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**The Effect of Product Packaging on Firm Performance: A Study on the  
Food and Beverage Manufacturing Firms in Kenya**



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## **The Effect of Product Packaging on Firm Performance: A Study on the Food and Beverage Manufacturing Firms in Kenya**

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### **Abstract**

**Purpose:** In the current 21<sup>st</sup> century, there has been an increase in changes in the business environment that have forced large-scale enterprises to realign their global strategies and manufacturing activities, and flatten their hierarchies in order to speed up information flows. Food and beverage manufacturing companies in Kenya have been experiencing problems in the performance of their production and operations management. This study therefore, sought to assess the influence of product packaging on the performance of food and beverage manufacturing firms in Kenya.

**Methodology:** A descriptive research design was adopted. Food and beverage manufacturing companies were sampled and the data was collected using self-administered questionnaires and analyzed using descriptive and inferential statistics.

**Findings:** The findings revealed that product packaging had a significant influence on the performance of food and beverage processing firms. The study concluded that product packaging was critical in enhancing the performance of food and beverage processing firms in Kenya.

**Unique contribution to theory, practice and policy:** The study recommends that the management of food and beverage processing firms ought to embrace a product packaging framework in order to gain performance.

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**Keywords:** *Product Packaging, Fourth Party Logistics, Food and Beverage Manufacturing Firms, Firm Performance*

## **1.0 INTRODUCTION**

### **1.1 Background to the Study**

The study sets out to investigate the influence of product packaging on firm performance in Kenya. Packaging is the science, art, and technology of enclosing or protecting products for distribution, storage, sale, and use. Packaging also refers to the process of design, evaluation, and production of packages. Basic objectives of packaging include; physical protection, barrier protection, containment or agglomeration, information transmission, marketing, security anti-counterfeiting packaging and convenience portion control. Packaging can be divided in primary, secondary and tertiary type. Labeling is any written, electronic, or graphic communications on the packaging or on a separate but associated label (Tukamuhabwa, Eyaa & Derek, 2011). Basic objectives of labeling are brand identification, providing the information and promotion. Labels on food products are intended for consumer information and help to identify, promote, inform and offer advice on the use of the products concerned, and where for instance a label is applied over a closure, providing security as a tamper evident feature.

Food labeling might refer to naming a product or the listing of ingredients. The key objective of a food label is to provide information for the consumer, help sell the product and assist the consumer in making comparable food choices (Achuora et al., 2015). Packaging is the first point of contact with the brand for a consumer product (Ristovska, Kozuharov, & Petkovski, 2017). Packaging design an important issue in the growing use of packaging as a marketing tool for self-service, since approximately 73% of products are sold on a self-service bases at the point of sale. On average, urban supermarkets carry 50 000 items and the typical shopper passes 300 items per minute. The packaging must, therefore, perform many of the sales tasks, including making an overall favorable impression and helping influence impulsive purchasing. This is in contrast to the secondary function of packaging that is used for storage, shipping and supply chain that consumers do not see but that is still necessary in the distribution of the product to trade (Armistead & Mapes, 2013).

Bask (2011) argue that FMCG are low involvement products, as consumers do not search extensively for information about the brands, evaluate their characteristics, or make a weighty decision on which brand to buy. Based on previous literature, four main packaging elements are argued to affect the consumer's purchase decision. These elements broadly fall into two categories: Visual elements consisting of colors, graphics, design size, shape and packaging. These attributes relate to the affective side of decision-making. The information elements relating to the contents provided and technologies used in the

packaging, and more likely to address the cognitive side of decision-making, such as educating the customer and the overall image of the brand (Bumstead & Cannons, 2012).

The use of color is obvious and well- developed and can be effective because of strong brand associations. However, people in different cultures develop their own unique color affinity. Companies also use packaging attributes such as graphics that include layout and the use of powerful product photography, to create an image to help in attracting and sustaining attention. Chang (2011) findings on packaging imagery indicates that the effects of pictures on packaging are contingent on the product category, and may be specifically beneficial to those with high levels of experience because it was not possible to manipulate the level of experiential benefits (Fisher, 2010).

