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**Green Procurement as a Tool in Maximizing Customer Satisfaction in a
Manufacturing Organisation: A Case of BIDCO Kenya**

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Abstract

Purpose: The purpose of this study was to do an assessment of how sustainable green procurement is a tool for customer satisfaction with reference to BIDCO Africa in Thika. This study was guided by the following research objectives: to establish the role of corporate social responsibility in customer satisfaction and to determine the role of reverse logistics in customer satisfaction.

Methodology: The study adopted a descriptive research design. The target population in the study was 400 employees working with BIDCO. Sampling technique was used to ensure that each case in the population has an equal chance of being included in the sample. A questionnaire was used as a data collection instrument that aided to collect the relevant information needed for analysis. After collection of data it was analyzed using descriptive statistics methods such as mean, weighted averages and percentages. The analyzed data was presented by use of frequency tables, charts and graphs. Regression analysis was also applied where computer software was used also that is Statistical Package for Social Sciences (SPSS) for data analysis.

Findings: The results indicated that there was positive relation between green procurement and customer satisfaction and the researcher recommended more application of the variables used in this study to increase on the customer satisfaction of manufacturing organization. Further studies recommended a comprehensive study to be done using both questionnaires, interviews and any other method of data collection to obtain in-depth information that the researcher missed in this study. System theory was tested by the researcher, This theory was used to describe an organization as a system that requires interrelation of all parts and change at one point may lead to multiple changes of other parts, (Maignan, 2012). organizations should operate as open systems where it should interact with the environment, even as many firms are painting their products green and they are not environmental friendly.

Unique Contribution to Theory, Practice and Policy: The study recommends that with the global warming and environmental concerns from all sectors, there's is need for manufacturing organizations in Kenya to adopt green procurement practices in order to help in efforts of conserving the environment.

Keywords: *Sustainable Green Procurement, Corporate Social Responsibility, Reverse Logistics*

INTRODUCTION

Environmental issues have become a subject of critical concern for businesses in recent years worldwide (Marron, 2013). Environmental obligations have grown substantially as the society becomes more conscious of its environment, and legislation relating to the situation is increasing in number that requires companies to be environmentally responsible (Zhu, Sarkis & Geng, 2009). United Nations action at the global level reports that the UN environment supported the establishment of the Sustainable Public Procurement (SPP) in 2014 and led the program until 2019. UN continues to support the one planet program as a member of its Multi-stakeholder Advisory Committee (MAC). The SPP program is a global multi-stakeholder platform that supports the implementation of SPP around the world. The program builds synergies between various partners to accelerate the shift to SPP and achieve the Sustainable Development Goals.

UN environment is active in the United Nations Development Account (UNDA) project, “enhancing sustainable public procurement for the regional transition to an inclusive green economy in Eastern Europe, Caucasians and Central Asia (EECCA). The European Union for environment initiative integrates multiple activities and stakeholders to help deliver policy and legislative changes, making planning and investment greener, stimulating the uptake of innovative technologies, adopting new business models, and creating green jobs (UN Reviews, 2013). In light of the increasing costs of waste management, environmental degradation, public health concerns, climate change, resource depletion and persistent global poverty, the supply management is increasingly being called upon to contribute to broader organizational goals of sustainable development through the inclusion of social and environmental criteria within procurement process (Srivastava, 2013).

In consideration to green procurement, South Africa is an international leader when it comes to green policy. The national government recently released the national climate change response policy while demonstrating its commitment to address the issue of climatic change and transition to a low-carbon economy. After the federal ruling in the United States, compelling public authorities to only purchase energy-efficient commodities, the demand for such models were phased out. The constitutional mandate followed for local government as articulated in the constitution of the Republic of South Africa, Act 208 of 1996, includes a provision that states the South African local government to ensure the provision of services in a durable mechanism. To promote social and economic development to promote a safe environment locally.

