

GREEN PACKAGING AND PERFORMANCE OF FOOD AND BEVERAGE MANUFACTURING FIRMS IN KENYA

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ABSTRACT

Purpose of the Study: The purpose of this study was to determine the relationship between Green Packaging 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.

Result: The study found that there is a correlation of 0.697 between Green Packaging and the performance of Kenyan food and beverage manufacturing companies. Green Packaging accounted for 48.2% of the variation in the performance of food and beverage manufacturing firms in Kenya.

Unique contribution to theory, practice and policy: The Resource-based theory was validated. The study noted that not all food and beverage manufacturing firms in Kenya use reusable packaging materials and durable packages. On the same, the study noted that firms use safe packaging that does not cause negative harm to the environment. The study recommended that the firms should embrace the use of green packaging materials that can be recycled and repurposed into entirely new products, so as to minimize harm to the environment. The study concluded that implementing green packaging improves the firm brand thereby increasing sales. The firms should use organic packaging to reduce pollution. Lastly, it was suggested that the packaging should be affordable to avoid exaggerating product prices which may affect the product pricing.

Keywords: *Green Packaging, Returnable packaging, Package design, Manufacturing firms.*

INTRODUCTION

This refers to sustainable packaging that makes use of eco-friendly materials to meet the objective of packaging functions while always taking care that the packaged product remains effective and safe for human health and the environment (Pauer E., Wohner, B., Heinrich, V., & Tacker, M. 2019). According to global sustainability trends and consumer demand for ecologically friendly products, Kenyan food and beverage manufacturing companies have been steadily adopting green packaging practises. Businesses are looking into a variety of tactics, including using biodegradable products, minimizing packaging waste, and putting in place effective recycling systems. The trend toward green packaging is influenced by the Kenyan government's dedication to waste reduction and environmental protection. According to a study by Kariuki (2019), despite obstacles including high costs

and inadequate local infrastructure, Kenyan customers are becoming more aware of the value of sustainable packaging, which is driving manufacturers to cater to their preferences by making eco-friendly decisions.

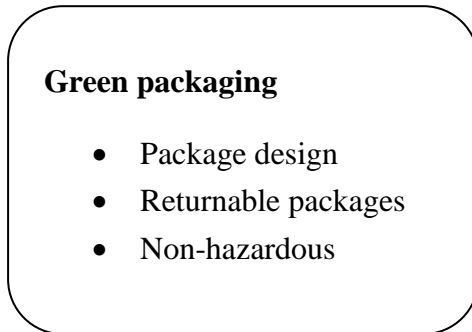
LITERATURE REVIEW

According to Hellström & Nilsson (2011) Packaging is a synchronized system of preparing goods for transport, distribution, storage, retailing, and end-use. It ensures the safe delivery of products to the ultimate consumer, in sound condition and at minimum cost, with the aim of cutting down on costs of delivery while maximizing sales and hence profits. Basic packaging functions comprise containment, protection, preservation, communication, convenience, and, in some cases, marketing functions (Jinkarn & Suwannaporn 2015). Packaging has equally a logistic and marketing function; the former protects the products in transit while the latter provides consumers with information about product attributes (Arboretti & Bordignon, 2016). Most consumers consider using recycled content packaging to be a positive move by a brand or retailer. Some packaging resources have the ability to use a recycled option, in the case of glass, aluminum, steel, paper, and board, it is the industry norm.

In today's ever-changing economic, social, and regulatory environment, organizations should adopt a non-hazardous packaging approach on all their products. This approach not only meets but exceeds expectations and regulations while also reducing carbon emissions and risks. Packaging waste forms a major part of solid waste and has caused increasing environmental concerns, resulting in a strengthening of various regulations aimed at reducing the amounts generated. The use of biodegradable materials will contribute to sustainability and reduction in the environmental impact associated with the disposal of packaging materials (Song, 2009). All packages containing hazardous materials must be properly classified, described, packaged, marked, labeled, and in proper condition for transportation according to applicable regulations. The study found a positive correlation between green packaging and the performance of food and beverage manufacturing firms.

CONCEPTUAL FRAMEWORK

Independent Variable



Dependent Variable

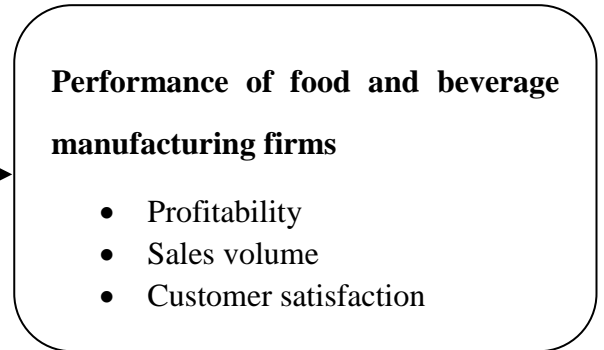


Figure 1: Conceptual Framework

METHODOLOGY OF THE STUDY

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 packaging and the performance of food and beverage manufacturing firms in Kenya.

RESULTS AND DISCUSSIONS

Descriptive Statistics of Green Packaging

The respondents were asked to rate their agreement with the statements made on green packaging regarding the performance of Kenyan companies that produce food and beverages. According to Table 1, only a small number of respondents (mean 3.546; standard deviation 1.065) agreed that the company used recyclable packaging. Few respondents, with a mean of 3.535 and a standard deviation of 1.063, agreed that the business utilizes recyclable packaging. This suggests that the outcomes were diverse. The respondents overwhelmingly concurred that the company employs environmentally friendly packaging materials, with a mean of 4.119 and a standard deviation of 0.759.

