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Green Purchasing Management and Competitive Advantage of Alcoholic Beverages Manufacturing Companies in Kenya

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Abstract
Global alcoholic firms gain a competitive advantage through innovation and green purchasing, while Kenyan manufacturers face rising costs and disruptions, with limited local evidence on the effect of green purchasing management on competitive advantage. This research sought to examine the influence of green purchasing management on the competitive advantage of alcoholic beverage manufacturing companies in Kenya. This study adopted a positivist research philosophy and employed descriptive and explanatory research designs. The target population comprised 394 respondents from 41 alcoholic beverage manufacturing companies in Kenya, including CEOs and heads of supply chain, corporate relations, human resources, finance, production, sales and marketing, quality control, logistics, and warehousing. A sample size of 198 respondents was determined using Yamane's formula, and stratified random sampling was used, achieving a 95% response rate. Both primary and secondary data were utilised. Primary data were collected using questionnaires and analysed using thematic analysis for qualitative data, and descriptive and inferential statistics for quantitative data. Green purchasing management explained 76.2% of the variation in competitive advantage and significantly predicted it ($\beta = 0.336$, $p < 0.05$). Descriptive and qualitative findings showed that firms implement green purchasing through supplier environmental audits, eco-friendly sourcing, eco-labelling, sustainable packaging, and supply chain waste reduction. The study provides empirical evidence that green purchasing management enhances competitive advantage in Kenyan alcoholic beverage manufacturing firms. Managers should adopt green purchasing practices to enhance competitive advantage, while NEMA and KRA enforce regulations and support sustainability compliance capacity building.

Introduction
Business and management studies are a broad discipline that plays a vital part in optimising resources, enhancing efficiency, and driving competitive advantage across various industries (Farida & Setiawan, 2022). It involves a variety of functions, like finance, marketing, human resource management, and operations, all of which contribute to the effective functioning of organisations. Wagner and Hollenbeck (2020) indicate that by integrating analytical tools, strategic decision-making,

and organisational behaviour principles, business and management studies provide a framework for companies to enhance productivity, reduce costs, and improve service delivery. One of the critical subfields within this discipline is operations management, which focuses on the design, execution, and continuous improvement of business processes (Kumar, 2022). Operations management ensures that businesses can effectively manage their production, logistics, and service delivery systems to meet customer demands while maintaining cost efficiency (Heizer & Munson, 2020).

Within operations management, Supply Chain Management (SCM) plays a key role in coordinating the flow of goods, services, and information among suppliers, manufacturers, distributors, and consumers (Benjaafar & Hu, 2020). It integrates production, procurement, inventory, and logistics to enhance efficiency and responsiveness across the value chain. Increasing global environmental concerns have compelled firms to adjust supply chain practices to meet regulatory requirements and consumer expectations (Agrawal & Singh, 2019). This shift has led to the emergence of Green Supply Chain Management (GSCM), which integrates environmental considerations into supply chain activities to reduce waste, improve resource efficiency, and minimise ecological impact (Izquierdo-Yusta, 2023). As firms adopt sustainability-oriented strategies, GSCM has gained prominence across industries. According to Abebaw (2021), GSCM comprises green purchasing, green manufacturing, green marketing, and green distribution. This study focuses specifically on green purchasing management as a key component influencing organisational performance and sustainability outcomes.

Green purchasing management involves procuring eco-friendly products and services while integrating sustainability into supply chain operations through environmental audits, supplier collaboration, and green raw material sourcing (Zhu & Sarkis, 2021). In developed economies such as Germany and Japan, strict regulations require environmental audits and strong supplier cooperation to ensure compliance with sustainability standards (Yamoah, Yornu & Dadzie, 2021). In emerging economies like India and Brazil, firms prioritise collaboration with suppliers to enhance green sourcing and align with global sustainability requirements (Sharma & Gupta, 2023). In Africa, countries such as South Africa and Rwanda emphasise regulatory-driven green procurement, where firms adopt environmental audits and supplier partnerships to improve sustainability performance (Munezero & Ndolo, 2022). In Kenya, manufacturing firms employ similar practices, including environmental audits, supplier collaboration, and green raw material sourcing, to reduce environmental impact and enhance compliance and sustainability performance (Wambui & Chege, 2024).