Green procurement has been a logical extension of the work (Brammer & Walker, 2011). Kenya, as a developing country, has been slow in taking up a structured and policy-driven approach to enhancing the adoption of GP the benefits accruing notwithstanding (Bolton, 2006; 2008). The public procurement and disposal act established in 2005 and subsequent regulations 2006, 2009, and 2015 which are critical points of reference to Green Public Procurement. According to Kenya solid waste management (2013), industrial waste constitutes about 23% of the total waste generated in Nairobi City. The government of Kenya has put in place environmental management

coordination Act (EMCA) 1999 that provides for the establishment of an appropriate legal and institutional framework for the management of environmental issues. According to Odhiambo (2008), many private firms in Kenya are working to improve the environmental performance of their operations and products, and green procurement has been a logical extension of this work. For manufacturing and process-oriented firms, green procurement practices look at the material substances and chemicals in the products and services they provide.

BIDCO Africa being a source of consumable fats and oils in Kenya and the East African Region. Therefore, representing a severe competitive force within the country, resulting in some rival firms abandoning the manufacture and distribution of the same items as those of BIDCO Africa. BIDCO Africa is perceived as a multinational consumer goods company that has its headquarters at Thika, Kenya, with subsidiaries across sixteen countries. Its products include fats, margarine edible oils, laundry and detergents, personal care products, and animal feeds.

BIDCO Africa remains focused only to ensure customer satisfaction, and this research aimed to determine how BIDCO has utilized green procurement to ensure customer satisfaction. According to Gitonga (2003), BIDCO is a customer-focused organization, and the customer is the determiner of the activities which take place in the institution. Further, the corporation seeks to achieve the prospects by offering its customer's reliable services and quality brands at the most affordable prices.

Statement of the Problem

Focus have been put on implementation of green procurement and designing of green procurement policies and procedures by organizations and other supply chain partners, Buchalcevova and Gala (2012).on a survey report given by national association of education procurement (2016) shows that green procurement initiatives benefits stakeholders satisfaction to a percentage of 73%, basing on this survey it was not specific on benefits of green initiatives on customer satisfaction. Different mechanisms have been explored in an aim to enhance the utilization of green products which improve organization performance, Sarhaye (2017),revealed that there was a positive relation between green procurement and its impact on customer satisfaction ,also a study done by Hussein and Shale(2014) on effects of sustainable procurement on organization performance in manufacturing sector agreed on three main mechanisms that contribute to green procurement which are corporate social responsibility, product reusability, supplier involvement and ethical practices .with these several studies done, there is a gap which needs to be filled, there is little research done on impacts of sustainable procurement practices on customer satisfaction. Therefore these study the researcher delved into the prospects of manufacturing green product quality, supplier assessment and green corporate image as tools for maximizing customer satisfaction.

General Objective

The general objective of this research was to determine how sustainable green procurement is a tool for maximizing customer satisfaction at BIDCO.