Ghoulrassi and Tigu (2018) argue that for low involvement products, marketing communications need to have a strong impact, particularly as images affect consumer decisions, making graphics and color crucial. For many consumers of low involvement, the packaging becomes the product, particularly because of impressions formed on initial contact. Grocery Manufacturers of America survey in 2002, 82.0% of American consumers 'frequently' considered the price of a product before making a final selection. In a research conducted by the United Kingdom Consumer's Association in 1995 about factors influencing food purchases, 34.0% indicated 'price/value for money', 21.0% 'quality', 16.0% 'nutrition/how healthy', 12.0% 'family's/personal preference', 5.0% 'how quick/easy to prepare', 4.0% 'how fattening it is', 3% 'brand name/label', 3.0% 'special diets for remedial reason' and 1.0% 'ethical/religion'.

In their study, when choosing a new product, the respondents were affected by 'advertisement' (39.0%), then by 'visual impact/ product appeal' (22.0%), 'brand or label information' (22.0%) and lastly by 'preparation time' (17.0%). A study conducted by Kenyon and Meixell (2011) on consumer perception of food packaging in Trinidad West Indies suggests that The 'information on food labels quality/type of packaging, brand name and visual impact are important packaging features'. Most respondents believed that the type of packaging material could adversely affect the quality or performance of food products. Food labeling was an important factor influencing food choice. Although most respondents read the nutrition facts panel, some found it to be too time consuming to read or too complex to understand, while others indicated that the display information was too difficult to follow.

A study assessing consumer awareness and usage of food labels and influences on food buying behavior conducted by Sahay and Mohan (2016) for Indian consumer give a clear indication that label information is generally gender and age insensitive though its use assumes significance with the income levels, education and occupation of the consumers.

Most lifestyle products such as breakfast cereals, readymade dressings etc. that would mostly be used by people who have relatively higher levels of income and education would pay more attention to various kinds of label information. The awareness regarding label information is dependent on the consumer's level of education, income and kind of occupation. Hence, it becomes the task of regulatory agencies to sensitize the consumers to availability and importance of such information. Just enforcing rules on the food processing/packaging companies is not sufficient until the buyer is not reading them let alone interpreting them (Saliba, 2013).

The Kenyan food and beverage manufacturing sector is predominantly agro-processing, with manufacture of food, tobacco, beverages and textile accounting for over 34.0% of total sectoral value added (KIPPRA, 2019). The manufacturing sector in Kenya is among the key productive sectors identified for economic growth and development because of its immense potential for wealth, employment creation and poverty alleviation. The government's commitment to the realization of Vision 2030 depends on corroborated effort to address the costs of production and other factors contributing to the high cost of doing business (KIPPRA, 2019). The food and beverages industry has a unique role in expanding economic opportunity because it is universal to human life and health (Ngonela, Mwaniki & Namusonge, 2014).

The competitive manufacturing environment is one that is rapidly changing as globalization and technology force organizations to constantly seek ongoing improvement in all areas in terms of their knowledge, flexibility and performance (Muazu, 2019). According to a report by the Ministry of Industrialization Enterprise and Development during the Industrialization conference held at KICC Nairobi on 19<sup>th</sup> November 2013, food processing covers: foods, beverages, dairy, vegetable oil, grain milling, baking and confectionery, fruits and vegetables, meat and fish, honey, nuts, mushroom, etc.

The report revealed that food sector constitutes about a third of the manufacturing sector in Kenya and that the sector adds value to agricultural produce and therefore its success depends on efficient agriculture sector. The report further claimed that the manufacturing sector employed 266,400 people in 2009 out of which 89,319 jobs (or 33.5%) were in the foods processing sector. The Manufacturing sector contributes about 10% of the Kenya's GDP of which the food sector contributed about a third (33.4%) of the total manufacturing production in 2009 (Mars Group Kenya, 2011).

Logistical performance can be measured through: total transportation costs, number of vehicles operated, percentage of outbound shipments, average outbound shipment size, percentage of inbound shipments, percentage average inbound shipment size, fraction of transportation mode, percentage on timely delivery, percentage of accidents, average

kilometres vehicles running full load or empty per day (Hoekman, & Sanfilippo, 2018). Cash conversion cycle and percentage of internal and external complaints for data unavailability also measure optimization.