The alcoholic beverage manufacturing sector relies on product differentiation, cost efficiency, brand equity, and customer loyalty to achieve competitive advantage, with global leaders like Heineken and Diageo leveraging innovation, premium quality, and efficient supply chains (Badenhorst-Weiss & Naude, 2020; Tellier, 2021), while Kenyan firms such as East African Breweries Limited face rising production costs, supply disruptions, and declining profitability despite efforts toward sustainable sourcing and energy efficiency (Githinji & Kiarie, 2021). Although green purchasing management has improved sustainability and competitiveness for international firms, its adoption in Kenya remains limited, with prior studies showing varied approaches and inconsistent findings (Langat & Otieno, 2022; Wambui & Chege, 2024), highlighting the need for actionable strategies to enhance cost efficiency, brand reputation, and market competitiveness in the local sector.

Theoretical Review

This study is anchored on the Triple Bottom Line (TBL) Theory, which broadens performance evaluation beyond financial outcomes to include economic, environmental, and social dimensions of sustainability. It posits that firms achieve long-term success by balancing profitability with

environmental protection and social responsibility. The theory also explains how sustainability practices create competitive advantage through improved resource efficiency, regulatory compliance, stakeholder legitimacy, and enhanced corporate reputation. While financial outcomes are easily measured, environmental and social outcomes often rely on proxies such as compliance records, audit results, and sustainability certifications. In Kenyan alcoholic beverage manufacturing firms, green purchasing management operationalises TBL through supplier audits, collaboration with certified green suppliers, and eco-friendly sourcing. These practices improve efficiency, reduce environmental risks, ensure regulatory compliance, and enhance brand reputation, ultimately strengthening competitive advantage and long-term profitability (Walker et al., 2020).

Conceptual Framework

Figure 1 demonstrates the study's conceptual framework and demonstrates the connection between the independent and dependent variables. The study's independent variable was green purchasing management, and the dependent variable was the competitive advantage of alcoholic beverage manufacturing companies.

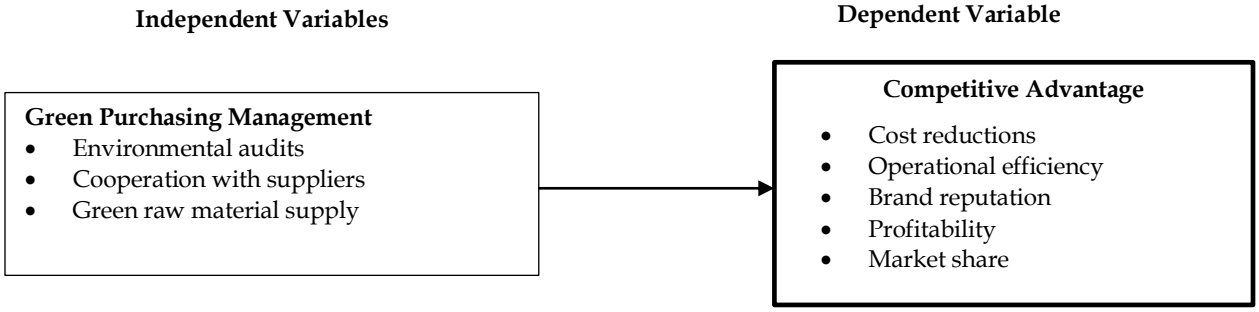

Figure 1: Conceptual Framework

Literature Review

Green purchasing significantly influences competitive advantage by improving sustainability credentials while optimising costs and resource efficiency. Sharabati (2021) found a positive and significant effect of green purchasing on competitive advantage among Jordanian pharmaceutical manufacturing firms. However, Akushie and Ofori (2024) found a negative association between green purchasing practices and firm performance in Ghana's Tema Metropolis. In contrast, Anane (2020) identified green purchasing as a significant determinant of organisational performance in Ghana Water Co. Ltd. and Bayport Savings and Loans Plc, while David, Addo, and Isaac (2024) confirmed a positive link with financial performance in Ghanaian manufacturing firms. Kaikai and Mose (2020) found that green purchasing had the most significant impact on the performance of the mining industry in Sierra Leone. In Rwanda, Munezero and Ndolo (2022) established that green purchasing management significantly enhances state corporation performance.

