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INFLUENCE OF PRODUCT UPSTREAM MOVEMENT ON PERFORMANCE OF FOOD AND BEVERAGE MANUFACTURING FIRMS IN KENYA

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Abstract

The purpose of the study was to assess the influence of product upstream movement on performance of food and beverage manufacturing firms in Kenya with an aim of making recommendations on proper use of product upstream movement management practices in manufacturing companies. The study aimed to establish how product returns management, recycling management, influence performance of food and beverage manufacturing firms. To achieve this, the researcher reviewed both theoretical and empirical literature and then proposed the research methodology that addressed the gaps identified in literature as well as answer the stipulated research questions. This research study adopted a descriptive research design approach. The researcher preferred this method because it allowed an in-depth study of the subject. The target population was heads of procurement in the food and beverage manufacturing firms in Kenya. Using Crochan's formula a sample of 132 food and beverage manufacturing firms was arrived at out of a total of 197 food and beverage manufacturing firms. This study used probability sampling since the population and location of food and beverage manufacturing firms is known. Specifically, the study used stratified random sampling in order to account for the uneven distribution of firms in various towns. Based on distribution of firms in the 10 towns the study used proportions calculated in the population distribution to come up with a representative sample distribution. The proportions calculated give the number of firms to be included in the sample for each segment. Thereafter simple random sampling was used to select the names of food and beverage manufacturing firms in which data is to be collected. The study combined two methods in its data collection that is, questionnaires and key informant interviews. After data collection, quantitative data was coded using Statistical Package for Social Science (SPSS) version 20. Data was analyzed through descriptive statistical methods such as means, standard deviation, frequencies and percentage. Inferential analyses were used in relation to correlation analysis and regression analysis to test the relationship between the four explanatory variables and the explained variable. The response rate of the study was 92%. The findings of the study indicated that product returns management, recycling management, have a positive relationship with performance of food and beverage manufacturing firms in Kenya. Finally, the study recommended that food and beverage manufacturing firms should embrace product upstream movement so as to improve performance and further researches should to be carried out in other sectors to find out if the same results can be obtained..

Keywords
Product upstream movement, product returns management, recycling management

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INTRODUCTION

An effective and standardized product upstream movement process can give a firm the necessary competitive advantage to move above peers and competitors, and possibly capture larger market share within their industry because of their superior process and being able to meet the demands of the customers. Today's customer expects and demands to be able to return a defective or unwanted product smoothly and quickly, and receive a refund or correct order as fast and as inexpensive as possible. A firm that is able to meet these increasing customer requirements is going to gain customer loyalty and retain, and perhaps increase, their overall market share (Huscroft, 2010).

This is a key factor as to why management within a firm needs to focus necessary resources on the product upstream movement process and properly monitor and measure their product upstream movement processes (Achieng, 2011). The possible penalties for not adequately addressing the product upstream movement needs of the firm could be increased transportation costs, increased inventory and warehousing costs, increased repair costs of returned products, and lost secondary value of defective products or materials due to processing delays in the product upstream movement process (Lysons, 2010).

This is a main reason that product upstream movement processes and their management have increased in importance within the business community and academia (Rogers, 2010). Logistics is defined by Badenhorst (2013) as the process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements.

On the other hand, product upstream movement encompasses all of the activities that are mentioned in the council's definition the only difference being that product upstream movement operates in reverse (Moturi, 2013). From this product upstream movement is defined as: the process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal. product upstream movement is an essential capability for any business that operates in today's global marketplace (Elmas & Erdogmus, 2011).

Statement of the Problem

According to the World Bank (2016), traditionally, 90% of organizations have focused on improving their forward logistics activities; most have not treated the product upstream movement process with the same care and diligence afforded to traditional areas of logistics. KNBS (2017) indicated that 65% of manufacturing firms in Kenya often focus on forward logistics and as a result, they tend to overlook the importance of product upstream movement activities and its potential of improving the firm's and supply chain's performance.

Recently product upstream movement has received increasing attention from both the academic world and industries because of competition and marketing motives, it saved various firms over Kshs.70 Billion in the financial year (FY) 2016/2017, as well as strategic and managerial implications (Nyangweso, 2013). With legislative measures tightening up and a growing concern for the environment to use materials effectively and efficiently, organizations do not have any choice but to engage in product upstream movement practices.

