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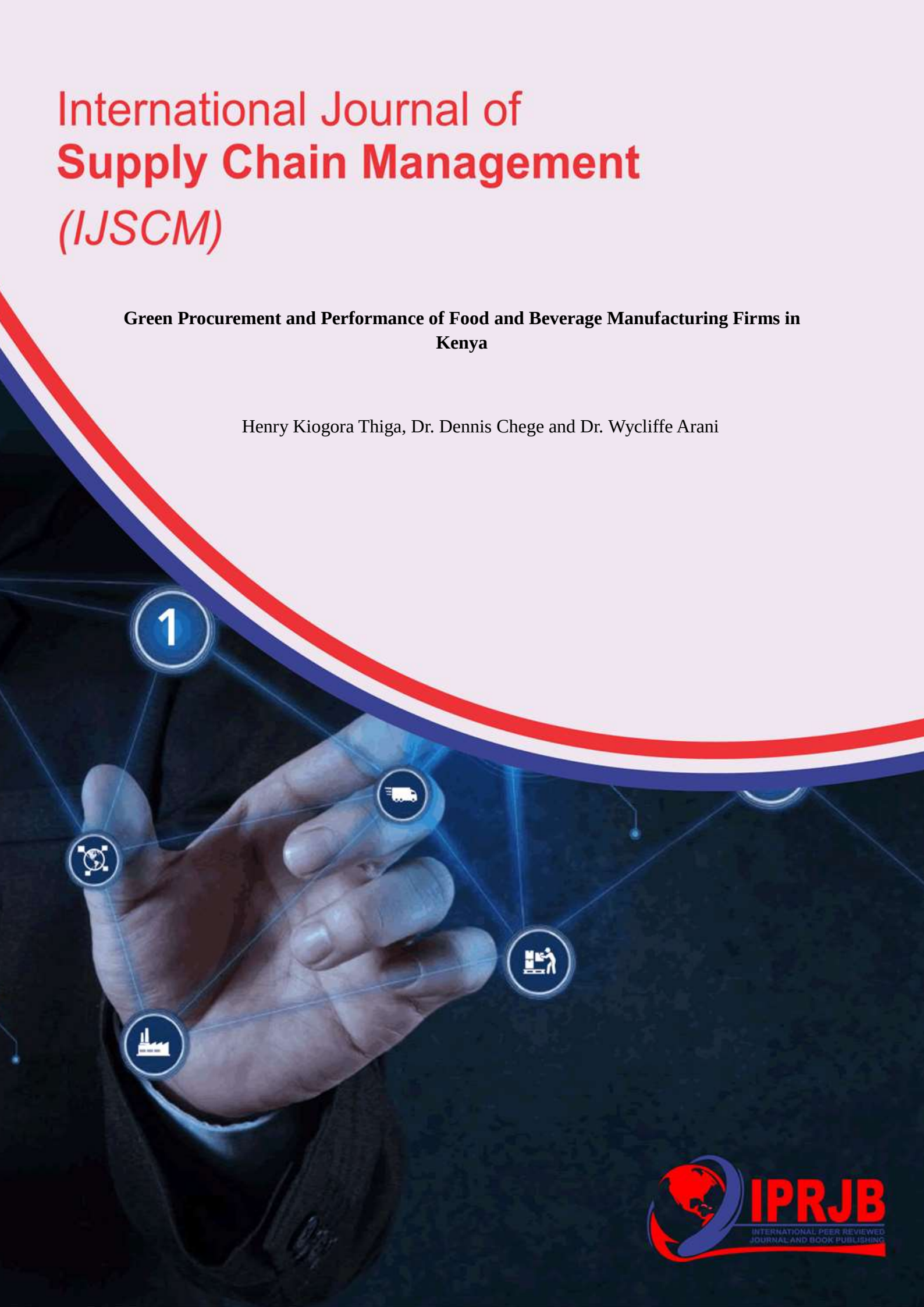

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Green Procurement and Performance of Food and Beverage Manufacturing Firms in Kenya

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Abstract

Purpose: The purpose of this study was to determine the relationship between green procurement and the performance of food and beverage manufacturing firms in Kenya.

Methodology: An explanatory research design was employed in the study. All 172 of Kenya's registered food and manufacturing businesses were considered using the census approach. Using questionnaires, primary data was gathered. This study employed 172 questionnaires. Version 25 of the SPSS statistical program was used to analyze the data. The primary data was analyzed using descriptive and inferential statistical analysis techniques. Descriptive statistics gives the profile of the respondents, that is, the frequencies and their percentages; whereas inferential statistics adopts a hierarchical, moderated, multiple regression analysis model in order to determine the effect of the explanatory variable.