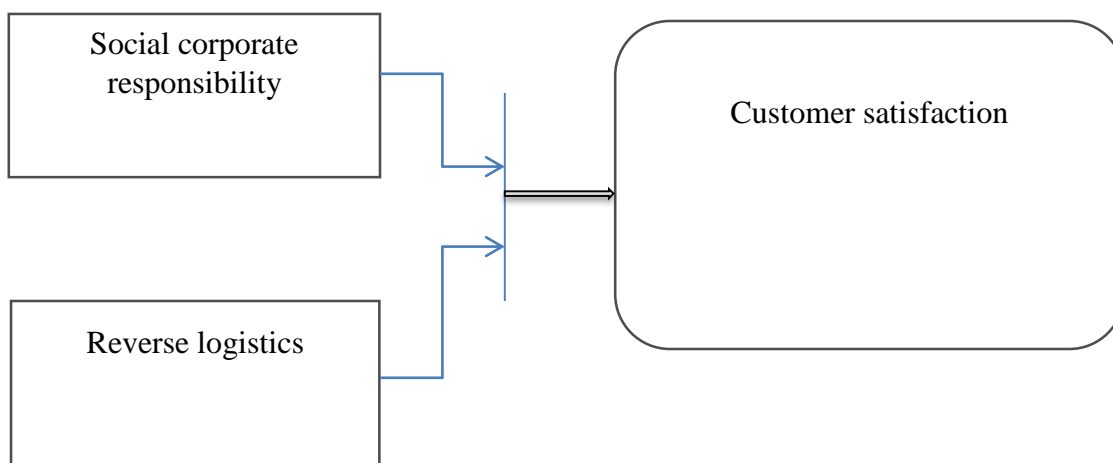
Specific Objectives

- i) To find out the role of corporate social responsibility in customer satisfaction in BIDCO
- ii) To determine the role of reverse logistics on maximizing customer satisfaction at BIDCO

Research Questions

- i) To what extent does corporate social responsibility affect customer satisfaction at BIDCO
- ii) In what ways does reverse logistics impact maximization of customer satisfaction at BIDCO?

Conceptual Framework



Dependent Variable

Independent Variable

Figure 1: Conceptual Framework

Corporate social responsibility

In the recent years firms have moved to sustainability and investment to eco-friendly practices which are the key pillars of green corporate image to their customers the success and growth of businesses is measured through stakeholder's perception and not financial balance. (Christodouloupoulue, 2013) He gave a scientific definition of sustainability with different components and in his definition he gave environmental management, corporate responsibility and corporate image as major factors for sustainability which contributes to green customer perception on the organizations. According to him incorporation of these components which are sustainable activities that leads to environment transformation.

(Namkung & jang, 2013) They used an example of a result in their research paper and they stated that customers will buy more on green restaurants which supports and are more involved in green experiences to the customers. Their study proves that green corporate image tend to increase sales from customers through green perception.

(Too & Bajiachrya, 2013) In their paper they stated that customer perception is improved through integrating green attributes and practices into a corporate brand thus an organization gaining competitive advantage. With this statement it proves that green corporate image drives customers to compare with other businesses and chooses which satisfies them.

Reverse Logistics

According to (Srivastava, 2013) these reverse logistics operations support a variety of activities ranging from green logistics, to efforts that reduce the environmental impact of the supply chain and to activities that encompass product returns and repairs. The environmental issues in logistics are consumption of nonrenewable natural resources, air emissions, and noise pollution, congestion and road usage, and disposal of both hazardous and non-hazardous waste. Implementation reverse logistics practices require the collaboration of forward and backward flow of materials and information that is; from the suppliers to the firm and from the firm to the customers. Customer's risk when buying a product can be reduced through reverse logistics which in turn increase the customer value which has influence on customer satisfaction.

Reverse logistics is more than reusing containers and recycling packaging materials. Reverse logistics also involves recycling of waste products, monitoring of logistics returns and proper disposal of waste products redesigning packaging to use less material, or reducing the energy and pollution from transportation are important activities, but they might be secondary to the real importance of overall reverse logistics. But this study used the overall importance to evaluate its role in Bidco and how it influences customer satisfaction.

Research Gap

On the previous studies many researches have researched on the effects of green procurement on organization performance .Siyad .A (2017) with his findings concluded that there is a positive relation with green procurement practices with organizational performance but he was not specific on how they contribute to customer satisfaction .also previous researches on the variables have been done but they were not linked to how they can influence customer satisfaction in manufacturing firms which poses a research gap ,therefore this study used corporate social responsibility, green supplier assessment, green product quality and reverse logistics to arrive at how this green practices will maximize customer satisfaction at BIDCO

METHODOLOGY

Target Population

Target population refers to the total number of subjects or the total environment that researcher is interested in, (Willis & David, 2009) The target population of this study was 200 employees in Thika BIDCO ,this target population was chosen because it comprises of both top, middle ,lower and subordinate staff personnel's in both the manufacturing and procurement department to ensure that there is all characteristics represented and to yield high quality results in interest of the variables in this study. Stratified random sampling technique will be employed in this study. According to Willis Yuko Oso and David Onen (2009), stratified sampling identifies sub-groups

in the population and select from each subgroup to form a sample the reason why this technique was used to ensure there was equal representation of the population and that the subgroups are proportionately represented. The sample size of the study will be calculated using the above Slovin's formula;

$$n = \frac{N}{1 + N(e)^2}$$

Where n = Sample size

N = Total Population

e = Error tolerance (confidence level)