The food processing sector can therefore be a key driver of the economic growth and growth in this sector can have a direct and significant impact on the whole Kenya's economy. Logistics, for example, is receiving growing attention as an area in which efficiency and productivity increases can be made in order to improve customer service and to lower costs (Musau et al., 2017). In this case, a fourth party logistics designs, coordinates and executes a supply chain strategy while providing the company with value-added information to better manage core competencies.

### **1.2 Statement of the Problem**

According to KAM (2020), the food and beverage manufacturing firms were winding up at notable percentage indices, fluctuating between 49% and 58%; poor logistics outsourcing was cited as the main reason. KAM (2019) noted that the manufacturing sector has always accounted for over 35% of the country's Gross Domestic Product (GDP), provided employment to about 600,000 people in the formal sector and 2 million persons in the informal sectors of the economy. However, the firms have been experiencing problems in the performance of their production and operations management.

The existing literature has shown mixed results with regard to product packaging and its influence on firm performance (Taniguchi et al., 2014; Holguín-Veras et al., 2018; Dablanc et al., 2013). In Kenya, there exists scant literature on the relationship between product packaging and the performance of manufacturing firms. This study therefore seeks to fill these gaps by assessing the influence of product packaging on the performance of food and beverage manufacturing firms in Kenya.

### **1.3 Study Objective**

To assess the relationship between product packaging and performance of food and beverage manufacturing firms in Kenya.

### **1.4 Research Hypotheses**

**H<sub>0</sub>:** Product packaging has no significant relationship with the performance of food and beverage manufacturing firms in Kenya.

## **2.0 LITERATURE REVIEW**

### **2.1 Theoretical Framework**

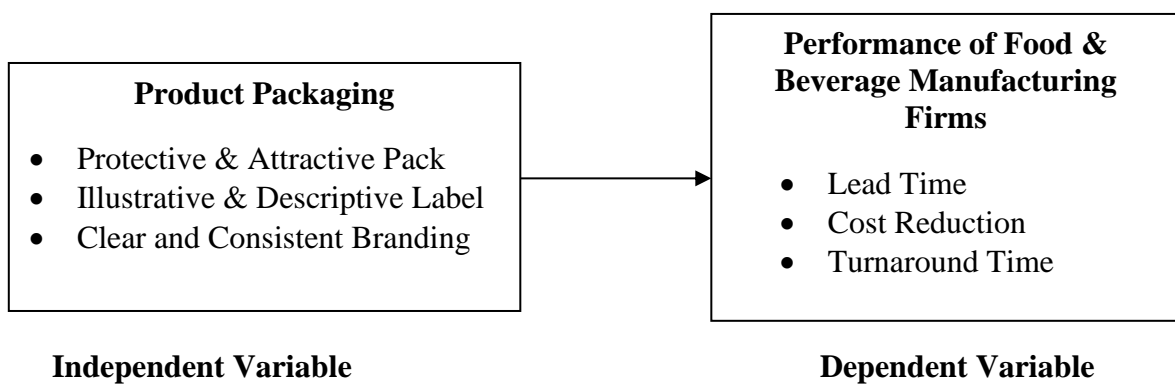
The study used the theory of trying to advance the role played by product packaging on firm performance. The theory was advocated by Bagozzi and Warsaw (1990) in their book;

“supply chain value addition by Packaging” it focuses on the assessment of trying to act, especially purchasing tendencies. In this case trying to buy an item, in other words, in theory of trying “an attitude toward a reasoned action is replaced by an attitude toward trying and an intention is restricted to an intention to try” how a product is packaged and labeled elicits all these chain reactions in the mind of consumer (Ghosh, 2019). The theory of trying divided goals into two categories: intermediate and end-state goals. In relation to this theory, Ballot and Fontane (2010) identified two main reasons of why consumers may fail to try to consume.

Firstly, consumers may fail to consider the options available to them. Secondly, consumers may consciously refrain from buying for various reasons. The theory of trying provides an interesting alternate approach to the models previously considered. Rather than examining explicit behavior, the model assesses trying to act. Subjective norms, attitude toward the process or means of trying, attitudes and expectations of success and attitudes and expectations of failure are posed as the key antecedent variables to intention to try; itself the key precursor to trying. An illustrative and descriptive label makes a consumer to want to try an item while clear and consistent branding helps the consumer act the subsequent buying time (Witjaksono, 2012).