According to KIPPRA (2014), product upstream movement has become a necessity in the manufacturing industry; due to legislations and environmental concerns. Many firms look for new possibilities to create and improve their return systems in order to gain a competitive advantage. Companies are now looking into product upstream movement in order to optimize their return flows (OECD, 2017). Manufacturing firms in Kenya operate at a technical

efficiency of about 39% compared to their counterparts in Malaysia that average about 84% (Achuora, Guyo, Arasa & Odhiambo, 2015) raising doubts about the sector's capacity to meet its goal of contributing to GDP by 15% (PPRA, 2015). product upstream movement will come in handy to improve this performance

Several studies have been done internationally, Pollock (2017) did a study on reverse logistics, he concluded that product upstream movement accounts for 3% to 4% of a company's total logistics costs and argues that companies can save up to 10% from their annual logistics bill by implementing an efficient product upstream movement system. 20% of this amount is saved in labor costs and the remaining eighty percent is saved in lowered freight costs and reduced pipeline inventory.

Locally, Studies have also been done on product upstream movement Moturi (2015) noted that, given the tightness of margins in many organizations, the improved management of returns can have a significant impact on the bottom-line performance, both business and logistical. 80% of manufacturing firms are yet to incorporate product upstream movement which can be done by appreciating environmental issues and inculcating the same to their employees and suppliers.

All the above studies have been done in different contexts which are impacted on differently depending on the industry and the environment. It is against this back drop that this study seeks to examine the influence of product upstream movement on performance of food and beverage manufacturing firms in Kenya.

Objectives of the Study
   i.   To establish the influence of product returns management on performance of food and beverage manufacturing firms in Kenya.
   ii. To find out how recycling management influences performance of food and beverage manufacturing firms in Kenya.

LITERATURE REVIEW
Theoretical Review
Social Development Theory
Stein and Valters (2012) indicated that the theory of social development is a conglomeration of theories about how desirable changes in society are to be best achieved. Development needs to begin not with goals and policies to promote development, but with knowledge of the essential nature and characteristics of development itself, for development is not a set of policies or programs or results. It is a process, not a program. Many factors influence and determine the outcome of this process.

There must be a motivating force that drives change, some essential preconditions for the change to occur, or barriers that obstruct the process, a variety of resources such as capital and technology, which contribute to the process, along with several types and levels of infrastructure that support the development. This study uses theory of social development as a theoretical base to explain the nature of product returns management in product upstream movement development and adoption that originated from the process of sustainable development (Stein & Valters, 2012).

Firms today have increasingly accepted their responsibility for environmental and social issues as a precondition for doing business, especially in the implementation of corporate social responsibility and sustainable supply chain management. Infrastructures are needed to make the activity possible (Retolaza, 2011). For example, the development of sustainability is supported by various infrastructures such as the approaches of closed-loop economy, the different framework of legislation, the principles of extended producer responsibility, the awareness of society, and the investments of technologies and resources at different levels

(Stein & Valters, 2012).

In theory of development, an organization is the collective subconscious knowledge becoming an instrument of work through the pioneering conscious individuals. The growth of that organization is defined as the development, in which it converts its resources, powers, capabilities, and skills into social and economic results with higher performance and innovations (Jacobs, 2009).

Lange (2012) noted that research on products returns and recovery structure has also indicated that logistics innovations and capabilities play an important role in business performance of firms. Thus, efficiency and effectiveness of product upstream movemenT may have important impacts on firms' strategic performance in terms of customer satisfaction, cost reduction, and improved profitability. It has occurred in practice because of firms' changes of awareness, strategies, and resource investments for environmentally oriented product upstream movement management and customer services in doing business.
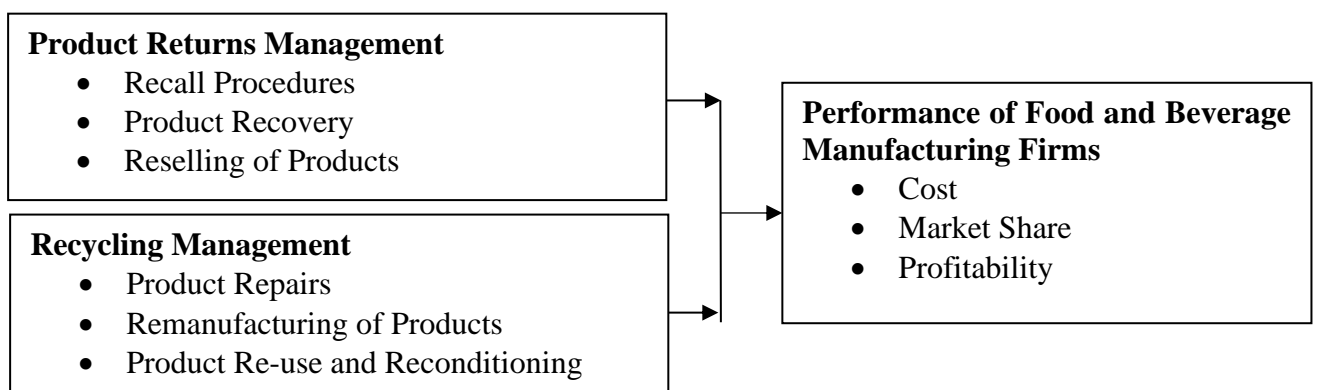
Institutional Theory