Findings: The study found that there is a correlation of 0.701 between green procurement and the success of Kenyan food and beverage manufacturing companies. Green procurement accounted for 48.7% of the variation in the performance of food and beverage manufacturing firms in Kenya.

Unique Contribution to Theory, Practice and Policy: Strategic Choice theory was adopted and validated. By incorporating stakeholders, assessing policy choices, making educated judgments, aligning with capacities, adjusting to changes, minimizing risks, and encouraging cooperation for sustainable procurement practises, Strategic Choice Theory could assist Kenya in developing a complete green procurement policy. The study found that implementing green procurement would; conserve the environment, reduce unnecessary costs to a firm, improve customer satisfaction, improve firm reputation, increase product acceptance, and increase the sales volume.

Keywords: *Green Procurement, Food and Beverage Manufacturing firms, Supplier Involvement*

INTRODUCTION

Green procurement can be defined as a decision-making process in which purchasers seek to acquire items, services, and projects that have a scaled-down negative environmental effect throughout their life-cycle in comparison to similar commodities, services, and projects that would otherwise be bought. (Dinu, 2020). Driven by bottom-line performance, leading personal sector corporations see green procurement as a logical part of effective purchasing and supply chain management practices. Private corporations usually use in-house and third-party evaluations to form well-read green procurement choices. Private corporations however are disinclined to determine green procurement activities unless there are demonstrated business advantages for themselves and/or their customers (Sarkis, 2015). Green practices for managing the supply chain, as defined by (Rakani,2010) is the incorporation of natural reasoning into SCM, considering item plan, provider choice, material obtaining, fabricating processes, item bundling, conveyance of item to the customers and the end life the board of the item after its utilization. It deals with the purchase of products that are designed with environmental objectives and impact in mind. Practice involves cross-functional teams, supplier input, expertise and technology in response to customer demands. Such practices constitute implied, firm specific and inimitable strategic resources (Kirchoff, 2016).

Statement of the Problem

According to Kiiru and Ogutu (2017), Food and beverage Manufacturing firms in Kenya have been facing a challenge of formulating and implementing a robust framework for Green Supply Chain Management that strategically integrates green procurement practices, sustainable packaging solutions, and efficient reverse logistics processes within Kenya's manufacturing sector, with the aim of reducing environmental footprint, enhancing resource management, and fostering sustainability while maintaining competitiveness. The limited adoption of green procurement practices by food and beverage manufacturing firms in Kenya hinders the integration of environmentally friendly criteria into supplier selection and product sourcing decisions (Onditi, 2020). The application of green supply chain capabilities by manufacturing enterprises for triple-bottom-line performance has gotten little attention, despite the substantial literature on green purchasing practices and sustainability (Khan & Farooq 2022). In addition, manufacturing companies in Kenya have been experiencing diminishing profitability in their production and operations management (KAM, 2019). According to the World Bank (2018), the manufacturing sector recorded a significant drop in growth from 2.7% to 0.2%. This reduction in growth has necessitated an increase in imports which has led to a reduction in market share for food and beverage manufacturing firms in Kenya (Apurva & Conte, 2016). Customer satisfaction has decreased in the food and beverage production industry as a result of supply chain disruptions brought on by worries about food safety, a lack of supply, and rising pricing (Muthoni & Mose, 2019).

Similar studies have been done but largely focus on Asia, America and Europe with a limitation in the regional perspective. In Kenya, Nyaga & Achuora, (2020) did the same study but only narrowed on manufacturing firms in Nairobi County. Telewa (2014) did a study on sustainable

procurement but focused on public water sector. Muthoni (2020) did a study on the influence of supply chain management methods on the performance of Kenyan food and beverage manufacturing companies. This research study aimed at closing this gap by researching on Green Supply Chain Management and the performance of manufacturing firms in Kenya where all the Manufacturing firms in Kenya were considered.

LITERATURE REVIEW

The study was guided by Strategic choice Theory which was invented by Jemison in 1981. The theory assumes that relationships and interactions occur between firms' operations and certain occurrence (Kegoro & Anyango, 2020). Strategic choice theory depicts the effect of decisions made by top management on the performance of a firm along with the interaction between the internal and external organization (Addae, Nana, Boohene & Mavis, 2019). A strategic choice model by Campling and Micheson (2015) shows the connection between an organization, its actions and the resulting performance. A decision by the top management to adopt green procurement practices may position the organization at a certain level with good reputation and hence enable the organization gain a competitive edge.