Based on pack design, that is if its protective and attractive, past behavior has been found to influence consumer choice in a number studies; Tari, Molina and Castejun (2010) and Tukamuhabwa, Eyaa and Derek (2011), thus integrated as a key influence within the theory. Zai (2021) suggests in discussion of this theory that rather than consumers having behavioral intentions, they rather have behavioral goals in many situations, and they must expend effort and make the purposive endeavor to fulfill these goals. To date the theory of trying has mostly been applied to supply chain consumer buying related decisions, and many studies have applied it to retail consumption decisions concerning product Packaging. In this study, the trying theory is linked to product Packaging variable.

## 2.2 Conceptual Framework





**Figure 1: Conceptual Framework**

**2.3 Empirical Literature Review**

Packaging now is regarded as an essential component of our modern lifestyle and the way business is organized. Packaging is the enclosing of a physical object, typically a product that is offered for sale. It is the process of preparing items of equipment for transportation and storage and which embraces preservation, identification and packaging of products. According to Saliba (2013) Packaging is the act of containing, protecting and presenting the contents through the long chain of production, handling and transportation to their destinations in as good a state, as they were, at the time of production Packaging is an important part of the branding process as it plays a role in communicating the image and identity of a company.

On the other hand Rao *et al.* (2015), argue that there are four important functions for packaging, and the current study focuses on these functions, to study the role of packaging in Jordanian consumer's perception of product quality at the point of purchase. These four dimensions include all kolters' dimensions but in other names, these dimensions are: Protection of products and consumer, Promotion of products, Facilitation of storage, use, and convenience of products and Facilitation of recycling and reducing environmental damage. Protection of products and consumer; A package protects the contents as the product moves through its marketing channel and while it is in use. A packaging also prolongs the shelf life of a product, which is important to producers, middlemen, and final buyers. Increasing attention focused recently on package safety, especially for drugs, household cleaners, and other products that are potentially dangerous, particularly to children (Peck, 2015).

Product safety is an underlying dimension of perceived product quality, is composed of such a vast number of components that it would verge on vagueness to consider it only in general terms. Indeed, a product can be perceived as being need satisfying, hence fulfilling part of the notion of "product quality", for example, a food product may be very delicious (generally accepted as constituting quality), but may be thought to contain artificial additives that are harmful to the consumer (Panayidis, 2013). Protection of the product should be effective in reducing damage that could influence its usefulness and increase costs. Packages protects from breakage, evaporation, spillage, spoilage, light, heat, cold, and many other conditions Packaging often plays an important functional role, such as protection, or storage of product.

Consumer protection is becoming a growing role of packaging. Packaging that fails to fully protect the product has the potential to result in excess damage and waste, diminished shelf life, and loss of flavor or efficacy. Problems associated with insufficient protection

are likely to lead to customer dissatisfaction (Pan *et al.*, 2010).The protection accorded to the contents by the package must be available at the following stages during the life span of the product At the end of the product line inside the plant .During storage and handling, During transportation, During storage at the distribution or retailer's warehouse and During the consumption process in the consumer's home.

A major goal of reuse packaging is to stimulate repurchases .Convenience is another function of packaging that consumers often look for at the point of purchase, the size or shape of a package may relate to the product's storage, convenience of use, or replacement rate. Defining convenience in flexible packaging is essential to fully leveraging all of its benefits and ensuring long-lasting consumer-brand relationships. Flexible packaging offers many advantages to consumer, product, and to companies. Flexible packaging can be effective in helping brand owners build a close relationship with consumers. For consumers, convenience is even more critical serving that draws an initial sale and retains consumer brand loyalty (Lai *et al.*, 2012).

Package must serve as a silent salesperson and attract the shopper's attention. Packaging is becoming an increasingly aspect of marketing strategy. Companies are seeing packaging as a way to attract customers to new and existing brands .Packages use design, colors, shapes, pictures, and materials to try to influence consumer's perceptions and buying behavior (Ngonela *et al.*, 2014) Facilitation of storage, use, and convenience of products A major benefit of packaging is the information on it conveyed to the consumer, such as directions on how to use the product and the composition of the product, which is needed to satisfy legal requirements of product disclosure. Packaging convenience is defined by how consumers use the package. Simply put convenience in packaging starts with a package that is easy to open as well as easy to close (Narayanan, 2014).