In Kenya, Langat and Otieno (2022) examined sustainable green purchasing as a driver of customer satisfaction among 400 employees at BIDCO Africa and found a positive relationship between green purchasing practices and customer satisfaction. Wambui and Chege (2024) assessed the link between green purchasing strategies and supply chain performance in food and beverage processing companies in Nairobi City County and found that most firms had adopted green purchasing practices. Similarly, Thiga, Chege, and Arani (2023) established a strong correlation between green purchasing and performance in Kenyan food and beverage manufacturing firms. Bartocho (2023) further found that green purchasing practices have a significant indirect effect on manufacturing sustainability.

Overall, while existing international and local studies show that green purchasing improves organisational performance and competitive advantage, there remains limited empirical evidence in Kenya's alcoholic beverage manufacturing sector on its direct effect on competitive advantage. Therefore, this study tested the null hypothesis that;

> **H_0**: Green purchasing management has no statistically significant effect on the competitive advantage of alcoholic beverages manufacturing companies in Kenya

Method

Research Philosophy and Design

The research adopted a positivist research philosophy, emphasising objective, measurable outcomes based on observable data. This study was anchored on both a descriptive study design and an explanatory research framework. A descriptive research design was used to examine existing trends without manipulating variables, as supported by Kariuki (2023) in studying sustainable supply chains in Kenya. An explanatory design was used to explore causal relationships, as justified by Kenei and Wachiuri (2024), who examined green supply chain practices and performance in Nairobi City County food and beverage firms.

Target Population and Sampling Technique

The target population comprised 394 respondents drawn from Chief Executive Officers (CEOs) and heads of key departments, including supply chain, corporate relations, human resources, finance, production, sales and marketing, quality control, logistics, and warehousing, across 41 alcoholic beverage manufacturing companies in Kenya. The study used stratified random sampling to select the sample. The population was divided into homogeneous strata. Yamane's (1967) sample size formula was employed to determine the sample size, yielding 198.

Data Collection and Data Analysis Methods

Both primary and secondary data were utilised in this study. Secondary data on profitability, one of the measures of competitive advantage, were obtained from the annual reports of the Kenya Association of Manufacturers (KAM) and individual alcoholic beverage manufacturing companies in Kenya using a data collection checklist. Primary data were gathered using semi-structured questionnaires designed to capture respondents' demographic information and key study variables, namely, green purchasing management and competitive advantage. A pilot study was conducted at East African Breweries Limited, involving 20 participants, representing 10% of the sample size, given its status as the largest alcoholic beverage manufacturer in Kenya. Reliability was confirmed with Cronbach's alpha values above 0.7 for all variables, while validity was assessed using Average Variance Explained (AVE), with all constructs achieving acceptable levels of 0.4 and above after necessary adjustments.

The data collection checklist yielded quantitative data, and the questionnaires yielded both qualitative and quantitative data. Qualitative data were analysed using thematic analysis, which involved systematically identifying, coding, and organising recurring patterns within the responses. The results were presented in a narrative form supported by direct quotations. Quantitative data were analysed using descriptive and inferential statistics with SPSS version 28. Descriptive statistics included measures such as mean, mode, median, standard deviation (a measure of dispersion), and frequency distributions. Inferential statistics were applied, specifically the Pearson correlation coefficient to examine the strength and direction of relationships between variables, and simple linear and stepwise regression analyses to model complex interactions and predict outcomes. The study adopted Ordinary Least Squares (OLS), a widely used statistical method for regression analysis. The study used simple

linear regression and stepwise regression analysis. Simple linear regression was a statistical technique applied to model the association between a dependent variable and one independent variable.