With a mean of 3.452 and a standard deviation of 1.171, the survey found that few respondents agreed that the company utilizes biodegradable packaging materials,

indicating that the results were varied. With a mean of 4.669 and a standard deviation of 0.580, the responses showed that respondents agreed with the assertion that the firm employs packaging that ensures safety. Lastly, with a mean of 4.634 and a standard deviation of 0.577, the respondents agreed that the organization may increase performance by utilizing green packaging.

The average of all the statements relating to green packaging indicated that the majority of the respondents agreed with a mean of 3.993 that there exists a relationship between green packaging and the performance of food and beverage manufacturing firms in Kenya with a standard deviation of 0.869 which shows that the results were varied. According to the overall mean of the responses, the findings suggest that the businesses tended to follow green packaging practices in a fairly consistent manner. The goal of the practice is to make food and beverage processing companies in Kenya perform better. The findings are in line with those of Mosbei (2021), who concluded that there is a positive correlation between the performance of Kenyan food and beverage manufacturing companies and green packaging.

Table 1: Green Packaging

Green packaging	SD %	D %	N %	A %	SA %	Mean	Std. Deviation
The firm uses re-usable packaging material.	1	18	53	41	28	3.546	1.065
The firm uses durable packaging materials that allow recyclability.	2	29	24	62	23	3.535	1.063
The firm uses packaging material that does not cause negative harm to the environment.	0	2	14	91	35	4.119	0.759
The firm uses bio-degradable packaging materials.	7	35	15	57	28	3.452	1.171
The firm uses Packaging that ensures safety	1	1	0	40	100	4.669	0.580
By implementing green packaging, the firm is able to improve performance	0	0	7	38	97	4.634	0.577

Green Packaging and Performance

Examining the relationship between green packaging and the success of Kenyan companies that manufacture food and beverages was the goal of this study. For this particular purpose, the hypothesis to be tested was:

H₀₁:Green packaging has no significant relationship on the performance of food and beverage manufacturing firms in Kenya.

A gauge of how well the regression model fits the data is the adjusted R Square. It shows how much of the variance in the dependent variable can be accounted for by the model's predictors (Field, 2013). According to Table 2's modified R Square value of 0.482, the predictor variable which in this case is green packaging may account for about 48.2% of the variance in the performance of Kenyan companies that manufacture food and beverages. Based on the adjusted R Square value of 0.482, it can be concluded that the predictor variable Green packaging explains approximately 48.2% of the variance in the dependent variable performance of food and beverage manufacturing firms in Kenya. The estimate's standard error of 0.59043 indicates that, on average, the model's anticipated values and the performance of Kenya's food and beverage manufacturing companies are separated by 0.59043 units on average.

Table 2: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.697 ^a	.486	.482	.59043

a. Predictors: (Constant), Green packaging

b. Dependent Variable: Performance

The regression sum of squares represents the variability explained by the predictor variable(s) in the regression model (Field *et al.*, 2013). In this case, the regression Sum of Squares is 46.168. It indicates the amount of variability in the dependent variable performance of food and beverage manufacturing firms in Kenya that can be attributed to the predictor variable Green Packaging. The F-statistic is 132.437, suggesting that the regression model with Green packaging as a predictor is statistically significant. The ANOVA in Table 3 suggests that the regression model with Green packaging as a predictor

significantly explains the variability in the dependent variable performance of food and beverage manufacturing firms in Kenya. The high F-statistic and very small significance level ($p < 0.001$) support the significance of the relationship between the predictor variable and the dependent variable.

Table 3: ANOVA Summary for Regression Model of Green packaging on the performance of Food and beverage manufacturing firms in Kenya

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.168	1	46.168	132.437	.000 ^b
	Residual	48.805	140	.349		
	Total	94.973	141			

a. Dependent Variable: Performance

b. Predictors: (Constant), Green packaging

CONCLUSIONS

Varied feedback on whether firms use reusable packaging materials was given. This shows that not all food and beverage manufacturing firms use reusable packaging. The study also noted that not all food and beverage manufacturing firms that use durable packaging materials that allow recyclability. Most of the firms use packages that are eco-friendly. Though not implemented by all food and beverage manufacturing firms, the packaging materials used are bio-degradable. Firms use packages that ensure safety. The study also noted that firms can improve their performance by implementing green packaging.

RECOMMENDATIONS

From the study summary, it is evident that not all food and beverage manufacturing firms in Kenya utilize reusable packaging materials or opt for durable packaging materials that allow for recyclability. Additionally, not all firms prioritize the use of bio-degradable packaging materials. However, it is crucial to note that many firms do consider the environmental impact of their packaging choices and strive to minimize negative harm to the environment. One of the primary concerns for food and beverage manufacturing firms is ensuring the safety of their products during transportation and storage. Therefore, packaging materials that guarantee product safety are often prioritized. While these materials may not always align with sustainability goals, it is essential for firms to strike a balance between safety and environmental considerations.

Implementing green packaging practices has numerous benefits for food and beverage manufacturing firms. By adopting reusable and recyclable packaging materials, firms can reduce waste generation and lower their carbon footprint. This not only helps protect the environment but also enhances the firm's overall performance and reputation. Moreover, using bio-degradable packaging materials can contribute to reducing the long-term impact on the environment. These materials break down naturally and do not contribute to pollution or harm ecosystems. While not all firms currently embrace bio-degradable packaging, there is a growing awareness of its importance, and more companies are likely to adopt these practices in the future.

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