The institutional environment is defined as an entity that lies outside the boundaries of the organization. It influences organizational outcomes by imposing constrains on firms' operations and demanding adaptation of firms' processes in order to survive. Institutional theory is recognized through the pressures of social, cultural, political, and legal sector as main factors influencing the operation of organizations (Yang & Sheu, 2011).

Furusten, (2013) indicated that according to the institutional approach under organizational field, there are three mechanisms of pressures by which imitations (isomorphism) in structure and processes between organizations are motivated: coercive, mimetic, and normative. Coercive isomorphism derives from formal and informal pressures carried out on organizations by other organizations upon which they depend (Miles, 2012). Such forces can be exerted through persuasion, invitation to join shared behavioral models such as recycling and refurbishment, laws and regulations, and government mandates. Coercive forces are typically given by governmental authorities by issuing laws and regulations.

Mimetic isomorphism is a firm's standard response to environmental uncertainty such as product re-use and remanufacturing by imitating themselves as other organizations, e.g. using lean or agile manufacturing in production, just-in-time in sourcing, and efficient customer response in distribution. Normative isomorphism arises from the high degree of socialization and interaction that often occurs between members of the same organizational environment, such as repairs and repacking (Furusten, 2013).

Conceptual Framework

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┌─────────────────────────────────────┐
│ Product Returns Management          │
│   • Recall Procedures               │
│   • Product Recovery                │          ┌──────────────────────────────┐
│   • Reselling of Products           │─────────▶│ Performance of Food and Beverage │
└─────────────────────────────────────┘          │ Manufacturing Firms           │
                                                  │   • Cost                      │
┌─────────────────────────────────────┐          │   • Market Share              │
│ Recycling Management                │          │   • Profitability             │
│   • Product Repairs                 │─────────▶└──────────────────────────────┘
│   • Remanufacturing of Products     │
│   • Product Re-use and Reconditioning│
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Product Returns Management

Product recovery and reselling of products is considered as a way of achieving sustainability in business achieving economic benefits. Lindahl (2002) considers products recovery as the process of reuse and recycling. Products recovery and reselling of products is aimed at retrieving the products value when a product ceases to fulfill the desired value. Gungor and Gupta (2009) define recall management as a combination of product returns management and

product recovery.

They further point out that materials recovery is done to recover the economic value in materials and enhance solid waste management, to respond to market requirement and to comply with government regulations. According to Thierry (2015), the main objective of recovery is to regain as much as possible the economic and ecological value of the products and materials. It enables the organization recover value that would otherwise be lost. A part from products and materials, wastes can also be recovered to enhance environmental responsiveness and performance.

According to Fleischmann (2011), apart from the benefits, other drivers to recovery include; increased environmental concern among customers, the government and the general public, legislation, international standards and best practices. Recovery and reselling is the process of providing physical protection, containment, handling, transportation and marketing of goods again from raw materials to finished products (European Federation of Corrugated Board Manufacturers, 2010).

Recovery involves three levels: primary, secondary and tertiary repackaging. Primary recovery is the type of repackaging in direct contact with the product such as the tube storing a toothpaste. Secondary recovery is the type of recovery intended to advertise and market the product in the market such as the box of toothpaste showing the brand, features and functionality while tertiary recovery is meant for distribution and warehousing such as the use of a pallet or a container (Long, 2015). Returns management and recovery has an impact on operational performance of a firm. For one, returns management and recovery is more economically feasible compared to recycling and remanufacturing (Hazen, Hall & Hanna, 2012).