Results

The researcher administered 198 questionnaires; 190 were fully completed, representing a response rate of 95.96 per cent, achieved through consistent follow-up reminders and assurances of confidentiality to encourage respondents to complete and return the questionnaires. Regarding general information, the findings indicated that the study successfully collected data from 40 of the 41 targeted alcoholic beverage manufacturing firms in Kenya.

As shown in Table 1, 7.4% of the respondents had less than one year of experience in their organisation, while 28.4% had 1 to 3 years, 30.0% had 4 to 6 years, and 34.2% had more than 6 years of experience. This indicates that most respondents had considerable organisational tenure, enhancing the reliability of their responses. Regarding firms' years of operation, 2.1% had been in existence for less than 5 years, 37.4% operated between 15 and 24 years, 8.4% between 25 and 34 years, 4.2% between 35 and 44 years, 3.2% between 45 and 54 years, while the majority, 44.7%, had been in operation for 55 years and above. This completes the distribution by showing that the missing proportion (100%) is captured within the mid-range categories, indicating a mix of young, mature, and well-established firms.

Further, based on the Kenya Association of Manufacturers (KAM) classification, firms were categorised by size using employee numbers. Results show that 43.7% of firms were small-scale (fewer than 100 employees), 18.4% and 12.6% were medium-sized (100–299 employees), while 8.9% and 3.2% were upper-medium (300–499 employees). Only 13.2% were large-scale firms with more than 500 employees. This distribution indicates that the sector is largely dominated by small and medium enterprises, which may face resource constraints in implementing green supply chain management practices, while larger firms possess greater capacity to adopt sustainability-driven competitive strategies.

Table 1: Demographic Information

Demographic and Instruction Characteristics	Percent
Respondents' Experience	
< 1 year	7.4
1 – 3 years	28.4
4 – 6 years	30.0
> 6 years	34.2
Firms' Years of Operation	
< 5 years	2.1
15 – 24 years	37.4
25 – 34 years	8.4
35 – 44 years	4.2
45 – 54 years	3.2
≥ 55 years	44.7
Number of employees	
< 100 (Small-scale)	43.7
100 – 199 (Medium)	18.4
200 – 299 (Medium)	12.6
300 – 399 (Upper-medium)	8.9
400 – 499 (Upper-medium)	3.2
≥ 500 (Large-scale)	13.2

Descriptive Analysis for Competitive Advantage

Regarding Cost Reductions, the results show strong agreement on the effectiveness of cost-reduction strategies. The respondents indicated that streamlining supply chain processes to minimise costs was particularly effective (M=4.568, SD=0.636), closely followed by efforts to reduce operational costs such as utilities and administrative expenses (M=4.521, SD=0.640). The use of automation to enhance efficiency and lower labour costs was also rated highly (M=4.447, SD=0.716). The relatively low standard deviations across all measures, all below 1.0, suggest limited variability and a consistent consensus among respondents regarding the positive impact of cost-reduction initiatives.

Regarding operational efficiency, the findings reveal a generally strong agreement that the organisation has adopted practices to enhance it. Respondents agreed that resources such as staff, equipment, and materials are allocated efficiently to boost productivity (M=4.400, SD=0.718). They also agreed that the organisation consistently meets its production targets while upholding quality standards (M=4.384, SD=0.738). Furthermore, respondents indicated agreement that the organisation improves processes to minimise inefficiencies and eliminate bottlenecks (M=4.278, SD=0.763). The standard deviations, all below 1.0, reflect low variability in responses, demonstrating a consistent consensus among respondents on the organisation's operational efficiency practices.

Regarding brand reputation, the findings reveal a generally positive perception of the organisation, particularly regarding its sustainability practices. Respondents agreed that the organisation's sustainability efforts have strengthened its brand reputation in the market (M=4.347, SD=0.738). They also agreed that customers recognise the brand for its commitment to environmental responsibility (M=4.336, SD=0.668). In addition, respondents indicated that the organisation's focus on sustainability has helped attract customers who value corporate responsibility (M=4.273, SD=0.726). The standard deviations, all below 1.0, suggest relatively low variability in responses, pointing to a consistent level of agreement among respondents regarding the organisation's sustainability-driven brand reputation.