## **2.4 Research Gaps**

There were three major reasons driving this study; lack of empirical evidence on product packaging in fourth party logistics concept and performance link targeting manufacturing firms in Kenya, low performance by manufacturing firms' in Kenya in terms of efficiency and competitiveness and finally the current literature largely focusing outside Africa. A review of the various studies shows that manufacturing firms seek different fourth party logistics; and the reasons why companies decide to outsource logistics services vary greatly. However, majority of the available studies have been conducted mostly in developed countries where companies have extensively adopted or hired logistics service providers on various logistics services.

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 Research Design**

This study adopted a mixture of descriptive and cross-sectional research designs. Descriptive research design helped in collecting and analysing data using both quantitative and qualitative approaches. Descriptive research design was used to allow researcher to gather, summarize, present and interpret information for the purpose of clarification. On the other hand, cross-sectional research design was used to measure the relationship between the independent variables and the dependent variables through inferential statistics using a regression model.

#### **3.2 Target Population**

The target population of this study was 197 registered food and beverages manufacturing companies in Kenya as per KAM (2015). Food sector constitutes about 33% of the manufacturing sector in Kenya and the sector adds value to agricultural produce and therefore growth of this sector can have a direct significant impact on the whole Kenya's economy.

#### **3.3 Sampling**

The study used stratified random sampling technique where the subjects were selected in such a way that the existing subgroups in the population are more or less reproduced in the sample

Where  $n$  is the sample size,  $N$  is the population (197) and  $\beta$  denotes the error, set at 0.05

$$N / \{1 + N (\beta^2)\} = n$$

$$197 / \{1 + 197(0.05^2)\} = 132$$

Therefore, the study sought to gather information from 132 food and beverage manufacturing firms located in across the country, where the heads of procurement were used. This sample was deemed good representation of the populations since the sample size was greater than 10% of the target population.

#### **3.4 Data Collection**

A semi-structured questionnaire was developed to capture the various variables under study, and for the independent variables. The questionnaire contained both closed and open ended questions. The closed ended questions were aimed at giving precise information which minimized information bias and facilitate data analysis, while the open ended questions gave respondents freedom to express themselves.

### 3.5 Data Analysis and Presentation

Descriptive statistics including frequencies, percentages, mean and standard deviations was used in data analysis. Descriptive statistics was utilized with a view to summarize, reduce data and analyze constructs and items. This form of analysis gave insights into the sample attributes. Descriptive statistics were further offer a basis for inferential statistics using multiple regressions and correlation.

## 4.0 FINDINGS

### 4.1 Response Rate

A response rate of 89% was obtained where 117 respondents gave back the questionnaires for analysis out of a total of 132 food and beverage manufacturing firms. This was perceived adequate for analysis.

### 4.2 Product Packaging

The study assessed the influence of product Packaging on performance of food and beverage manufacturing firms in Kenya. The responses were rated on a Likert's scale and the results presented in Table 1 below. It was rated on a 5 point Likert scale ranging from; 1 = strongly disagree to 5 = strongly agree. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'neutral' has been taken to represent a statement agreed upon, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5. The findings imply that through appropriate focus on products and designing them in a more attractive way, the organization gains more competitiveness and performance is enhanced. According to Ketokivi, and Schroeder (2014), companies in dynamic industries such as the manufacturing industry ought to be focused in designing products that are well advanced as per the advancing technology as a way of meeting customer preference and ensuring continued improvement.

**Table 1: Descriptive Analysis for Product Packaging**

Statement	Mean	Std. Dev.
The packaging materials used in our products are not harmful to individuals or environment	3.94	1.05