Recycling Management

Reuse is where the customers return unused product back to the seller, normally the retailer. When this happens, the products are reintroduced into the supply chain. Reuse also includes return of reusable repackaging materials. When products are returned to retailers, the products return to the organization through product upstream movement (Nyangweso, 2013). Remanufacture on the other hand involves repair, refurbishing and overhauling an item to revive the original product.

Normally, only products are not in their usable state or are beyond repair are remanufactured. Organizations with properly managed supply chain activities can use remanufacturing to enhance their economic performance since they are able to create value in products that had already lost value. It brings back life in a dead product (Mwangi, 2013). Recycle is the third component of product upstream movement and involves recovering all returned materials and products to reintroduce value into the products.

According to Amemba (2013), reuse strategy is one of strategies of waste management that is believed to be most environmentally friendly. Hazen (2011) defines reuse as the process of recovering any piece of returned product that may have some value. Reuse of materials occurs in cases where the customers return unused products to the point of purchase thereby returning the product back into the supply chain.

Reuse of materials may also occur through reutilization of repackaging or shipping materials. According to Hazen (2011) customers return products that are either completely unused or that are partly used. For partly used products to be reused, the products should be in a position to be used without any upgrade or modification. Products that are not in the usable state must be channeled back to the manufacturers through product upstream movement either for repair or re-development.

Performance of Food and Beverage Firms

The main instruments for assessing performance are performance indicators, also named key performance indicators (Reinhardt, 2009). They are specific characteristics of the process which are measured in order to describe if the process is realized according to pre-established standards. The best way to use indicators is to compare process values with normal, standard values. If there are poor results, poor performance, in reality, improvements for the process have to be made. Indicators are used basically for comparison with expected values. They are the control system of the studied process (Bask, 2011).

According to Eisenhardt and Martin (2010) firm performance encompasses three specific areas of firm outcomes: financial performance (profits, return on assets, return on investment); market performance (sales, market share); and, customer satisfaction/value added. Firm performance comprised the actual output or results of an organization as measured against its intended outputs (or goals and objectives), it involved the recurring activities to establish organizational goals, monitor progress toward the goals, and make adjustments to achieve those goals more effectively and efficiently (Hertz, 2013).

According to Kaynak (2010) supply chain performance is optimized only when an "inter-organizational, inter-functional" strategic approach is adopted by all chain partners. Such an approach maximizes the supply chain surplus available for sharing by all supply chain members. Kwai-Sang (2014) proposed a schema for future supply chain research that included transportation and logistics capabilities as the link between supply chain structure and performance.

While Owano (2013) hypothesized a positive link between reverse strategy and organizational performance, he did not report data collection related to logistics strategy measurement and did not report results related to his hypotheses. Parkhe (2013) assessed the relationship between product upstream movement and the organizational performance of firms in the retail sector. Saliba (2013) hypothesized supply chain management strategy as a positive predictor of firm performance. Justification for the hypothesis was based on the argument that performance evaluation of the purchasing and supply management functions will become closely linked to measures of organizational performance such as growth, profitability, and market share.

After surveying senior supply and materials management professionals in the USA, Fisher (2010) concluded that reverse supply chain management practices positively impact firm performance. Lieb (2013) surveyed CEOs of firms in the office and residential furniture industry to assess the relationships among reverse supply chain flexibility measures of product, volume, launch, access and target market flexibility, and measures of overall firm performance. They found volume flexibility to be positively correlated with all measures of performance.

Empirical Review

According to Schatteman (2010), products are returned because of the following reasons; unsatisfactory quality, installation or usage problems, warranty claims, faulty order processing, retail overstock, end of product life cycle or product replacement and manufacture recall. As Price Water House Coopers (2009) points out, returned products often go through a recovery process. The process involves; product/materials acquisition, products/materials collection, product sorting, testing, products recovery and depending on the final state, product redistribution and sales or disposal.

New products can be returned to one of the supply chain business units within a specific time frame. Returned products come from one of the actors of the supply chain or from the consumers themselves and the returned products can be different from the original state. Returned products can then be directed to one of the actors of the original supply chain or toward an actor of a different supply chain, in preparation for its processing for its possible reuse, in its original form or not (Daoud *et al.,* 2012).