Based on the results in Table 2, the analysis shows that organisational revenues increased modestly, with a mean of Ksh. 12.42 billion in 2022 to Ksh. 14.31 billion in 2023. Similarly, the Cost of Goods Sold (COGS) rose from an average of Ksh. 8.40 billion in 2022 to Ksh. 9.24 billion in 2023. Despite the rise in both revenue and COGS, the Gross Profit Margin improved slightly from 32.5% in 2022 to 35.26% in 2023. This positive movement suggests that, on average, organisations were able to manage their costs more efficiently relative to revenues, thereby improving profitability. The relatively low standard deviations of the gross profit margins indicate moderate variability in performance across organisations, pointing to a general trend of improved cost management and profitability over the two-year period.

Table 2: Descriptive Statistics for Gross Profit Margin (%)

		N	Minimum	Maximum	Mean	SD
2022	Revenue (Ksh. in billions)	190	0.95	125.00	12.42	20.19
	Cost of Goods Sold (COGS)	190	0.57	81.25	8.40	131.30
	Gross Profit Margin (%)	190	11	43	32.5	8.844
2023	Revenue (Ksh. in billions)	190	1.18	138.00	14.31	22.96
	Cost of Goods Sold (COGS)	190	0.65	85.86	9.24	14.16
	Gross Profit Margin (%)	190	5	45	35.26	11.313

Based on the results in Table 3, respondents reported net income and total assets for 2022 and 2023, which were used to compute the Return on Assets (ROA). The findings indicate that organisations experienced an improvement in ROA over the two-year period. In 2022, the average net income stood at Ksh. 0.082 billion against the average total assets of Ksh. 0.945 billion, resulting in a mean ROA of 13.14%. By 2023, both net income and total assets had increased slightly to Ksh. 0.108 billion and Ksh. 1.022 billion, respectively, contributing to a higher mean ROA of 15.27%. This upward trend suggests that organisations generated more profit per unit of assets in 2023 than in the previous year, indicating improved efficiency in asset utilisation. The higher variability in ROA in 2023, as indicated by the larger standard deviation (3.73 compared to 2.22 in 2022), also shows that while many organisations improved their performance, differences in profitability across firms widened during the period.

Table 3: Descriptive Statistics for Return on Assets

		N	Minimum	Maximum	Mean	SD
2022	Net income (Ksh. in billions)	190	0.009	1.100	0.082	0.213
	Total assets (Ksh. in billions)	190	0.067	15.700	0.945	3.038
	ROA (%)	190	5.41	17.95	13.14	2.22
2023	Net income (Ksh. in billions)	190	0.012	1.300	0.108	0.281
	Total assets (Ksh. in billions)	190	0.071	16.800	1.022	3.259
	ROA (%)	190	7.440	20.000	15.274	3.730

In addition, the findings suggest that the organisation has taken notable measures to enhance its market share. Respondents agreed that the organisation's commitment to sustainability provides a competitive advantage in the market (M=4.357, SD=0.649). They further agreed that implementing efficient practices has contributed to the expansion of market presence (M=4.310, SD=0.700). In addition, respondents indicated that a growing number of customers prefer the organisation's products to those of competitors (M=4.400, SD=0.718). The standard deviations, all below 1.0, indicate relatively low variability in responses, suggesting consistent agreement among participants regarding the organisation's efforts to strengthen its market share.

Descriptive Analysis for Green Purchasing Management

The findings indicate a strong consensus that organisations integrate environmental considerations into their procurement and sourcing practices. Respondents agreed that their companies regularly review purchasing and sourcing practices to ensure alignment with environmental sustainability (M = 4.357, SD = 0.673). They also agreed that organisations periodically assess suppliers to understand their environmental practices and make improvements where necessary (M = 4.311, SD = 0.722). In addition, respondents confirmed that, even without formal audits, their companies take steps to ensure that the materials they source meet environmental standards (M = 4.221, SD = 0.729). All standard deviations were below 1.0, indicating relatively low response variability and strong agreement among participants regarding the integration of environmental audits into supply chain practices.