Questionnaires were the main tools for collecting data. The researcher used a closed ended questionnaire during the study, where the respondents were required to react to questions related to the variables in the objectives. Interviews were to be used by the researcher to collect data that cannot be directly observed or are difficult to be expressed in writing and to capture meanings that are beyond words explanation. The researcher was concerned with the views, opinions and the feeling of the target population to the research topic. the researcher was to use this tool to yield high response rate and to gain control over the line of questioning and to obtain personal sensitive information from the respondents regarding the research topic. The researcher proceeded to collect primary data from the sample size of 100 respondents and interviewees in the month of March using the questionnaires. The researcher conducted the research herself and gained control over the study. The data was later analyzed using qualitative method which included figures and tables.

DATA ANALYSIS AND DISCUSSION

According to Mugenda &Mugenda 2003, data analysis is the process of building the gathered data by putting it altogether and organizing the principle parts such that the results/discoveries are effortlessly and adequately imparted. After the data collection the data was checked for dependability and confirmation, altering, coding and organization was done. The qualitative data generated from the study guide was categorized in themes in accordance with research objectives and reported in narrative form to reinforce quantitative data.

The information was further broken into utilizing subjective quantitative procedures. Quantitative techniques which included use of, tables of frequency distribution mean scores and standard deviations. These analyses was used to address specific objectives I to IV. With the help of Statistical Package for Social Science (SPSS) and diagrams through computer software.

Analysis was done using multiple regression model where

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + e$$

- Where.
- **Y** =customer satisfaction
- **α** = (alpha) is the constant or intercept.

- x_1 = corporate social responsibility
- X_2 = reverse logistics
- e=error code
- β_1, β_2 =Beta coefficients for x_1, x_2 , respectively.

Descriptive Analysis on Corporate Social Responsibility

From the information obtained in the study, a moderate number of respondents believe that Bidco has a well-established corporate social responsibility rights fields with a mean=1.75, respondents with a mean of 1.80 believes that the company has demonstrated equity and fairness through ethical treatment to customers. Respondents with a mean of 1.98 agree to the fact that the company accepts full responsibility for the products they sell through production, distribution and waste management. Moderate respondents with a mean of 1.94 agree to the reality that the firm has established processes that are acceptable to social, environmental and human.

Descriptive Analysis on Reverse Logistics

The study also sought to establish the impact of reverse logistics on customer satisfaction and quite a number of employees gave their views as tabulated below. From the table it is indicative that respondents with a mean of 1.68 accept that BidCo has a channeled reverse logistics network. Respondents with a mean of 2.06 ascertain that consumers bring back their feedback through the channel. Respondents with a mean of 2.17 agree to the fact that the firm collects useful waste to be returned to the firm for re-manufacture. Respondents with a mean of 1.46 confirmed that the company uses clean transport with less noise pollution.

Table 1: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.347	3.217		-.108	.914
1 CORPORATE SOCIAL RESPONSIBILITY	1.322	.374	.309	3.537	.001
REVERSELOGISTICS	1.093	.367	.276	2.981	.004

$$Y = C + \beta a + \beta^2 b + \varepsilon$$

$$Y = 3.347 + 1.322a + 1.093b + \varepsilon$$

Where Y= Supply chain performance

C= Constant

a= Corporate

b= Reverse logistics

Holding all the independent factors constant in the regression model above, maximization of customer satisfaction is equivalent to 3.347 units. Basing on the equation, if all the variables are held constant, a unit increase in corporate responsibility will result to a 1.322 unit increase in customer satisfaction; similarly a unit increase in reverse logistics will lead to 1.093 increase in customer satisfaction. It is therefore confidently conclusive that corporate social responsibility, and reverse logistics have significant in the final model. Among the predictors considered in the research, reverse logistics contributes the most as evidently shown by their coefficients.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study was carried out at BIDCO to represent the manufacturing firms in Kenya. The objectives were; to establish the role of corporate social responsibility in customer satisfaction in BIDCO, to find out the effects of supplier assessment, to establish how the manufacturing of green product and to determine the role of reverse logistics in maximizing customer satisfaction.