SCT views a firm with managers as the staff who makes decisions and makes changes in organizations (Alshundreh, Alsharari & Al Kurdi, 2019). These decisions include sources of raw materials with no negative impact on the environment, quantities to be purchased based on demand, transportation, production scheduling and planning all which affect the achievement of organizational performance. Further, strategic choice theory indicates that a firm deploys practices such as green procurement that will foster success even in complex and vibrant environments (Ensafiari & Yaghoubi, 2017). Changes in the environment can also lead to managers making decisions at the corporate level and garnering support from other business units. Implementing green procurement practices such as acquiring and producing goods that have no negative impact to the environment enables the organization to evade unnecessary costs hence improving performance. Strategic choice theory is relevant in this study through understanding the procurement practices and processes which may be suggested by the top management with less or no negative impact to the environment and hence sustainability.

Collaboration with suppliers on environmental initiatives is critical to the firm's performance. It is essential to have reliable suppliers in order to continuously provide customers with products and services that are desirable in every aspect, such as quality, price, and environmental impact, and in a timely manner. Environmental audit is a common term that can reflect a variety of types of evaluations intended to identify environmental compliance and management system implementation gaps, along with related corrective actions. Marshall and Farahbakhsh (2013) conducted research on the impact of green specification practices on automotive procurement and concluded that there is indeed a positive relationship between green procurement and firm's performance. A study titled "Effect of Green Specification on Procurement Performance" was conducted by Zhang and Zhao (2012). a case study of Chinese textile manufacturing companies. The study confirmed that procurement performance is positively and significantly affected. Agarwal and Vijayvargy (2012) presented the same

viewpoint in their study of green procurement practices and manufacturing firm performance, and Liao and Rittscher (2013) made a similar observation in their study on the value of su[illegible] study used the following conceptual framework.

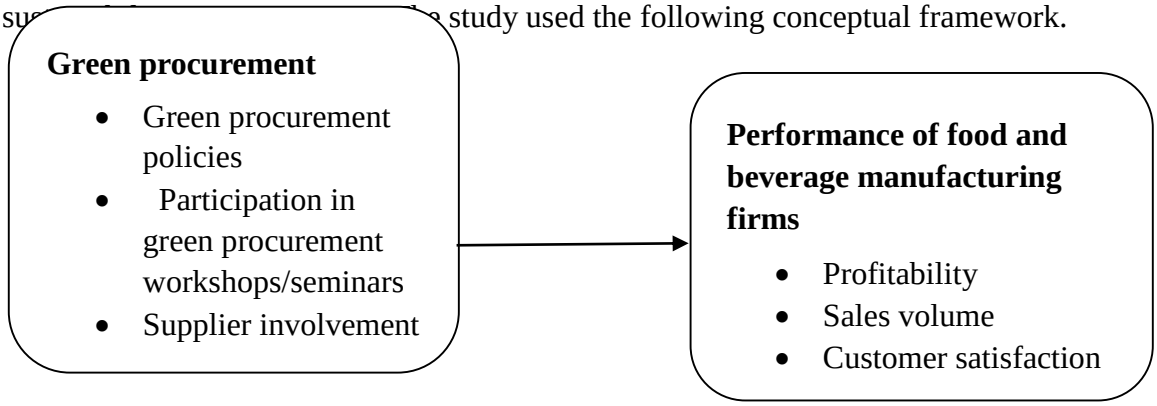

Figure 1: Conceptual Framework

METHODOLOGY

The study used an explanatory research design. The census method was used where all the 172 registered food and manufacturing firms in Kenya were considered. Primary data was collected using questionnaires. A total of 172 questionnaires were used in this study. The data was analyzed using SPSS statistical package Version 25. The primary data was analyzed using descriptive and inferential statistical analysis techniques. Inferential statistics were used to test and validate the hypothesized relationships between Green procurement and performance.

RESULTS AND DISCUSSIONS

Descriptive Statistics of Green Procurement

The respondents were asked to rate their agreement with the green procurement claims made about the performance of Kenyan companies that produce food and beverages. From Table 1, the majority of respondents with a mean of 4.729 and a standard deviation of 0.507, concurred with the assertion that the company has policies that guide the procurement and development of environmentally friendly goods. The majority of respondents, with a mean score of 4.574, concurred with the assertion that the company has designed its processes to reduce waste, with a standard deviation of 0.612 indicating that the results were slightly varied. The results indicated that only a few firms regularly visit the supplier's premises to confirm compliance with the production of environmentally friendly goods with a mean of 3.454 and a standard deviation of 1.205 which shows that the results were very varied.

With a mean of 3.451 and a standard deviation of 1.179, the data demonstrate that not all business staff frequently attends a seminar or workshop on green procurement, indicating a broad range of results. The results also show that the majority of respondents agreed with the assertion that the company had decreased its procurement of hazardous and challenging-to-recycle goods, with a mean of 4.521 and a standard deviation of 0.702. This indicates that the

results were varied. With a mean of 4.496 and a standard deviation of 0.661, the results also indicated that the majority of respondents agreed that green procurement improves firm performance.