Regarding suppliers' cooperation, the findings demonstrate strong agreement that organisations actively engage their suppliers on sustainability-related matters. Respondents agreed that companies communicate with suppliers regarding the sourcing of environmentally friendly materials (M = 4.273, SD = 0.696). They also agreed that suppliers are encouraged to follow sustainable practices, even in the absence of formal sustainability requirements (M = 4.242, SD = 0.708). Furthermore, respondents indicated that organisations prefer to work with suppliers who make deliberate efforts to reduce their

environmental impact (M = 4.211, SD = 0.734). All standard deviations were below 1.0, indicating low response variability and a strong consensus among participants regarding the importance of supplier cooperation in advancing environmental sustainability.

In addition, the findings indicate a strong organisational commitment to environmentally responsible sourcing. Respondents agreed that the organisation prefers to use raw materials with a lower environmental impact (M = 4.221, SD = 0.729). They also agreed that suppliers are encouraged to provide environmentally friendly raw materials, even in the absence of strict procurement policies (M = 4.263, SD = 0.620). In addition, respondents indicated that sustainability is considered alongside traditional factors such as cost and quality when selecting raw materials (M = 4.226, SD = 0.647). All standard deviations were below 1.0, indicating low response variability and a strong consensus among participants on integrating environmental responsibility into procurement practices.

The respondents were asked to indicate any additional issues related to green purchasing management and its influence on the competitive advantage of alcoholic beverage manufacturing companies. The respondents indicated that sustainable sourcing, eco-friendly packaging, and collaboration with environmentally responsible suppliers strengthen corporate reputation and attract environmentally conscious consumers, particularly among younger market segments. However, challenges such as high implementation costs, supplier resistance, and inconsistent compliance were reported, especially among small-scale suppliers, which can weaken supply chain credibility. Despite these challenges, environmental audits and strong supplier partnerships were identified as key enablers of effective green purchasing practices and long-term competitiveness. One respondent noted:

> "*Adopting green purchasing practices has improved our brand image and reduced costs, but supplier compliance remains a major challenge in fully achieving sustainability goals.*"

Correlation Analysis

As shown in Table 4, the results revealed a strong positive correlation between the two variables (r = 0.873, p = 0.000). The correlation is statistically significant at the 0.05 level, indicating that improvements in green purchasing practices are significantly associated with increased competitive advantage. This suggests that companies with stronger green purchasing management practices tend to report greater competitive advantage.

Table 4: Correlation Results

		Competitive Advantage	Green Purchasing Management
Competitive Advantage	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	190	
Green Purchasing Management	Pearson Correlation	.873**	1
	Sig. (2-tailed)	.000	
	N	190	190

**. Correlation is significant at the 0.01 level (2-tailed).

Diagnostic Tests

Before conducting regression analysis, several diagnostic tests were performed to ensure that the data met the assumptions of linear regression. These assumptions include normality, independence of errors, linearity and homoscedasticity.

Normality Test: The Shapiro-Wilk test (W = 0.897, p = 0.071) indicated no significant deviation from normality, confirming that the green purchasing management data are normally distributed and supporting the use of parametric statistical analysis.

Independence of errors: The Durbin-Watson statistic (2.174) indicated no autocorrelation in the residuals, confirming the independence of errors within the acceptable range (1.5–2.5) and validating the reliability of the regression results for green purchasing management and competitive advantage.

Linearity: A scatter plot indicated a positive linear relationship between green purchasing management and competitive advantage among alcoholic beverage manufacturing firms in Kenya. The R^2 value of 0.762 indicates that 76.2% of the variation in competitive advantage is explained by green purchasing management, confirming a linear relationship between the variables.