From the results it was noted that. The questionnaires administered were 69 and 65 were fully filled and returned. This amounted to a response rate of 94.2% and thus the data was worth the analysis.

On the respondent's experience it was indicative that 26.2% of the respondents have spent 1 to 3 years in the company. 50.8% have spent 3 to 5 years, 1.5% have spent 5 to 10 years and 21% of the respondents have spent more than 10 years offering services to the company.

The study also revealed that it is indicative that 83.1% of the employees in BIDCO Africa have a comprehensive insight of what green procurement is while 15.4% have no idea what green procurement is all about. The study also found that procurement department has a high percentage of employees as compared to other departments.

On corporate social responsibility it was found out that the company has well established social responsibility with a mean of 1.75, respondents with a mean of 1.80 believes that the company has demonstrated equity and fairness through ethical treatment to customers. A mean of 1.98 agrees to the fact that the company accepts full responsibility for the products they sell through production, distribution and waste management. Moderate respondents with a mean of 1.94 agree

to the reality that the firm has established processes that are acceptable to social, environmental and human rights.

On whether BIDCO practices reverse logistics a mean of 1.68 accept that BIDCO has a channeled reverse logistics network. Respondents with a mean of 2.06 ascertain that consumers bring back their feedback through the channel. Respondents with a mean of 2.17 agree to the fact that the firm collects useful waste to be returned to the firm for re-manufacture. Respondents with a mean of 1.46 confirmed that the company uses clean transport with less noise pollution.

Conclusion

The study sought to determine the extent which green procurement can lead to maximum customer satisfaction in manufacturing organization. The results have shown that the variables used in the study relates to customer satisfaction.

In regard to the results obtained, it is clearly indicated that customer satisfaction and corporate social responsibility are strongly and positively correlated. With a correlation coefficient of 0.086 and a p value of 0.554 it is significant to conclude that the existing relation is moderately positive. This shows that an advancement corporate social responsibility will result a significant improvement in customer satisfaction.

Based on the results found on reverse logistics, it has moderate correlation to the dependent variable; this is due to the less adoption of reverse adoption practices at BidCO Company. The study therefore concludes that increase in reverse logistics practices will lead to a strong and positive correlation which will amount to maximization of customer satisfaction.

Recommendations

The study makes a number of recommendations for policy and for practice. First, with the global warming and environmental concerns from all sectors, there's is need for manufacturing organizations in Kenya to adopt green procurement practices in order to help in efforts of conserving the environment. Currently many firms have adopted green procurement but they have not applied green procurement initiatives to the maximum major reason being that many of the employees have limited knowledge on green procurement practices.

Given that many employees have limited knowledge on green procurement it is important for manufacturing organization to train their staff on what green procurement is and its benefits and this way they will be motivated to adopt and practice green procurement in their organizations and therefore force the entire members of the supply chain in the suit.

There is also need for legislative bodies such as NEMA to collaborate with manufacturing organizations on green procurement, with legislation in place and enforcement of laws like Public Procurement and Disposal act 2015 the practice of green procurement would be adopted by many manufacturing organizations in Kenya.

Scope for Further Studies

The study suggests that a more qualitative study with a combination of questionnaires, interviews and observations be done to bring out the issues which might have missed in this study. Future researchers should also focus on such green practices and their impact on customer satisfaction in the service industry such hospitality. Future studies should also focus on how green practices translate in the value of the firm by performing an analysis of such practices on firm performance.

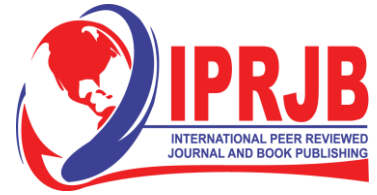
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