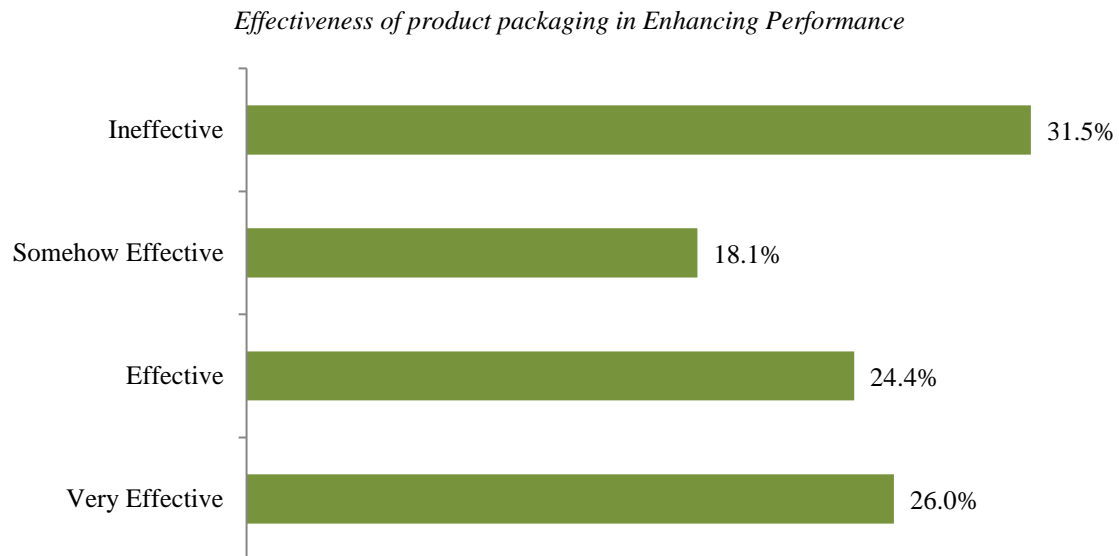
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The company adopts product designs that ensure the product is protected from any external damage	4.06	0.98
The designs used in packaging enhance in order to be appealing to the customers	3.84	1.07
Our company's products are labeled appropriately to capture all the required information	3.59	1.20
The information given when describing our products is truthful and adequate	3.85	0.91
The labels used are coherent with our customers language and level of understanding	4.06	1.37
Our products are branded in clear design that customers are able to distinguish	3.90	0.88
The branding of the company's products is consistent across all the categories of the products	4.08	1.31
Most of the customers in our company are familiar with our products' brand	3.95	0.85

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### ***Effectiveness of Product Packaging***

The respondents were further asked to rate the extent to which product packaging was effectively embraced in their respective organizations. The findings are as summarized in Figure 2 below. The findings imply that while a good number of the food and beverage processing firms upheld product Packaging, there was a significant number of firms that did not uphold the aspect which could affect their performance. This compares with the argument by Lieb and Butner (2013) who established that logistics management is about ensuring that the right products get to the customers and this can be obtained through continued improvements in product designing and labelling.



**Figure 2: Effectiveness of Product Packaging**

#### **4.3 Performance of Food and Beverage Manufacturing Firms**

The study sought to find out the performance of the food and beverage manufacturing firms in Kenya. The respondents were asked to indicate their level of agreement on specific statements drawn from the key measures of performance used in the study. The findings as shown in Table 2 revealed that majority of the respondents were of the opinion that their respective companies had continually met the customer needs in terms of timelines thus enhancing their satisfaction (Strongly agree = 5.1%, agree = 66.7%, mean = 3.51 and standard deviation = 1.01). The findings further revealed that the customers in their respective companies were not willing to do business with them continually as shown by a mean of 2.77 and a standard deviation of 0.76. The findings further revealed that most of the respondents disagreed that there were many referrals from the existing customers as shown by a mean of 2.81 and a standard deviation of 1.09.

The findings imply that as per the opinions of the respondents, the food and beverage manufacturing firms are fairly and unstably performing thus calling for a high need for improvement and continued focus on key logistics management frameworks that could enhance their performance.

**Table 2: Descriptive Results on Firm Performance**

Statement	Mean	Std. Dev.

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Our company has continually met the customer needs in terms of timeliness thus enhancing their satisfaction	3.51	1.01
Our customers are always willing to do business with us	2.77	0.76
There are many referrals from the existing customers	2.81	1.09
We have embraced consistency in the production to maintain high quality of our supplies	2.51	0.98
The distribution of our products is effectively done to minimize on poor quality on transit	2.61	1.16
The costs of managing inventories have reduced in our company due to focus on lead time management	2.64	1.48

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#### 4.4 Hypothesis Testing

The research used multiple regression analysis to determine the linear statistical relationship between the independent and dependent variables of this study. According to Young (2014), regression analysis helps to explain the statistical relationship between variables thus enhancing the ability of the study to make substantive conclusions and recommendations. The statistical objective of regression analysis is to show high  $R^2$  and significant t-values, thus rejecting the null hypothesis of no influence. Parameters with an absolute t-value greater than 1.96 indicate a significance level of 0.05 (i.e.  $p < 0.05$ ). The entire six null hypotheses as stated in chapter one of this study were tested using regression models.