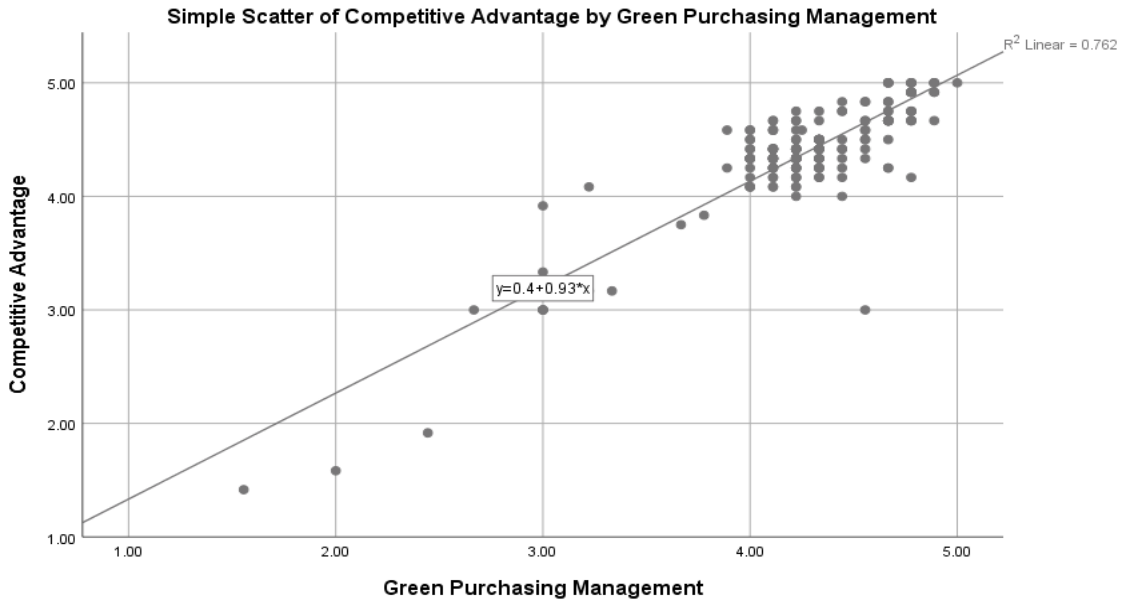

Figure 2: Scatter Plot for Green Purchasing Management and Competitive Advantage

Homoscedasticity: The Breusch-Pagan test ($\chi^2 = 1.32$, p = 0.25) showed no evidence of heteroscedasticity, confirming constant error variance and satisfying the homoscedasticity assumption, thereby supporting the reliability of the regression results.

Regression Analysis

Model Summary: RAs shown in Table 5, the R value is 0.873, indicating a strong positive correlation between the two variables. The R-squared value is 0.762, indicating that approximately 76.2% of the variation in competitive advantage among alcoholic beverage manufacturing companies in Kenya is attributable to their green purchasing management practices. This suggests that green purchasing management is a strong predictor of competitive advantage in this context.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.873[a]	.762	.760	.25324

a. Predictors: (Constant), Green Purchasing Management
b. Dependent Variable: Competitive Advantage

Analysis of Variance: As shown in Table 6, the model yields an F-statistic of 600.470 with a corresponding p-value of 0.000, indicating statistical significance at the 0.05 level. This confirms that the model is statistically significant and provides strong evidence that green purchasing management meaningfully influences competitive advantage.

Table 6: ANOVA for Green Purchasing Management and Competitive Advantage

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.509	1	38.509	600.470	.000[b]
	Residual	12.057	188	.064		
	Total	50.566	189			

a. Dependent Variable: Competitive Advantage
b. Predictors: (Constant), Green Purchasing Management