Products are usually returned and the manufacturer or seller notified before so as to give the return authorization before the products are dispatched. The products can then be replaced, repaired or the account credited unless the manufacturer or retailer is able to prove that the damage was the buyers fault.

Olorunniwo and Xiaoming (2011) found out that the number one reason for return of products is wrong product ordered at 72.41%,followed by customer changing their minds at 58.62%, shipping damage at 55.17%, quality complaints at 55.17%, shipped to wrong direction at 36.21%, other 31.03%, obsolescence at 31.03%,missing parts at 31.03%,unsold consignment at 20.77% and unclear use information at 8.62%.The findings conferred with observations made by Chinger (2017) that more than 75% of returned products are not defective but are returned because of misinformation at the time of purchase.

Reuse of materials and products is associated with a number of benefits to organizations that adopt it. According to Reuse Development Organization (2014), there are three main benefits of reuse of materials and products. The first benefit is environmental benefits. Reuse of materials provides environmentally preferred alternatives to waste management and disposal of excess and obsolete materials. The second set of benefits is community benefits. Reuse of materials and products leads to improved social environment that improves social welfare of product users and society in general.

The last sets of benefit are the economic benefits. Reuse allows recovery of value that could otherwise be lost as well as reduce casts of acquiring products and operating the business. Remanufacturing is the process of restoring a product taken back from the market in order to return it to a new-like state or improve its performance through refurbishing, repair or replacement of defective parts (Eltayeb, Zailani & Ramayah, 2010). Remanufacturing is applied to a variety of products such as tyres, furniture, motor vehicles, cameras, mobile phones, automatic teller machines, vending machines, automobile parts and electronic devices.

RESEARCH METHODOLOGY

This study adopted descriptive research design. The target population for this study was the 197 food and beverage manufacturing firms in Kenya. The unit of analysis is the individual food and beverage manufacturing firms. 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 (Kombo & Tromp, 2013). Cronchan's Sample Size Formula gave a sample size of 132 food and beverage manufacturing firms. the study used stratified random sampling in order to account for the uneven distribution of firms in various towns. The study used questionnaires as the main data collection instrument that contains both open ended and close ended questions. The questionnaires gathered data that was analyzed using SPSS. The data analysis mainly involved the use of descriptive analysis. The collected data was analyzed using multi linear regression to determine the relationship between the dependent and independent variables. The multiple regression model was used to test the relationship between the dependent and independent variable.

DATA ANALYSIS AND PRESENTATION

Descriptive Statistics

Product Returns Management

The first objective of the study was to assess the influence of product returns management on performance of food and beverage manufacturing firms in Kenya. The respondents were also asked to comment on statements regarding product returns management on performance of food and beverage manufacturing firms in Kenya. The responses were rated on a likert scale and the results presented in Table 1 below. The respondents were asked to indicate their responses on influence of product returns management on performance of food and beverage manufacturing firms in Kenya. The results revealed that majority of the respondent with a

mean of (4.13) agreed with the statement that recalls policy plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 0.94 indicating the responses were varied. The result revealed that majority of the respondent as indicated by a mean of (4.27) agreed with the statement product recovery plays a significant role in cost reduction. The standard deviation for was 0.968 showing a variation. The result revealed that majority of the respondent (4.55) agreed with the statement that reselling of products play a significant role in cost reduction. The results were varied as shown by a standard deviation of 0.5.

The average response for the statements on recalls policy plays a significant role in attaining higher market share was (4.22). The results were varied as shown by a standard deviation of 0.955. The average response for the statements on product recovery plays a significant role in attaining higher market share was (4.4). The results were varied as shown by a standard deviation of 0.704. The result revealed that majority of the respondent with a mean of (4.46) agreed with the statement that reselling of products play a significant role in attaining higher market share. The measure of dispersion around the mean of the statements was 0.787 indicating the responses were varied.

The result revealed that majority of the respondent as indicated by a mean of (4.44) agreed with the statement recalls policy plays a significant role in improving profitability. The standard deviation for was 0.786 showing a variation. The result revealed that majority of the respondent (4.21) agreed with the statement that product recovery plays a significant role in improving profitability. The results were varied as shown by a standard deviation of 0.942. The average response for the statements on reselling of products plays a significant role in improving profitability was (4.01). The results were varied as shown by a standard deviation of 0.81.

