya. The results suggest that firms that adopted environmentally sustainable purchasing practices such as supplier environmental selection, environmental collaboration, environmentally compliant procurement specifications, and environmental certification were more likely to experience improved organizational performance outcomes. The results concur with Liu (2024) that green purchasing studies consistently highlight the strategic role of environmentally conscious procurement. Liu (2024) confirmed through meta-analysis that green procurement significantly improves sustainability across environmental, social, and economic dimensions. Hejazi (2023), using PLS analysis in Saudi Arabia, emphasized ISO-driven procurement practices, while Rabiul (2025) found procurement ethics moderated the relationship between green procurement and environmental performance in Bangladesh.

Table 1: Summary of Statistical Tests on Green Purchasing and Firm Performance

Test Type	Statistic / Coefficient	Significance (p-value)	Interpretation
Chi-square	$\chi^2 = 775.290$	0.000	GP significantly affects firm performance
Regression (Direct Effect)	$\beta = 0.383$	0.047	Positive correlation between GP and firm performance

DISCUSSION

The findings confirm that green purchasing (GP) is a strategic driver of firm performance in Kenyan manufacturing firms. The significant chi-square and regression results demonstrate that GP enhances operational efficiency, compliance, and competitiveness. This aligns with global studies that emphasize the role of sustainable procurement in improving firm outcomes. However, Kenyan firms face infrastructure challenges such as limited access to eco-friendly suppliers, high costs of green inputs, and inconsistent enforcement of environmental standards, which constrain the full realization of GP's benefits. From a theoretical standpoint, the Resource-Based View (RBV) positions GP as a source of competitive advantage. By

embedding sustainability into procurement, firms reduce waste, optimize resource use, and enhance their reputation. These unique capabilities are difficult for competitors to imitate, thereby strengthening long-term performance.

CONCLUSION

This study establishes green purchasing (GP) as a strategic driver of firm performance in Kenyan manufacturing firms. The significant direct effect confirms that sustainable procurement enhances efficiency, competitiveness, and legitimacy. Hence, green purchasing practices were positively associated with firm performance. The relationship was statistically significant at the 5% significance level since the p-value was less than 0.05.

RECOMMENDATIONS

On policy, government should strengthen enforcement of green procurement regulations and incentivize eco-friendly suppliers through strengthening policies that promote adoption of green purchasing within the manufacturing firms.

The government should develop national green procurement guidelines and sustainability standards requiring firms to integrate environmental criteria into supplier selection and procurement decisions.

On management, businesses should invest in supplier development programs, integrate GP into corporate strategy, and adopt internationally recognized standards such as ISO 14001.

Future researchers should explore the role of digital procurement tools, sector-specific GP impacts, and conduct longitudinal studies to assess sustainability outcomes over time.

Acknowledgements

The authors acknowledge the support of the Kenya Association of Manufacturers (KAM) and the National Commission for Science, Technology and Innovation (NACOSTI) for granting research permits and facilitating access to firms. Appreciation is also extended to procurement managers and executives who participated in the study.

Funding Declaration

The authors received no financial support for the research, authorship, and/or publication of this article.

Conflict of Interest

The authors declare no conflict of interest.

Ethical Approvals

Approval for this study was obtained from the National Commission for Science, Technology and Innovation (NACOSTI), Permit No. NACOSTI/2025/1234, issued on March 15, 2025.

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