Table 7 presents the regression coefficients for the model examining the influence of green purchasing management on the competitive advantage of alcoholic beverage manufacturing companies in Kenya. The constant value of 3.207 suggests the expected level of competitive advantage when green purchasing management is zero. The unstandardised beta coefficient for green purchasing management is 0.336, indicating that a one-unit increase in green purchasing management is associated with a 0.336-unit increase in competitive advantage. This relationship is statistically significant, with a p-value of 0.030, which is below the 0.05 threshold. Therefore, green purchasing management has a significant positive effect on the competitive advantage of alcoholic beverage manufacturing companies in Kenya. Consequently, the null hypothesis (H_0), which stated that green purchasing management has no statistically significant effect on the competitive advantage of alcoholic beverage manufacturing companies in Kenya, is rejected

Table 7: Coefficients for Green Purchasing Management and Competitive Advantage

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.401	.163		2.455	.015
	Green Purchasing Management	.336	.038	.873	24.504	.030

a. Dependent Variable: Competitive Advantage

Discussion of the Results

The study found that green purchasing management positively and significantly influences the competitive advantage of alcoholic beverage manufacturing companies in Kenya. This is supported by qualitative findings, which revealed that sustainable sourcing, eco-friendly packaging, and collaboration with environmentally responsible suppliers enhance corporate reputation and attract environmentally conscious consumers, particularly among younger market segments. The research findings align with Quyen's (2020) observation that the adoption of green purchasing strategies, such as environmental audits, supplier collaboration, and green raw material sourcing, enhances competitive advantage, primarily by reducing waste, improving brand image, and lowering operational costs. The findings are also consistent with the observation by David, Addo, and Isaac (2024), who noted that effective implementation of green purchasing management strengthens supplier collaboration, attracts environmentally conscious consumers, and fosters innovation.

The findings of this study can also be interpreted through the lens of the Triple Bottom Line (TBL) Theory, which emphasises the integration of economic, environmental, and social outcomes into organisational decision-making. The results demonstrate that green purchasing management contributes to the environmental dimension through practices such as sustainable sourcing, eco-friendly packaging, and supplier environmental compliance, which reduce environmental harm. At the same time, the economic dimension is reflected in improved cost efficiency, enhanced operational performance, and increased competitive advantage arising from resource optimisation and market differentiation. The social dimension is evident in improved corporate reputation, stronger stakeholder trust, and increased consumer loyalty, particularly among environmentally conscious customers.

However, the study was limited by its reliance on self-reported data, which may be subject to response bias, social desirability bias, and potential overstatement of environmentally friendly practices within their organisations. Since respondents were reporting on organisational practices, some responses may have reflected perceptions rather than actual practices implemented, which may affect the accuracy of the findings. Furthermore, the study was confined to alcoholic beverage manufacturing companies in Kenya, which may limit the generalizability of the findings to other sectors or geographical contexts with different regulatory, cultural, or market conditions.

Conclusion

The study found that green purchasing management positively and significantly influences the competitive advantage of alcoholic beverage manufacturing companies in Kenya. Specifically, the findings indicate that green purchasing contributes more strongly to differentiation-based competitive advantage than to cost leadership, as firms primarily benefit from enhanced brand reputation, improved corporate image, and greater attractiveness to environmentally conscious consumers. However, the study also established that green purchasing supports cost-efficiency gains through reduced waste, improved resource utilisation, and stronger supplier collaboration, although these benefits are secondary in the alcohol industry context, where brand perception and regulatory compliance are key competitive drivers. Therefore, the study concludes that green purchasing is primarily a differentiation strategy in the alcoholic beverage sector, while also offering efficiency advantages.

Based on these findings, the study recommends that alcoholic beverage manufacturing companies adopt a structured green purchasing framework that embeds environmental sustainability into procurement and supply chain operations. Management should prioritise environmentally responsible suppliers, strengthen supplier monitoring systems, and align procurement practices with recognised international environmental standards. Firms should also invest in supplier capacity building on eco-friendly production practices and implement sustainability tracking systems to enhance transparency, efficiency, and accountability across the supply chain. In addition, the study recommends further research on green purchasing and competitive advantage in other manufacturing and service sectors, as well as cross-sector and cross-country comparative studies to enhance generalizability. Future longitudinal studies are also encouraged to assess the long-term impact of green purchasing practices on both differentiation and cost performance outcomes.

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