The average mean of all the statements was 4.01 indicating that majority of the respondents agreed on product returns management having an influence on performance of food and beverage manufacturing firms. However the variations in the responses were varied as shown by a standard deviation of 0.81. These findings imply that product returns management were at the heart of the organizations. The findings agree with Lembke (2012) that using product returns management as a product upstream movement tool is a smart move and can reduce expenses significantly.

Table 1: Product Returns Management

Statements	Mean	Std. Dev.
Recall procedures plays a significant role in cost reductions	4.10	0.94
Product recovery plays a significant role in cost reductions	4.27	0.968
Reselling of products plays a significant role in cost reductions	4.55	0.5
Recall procedures plays a significant role in expanding the market share	4.22	0.955
Product recovery plays a significant role in expanding the market share	4.41	0.704
Reselling of products plays a significant role in expanding the market share	4.46	0.787
Recall procedures plays a significant role in improving profitability	4.44	0.786
Product recovery plays a significant role in improving profitability	4.21	0.942
Reselling of products plays a significant role in improving profitability	4.11	1.096
Average	**4.01**	**0.81**

Recycling Management

The second objective of the study was to establish the influence of recycling management on performance of food and beverage manufacturing firms in Kenya. The respondents were also asked to comment on statements regarding recycling management on performance of food and beverage manufacturing firms in Kenya. The results revealed that majority of the respondent with a mean of (3.58) agreed with the statement that product repairs plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.0 indicating the responses were varied. The result revealed that majority of the respondent as indicated by a mean of (3.63) agreed with the statement remanufacturing of products plays a significant role in cost reduction. The standard deviation for was 0.9 showing a variation. The result revealed that majority of the respondent (3.6) agreed with the statement that product re-use and reconditioning plays a significant role in cost reduction. The results were varied as shown by a standard deviation of 0.7.

The average response for the statements on product repairs plays a significant role in attaining higher market share was (3.45). The results were varied as shown by a standard deviation of 1.2. The average responses for the statements on remanufacturing of products plays a significant role in attaining higher market share was (3.5). The results were varied as shown by a standard deviation of 1.0. The results revealed that majority of the respondent with a mean of (3.61) agreed with the statement that product re-use and reconditioning plays a significant role in attaining higher market share. The measure of dispersion around the mean of the statements was 0.6 indicating the responses were varied.

The result revealed that majority of the respondent as indicated by a mean of (4.17) agreed with the statement product repairs plays a significant role in improving profitability. The standard deviation for was 0.8 showing a variation. The result revealed that majority of the respondent (3.63) agreed with the statement that remanufacturing of products plays a significant role in improving profitability. The results were varied as shown by a standard deviation of 0.8. The average response for the statements on product re-use and reconditioning plays a significant role in improving profitability was (3.66). The results were varied as shown by a standard deviation of 1. The average mean of all the statements was 3.77 indicating that majority of the respondents agreed on recycling management having an influence on performance of food and beverage manufacturing firms in Kenya. However the variations in the responses were varied as shown by a standard deviation of 1.134. These findings agree with Maghanga (2011) that through recycling management, companies can improve competitive positioning.

Table 2: Recycling management

Statements	Mean	Std. Dev.
Product repairs plays a significant role in cost reductions	3.58	1.0
Remanufacturing of products plays a significant role in cost reductions	3.63	0.9
Product re-use and reconditioning plays a significant role in cost reductions	3.6	0.7
Product repairs plays a significant role in expanding the market share	3.45	1.2
Remanufacturing of products plays a significant role in expanding the market share	3.5	1.0
Product re-use and reconditioning plays a significant role in expanding the market share	3.61	0.6
Product repairs plays a significant role in improving profitability	4.17	0.8
Remanufacturing of products plays a significant role in improving profitability	3.63	0.8
Product re-use plays a significant role in improving profitability	3.66	1.0
Average	**3.77**	**1.134**

Correlation Analysis

The results indicate that there is a positive relationship (r=.509) between product returns management and performance of food and beverage manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05). The results also indicate that there is a positive relationship (r=.398) between recycling management and performance of food and beverage manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

Table 3: Summary of Pearson's Correlations

Correlations		Product Returns Management	Recycling Management	Performance of Firms
Product Returns Management	Pearson Correlation	1		
	Sig.(2-Tailed)			
Recycling Management	Pearson Correlation	.263**	1	
	Sig.(2-Tailed)	0.007		
Performance of Firms	Pearson Correlation	.509**	.398**	1
	Sig.(2-Tailed)	0	0	