The study assessed the influence of product packaging on the performance of food and beverage manufacturing companies in Kenya. From this objective, the null hypothesis for the study was drawn:

*H<sub>0</sub>: Product packaging has no significant influence on the performance of food and beverage manufacturing firms in Kenya*

The hypothesis was tested using regression model through the model summary, ANOVA test, and the regression coefficients. The findings are as shown in Table 3.

As the model summary results portray, the R-square ( $R^2$ ) value was 0.413. This is an indication that product Packaging could influence up to 41.3% of the variation in the performance of food and beverage processing firms in Kenya. The findings therefore

provide a basis of there being a relationship between product Packaging and the performance of food and beverage processing firms.

The ANOVA results on the other hand revealed that at the F-statistic of 80.748, the P-value for the model was at 0.000. This is lower than the standard p-value of 0.05. This therefore implies that the model has the probability of predicting the relationship between product Packaging and the performance of food and beverage processing firms.

The Regression coefficients are as shown. The results reveal that the Beta coefficient for the variable –product Packaging is 0.466. The results from the regression coefficients also portray the model as shown:

$$Y = 1.420 + 0.466X_4 + e$$

The results imply that a unit change in product Packaging would influence up to 46.6% of the performance of food and beverage processing firms in Kenya. The P-value on the other hand show that the variable has a P-value (0.00) less than the p-value of 0.05. This therefore implies that product Packaging has a significant influence on the performance of food and beverage processing firms. This leads to the decision to reject the null hypothesis of the study that product Packaging has no significant influence on the performance of food and beverage processing firms in Kenya. Therefore, a conclusion is drawn that product packaging has a significant influence on the performance of food and beverage manufacturing companies in Kenya.

**Table 3: Regression Results on Product Packaging**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.642 <sup>a</sup>	.413	.407	.70813

a. Predictors: (Constant), Product Packaging

**ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	40.490	1	40.490	80.748	.000 <sup>b</sup>
1	Residual	57.666	115	.501		
	Total	98.156	116			



a. Dependent Variable: Firm Performance

b. Predictors: (Constant), Product Packaging

### Coefficients

Model	Unstandardized Coefficients		Standardized t	Sig.		
	B	Std. Error	Beta			
1	(Constant)	1.429	.153	9.360	.000	
	Product Packaging	.466	.052	.642	8.986	.000

a. Dependent Variable: Firm Performance

### 4.5 Discussion

The study sought to assess the influence of product packaging and labelling on performance of food and beverage manufacturing firms in Kenya. The findings of the study revealed that majority of the manufacturing firms in Kenya have protective and attractive pack design, illustrative and descriptive labels, clear and consistent branding. The findings also indicated that having protective and attractive pack design, illustrative and descriptive labels, clear and consistent branding improve performance. The findings further revealed that protective and attractive pack design, illustrative and descriptive labels, clear and consistent branding are positively related to lead time. The relationship between protective and attractive pack design and lead time is significant at 5% level of significance. The odds of observing a low lead time were higher for those firms with protective and attractive pack design compared to those firms without protective and attractive pack design.

### 5.0 Conclusion and Recommendations

The study revealed that product packaging had a significant and positive effect on the performance of food and beverage manufacturing firms in Kenya; implying that product packaging and labelling has significant influence on the performance of food and beverage manufacturing firms in Kenya. The study concluded that product packaging and labelling have a significant influence on performance of food and beverage manufacturing firms in Kenya. The sub-constructs of product packaging and labelling that is protective and

attractive pack designs, illustrative, descriptive label, and clear consistent branding influence performance positively.

The study recommended that manufacturing should put in place strategies to have product packaging and labelling as it has a positive effect on performance. The firms should encourage and put in place measures that promote protective and attractive designs, illustrative and descriptive label, clear and consistent branding as they influence performance positively.

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