The majority of respondents agreed that there is a correlation between green procurement and the success of Kenyan food and beverage manufacturing companies, as indicated by the average mean of all the statements, which was 4.204. However, the responses varied, as seen by the 0.811 standard deviation. According to the findings and the average of the responses, the majority of food and beverage processing companies in Kenya have been practicing green procurement. The results compare with those of Mosbei (2021), who found that Kenyan food and beverage processing companies perform significantly better when using green procurement.

Table 1: Green Procurement

Green procurement	SD %	D %	N %	A %	SA %	Mean	Std. Deviation
The firm has policies that guide on procuring and development of environmentally friendly goods	0	0	5	28	108	4.729	0.507
The firm's processes are designed to reduce waste.	0	2	6	42	91	4.574	0.612
The firm regularly visits the supplier's premises to confirm compliance with the production of environmentally friendly goods.	10	27	25	47	32	3.454	1.205
The firm's Staff regularly attends a seminar/workshop on green procurement.	10	28	24	45	33	3.451	1.179
The firm has minimized the purchase of goods that are hazardous and difficult to dispose of.	0	1	9	48	84	4.521	0.702
Implementing green procurement improves firm performance	0	2	8	49	82	4.496	0.661

Influence of Green Procurement on the Performance of Food and Beverage Manufacturing Firms in Kenya

For this particular purpose, the hypothesis to be tested was:

H_{01}: Green procurement has no significant relationship on the performance of food and beverage manufacturing firms in Kenya.

Table 2 displays the results of the analysis of the relationship between the independent variable Performance of food and beverage manufacturing firms in Kenya and the dependent variable Green procurement. There exists a positive relationship between green procurement and the performance of food and beverage manufacturing firms in Kenya with a correlation of 0.701.

Table 2: Regression Model Summary of Green Procurement on the performance of food and beverage manufacturing firms in Kenya

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.701[a]	.491	.487	.58773

a. Predictors: (Constant), Green procurement

b. Dependent Variable: Performance

From Table 3 below, the sum of squares for Regression is 46.614, indicating the amount of variation in the dependent variable explained by the predictors in the model. The sum of squares for Residual is 48.359 which represents the unexplained variation or the residual error. The significance value in this table is .000b, suggesting a very low p-value. This indicates strong evidence to reject the null hypothesis and conclude that the regression model is statistically significant.

Table 3: ANOVA Summary for Regression model of Green Procurement on the performance of food and beverage manufacturing firms in Kenya

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.614	1	46.614	134.949	.000[b]
	Residual	48.359	140	.345		
	Total	94.973	141			

a. Dependent Variable: Performance

b. Predictors: (Constant), Green procurement

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

In this study, Green Procurement was measured using Green procurement policies, Participation in green procurement workshops, and Supplier involvement. It was established that most of the food and Beverage Manufacturing firms in Kenya have policies that they follow when procuring and producing goods. This in a way contributes to producing environmentally friendly goods. The firms have also designed their processes in a way that reduces waste. For cases where manufacturing firms outsource some goods from other firms, some firms make efforts to confirm that the suppliers conform to producing goods that do not cause negative harm to the environment. It was noted that not all firms support their staff to attend seminars or workshops on green procurement sensitization. Food and beverage manufacturing firms in Kenya are increasingly recognizing the importance of environmental sustainability. They are acknowledging the impact of their operations on the environment and are taking steps to minimize their ecological footprint. From the study, it was noted that implementing green procurement improves firm performance

Recommendations

In summary, food and beverage manufacturing firms in Kenya have policies in place to guide the procurement and development of environmentally friendly goods. These policies indicate a commitment to sustainable practices and demonstrate a recognition of the importance of minimizing environmental impact. The firms' processes are also designed to reduce waste generation, further highlighting their efforts to operate in an environmentally responsible manner. By minimizing waste, these firms can improve resource efficiency and reduce their ecological footprint. Additionally, the study acknowledges that the firms have minimized the purchase of goods that are hazardous and difficult to dispose of. This action reflects a conscious decision to prioritize the use of safer and more sustainable alternatives.

While it is noted that not all staff members regularly attend seminars or workshops on green procurement, the study emphasizes that implementing green procurement practices improves firm performance. This suggests that although there may be room for improvement in terms of staff training and awareness, the positive impact of green procurement on overall firm performance is still evident. Overall, the conclusion highlights the potential benefits of adopting green procurement practices within the food and beverage manufacturing industry in Kenya. By incorporating environmentally friendly goods, reducing waste, and minimizing the use of hazardous materials, these firms can enhance their performance while contributing to sustainability and the preservation of the environment.

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