** Correlation is Significant at the 0.05 Level (2-Tailed).

Regression Analysis

Table 5 presents the regression coefficient of independent variables against dependent variable. The results of regression analysis revealed there is a significant positive relationship between dependent variable and the independent variable. The independent variables reported R value of .805a indicating that there is perfect relationship between dependent variable and independent variables. R square value of 0.647 means that 64.7% of the corresponding variation in performance of food and beverage manufacturing firms in Kenya can be explained or predicted by (product returns management, recycling management, 5) which indicated that the model fitted the study data. The results of regression analysis revealed that there was a significant positive relationship between dependent variable and independent variable at (β = 0.647), p=0.000 <0.05.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.805[a]	.647	.633	.166295

Table 6: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.027	4	1.257	54.652	.000[b]
	Residual	2.738	117	0.023		
	Total	7.765	121			

The significance value is 0.000 which is less than 0.05 thus the model is statistically significance in predicting how product returns management, recycling management, disposal management and product repackaging influence performance of food and beverage manufacturing firms in Kenya. The F critical at 5% level of significance was 36.8. Since F calculated which can be noted from the ANOVA table above is 54.652 which is greater than

the F critical (value= 36.8), this shows that the overall model was significant. The study therefore establishes that; product returns management, recycling management, disposal management and product repackaging were all important product upstream movement influencing performance of food and beverage manufacturing firms. These results agree with Kazemi and Hooshyar (2009) results which indicated a positive and significant influence of product upstream movement on performance of food and beverage manufacturing firms.

Table 6: Coefficients of Determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1 (Constant)		2.353	0.202		11.619	0.000
Product Returns Management		0.183	0.037	0.392	4.948	0.000
Recycling Management		0.158	0.045	0.232	3.546	0.001

The research used a multiple regression model

$Y=2.353+ 0.183X_1 + 0.158X_2 +$

The regression equation above has established that taking all factors into account (product returns management, recycling management, disposal management and product repackaging) constant at zero, performance of food and beverage manufacturing firms will be an index of 2.353.

The findings presented also shows that taking all other independent variables at zero, a unit increase in product returns management will lead to a 0.183 increase in performance of food and beverage manufacturing firms. The P-value was 0.000 which is less 0.05 and thus the relationship was significant.

The study also found that a unit increase in recycling management will lead to a 0.158 increase in performance of food and beverage manufacturing firms. The P-value was 0.001 and thus the relationship was significant..

Conclusion of the Study

First, in regard to product returns management, the regression coefficients of the study show that it has a significant influence of 0.183 on performance of food and beverage manufacturing firms. This implies that increasing levels of product returns management by a unit would increase the levels of performance of food and beverage manufacturing firms by 0.183. This shows that product returns management has a positive influence on performance of food and beverage manufacturing firms.

Second in regard to recycling management, the regression coefficients of the study show that it has a significant influence of 0.158 on performance of food and beverage manufacturing firms. This implies that increasing levels of recycling management by a unit would increase the levels of performance of food and beverage manufacturing firms by 0.158. This shows that recycling management has a positive influence on performance of food and beverage manufacturing firms.

Recommendations of the Study

To ensure that food and beverage manufacturing firms have better performance they should focus more on using their product returns management so as to ascertain recall procedures are adhered to and product recovery is done properly and to ensure that there is consistency of recycling goods that need reworks. In the same regard, they should involve suppliers early enough to enable them to have recall policy and procedure.

With regard to the second objective, it would be constructive for food and beverage manufacturing firms to invest more in recycling management to reduce the amount of time spent by staff doing non-core activities and ensure professionals spend time on core activities that give them competitive advantage.

Areas for Further Research

The study is a milestone for further research in the field of performance of food and beverage manufacturing firms in Africa and particularly in Kenya. The findings demonstrated the important product upstream movement to the performance of food and beverage manufacturing firms to include; product returns management, recycling management, disposal management and product repackaging. The current study obtained an R^2 of 64.7% and should therefore be expanded further in future in order to include other product upstream movement that may as well have a positive significance to performance of food and beverage manufacturing firms. Existing literature indicates that as a future avenue of research, there is need to undertake similar research in other institutions in Kenya and other countries in order to establish whether the explored product upstream movement platforms herein can be generalized to affect performance in other institutions.

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