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ROLE OF GREEN MARKETING ON PERFORMANCE OF MANUFACTURING FIRMS IN KENYA

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ABSTRACT

Green marketing can be defined as the effort by a company to design, promote, price and distribute products in a manner which promotes environmental protection. The present day competition characterizing business environments coupled with increased demands for environmental sustainability has required that enterprises need to implement strategies to reduce the environmental impacts of their products and services and thus to establish their environmental image which demands that companies have to re-examine the purpose of their business. However, it is not just about being environment-friendly; it is about good business sense and higher profits. In fact, it is a business value driver and not a cost center. Green approach requires that manufacturers, suppliers, and customers within the supply chain work together to develop environmental solutions and monitor the implementation of those solutions. This study is about the role Green manufacturing on performance of manufacturing firms in Kenya. To achieve this, the research design to be used was a descriptive research approach combing both quantitative and qualitative research designs. The study used manufacturing companies that are members of the Kenya Association of Manufactures. This study used both primary and secondary data. Primary data was obtained through a questionnaire. Secondary data was obtained from KAM about the target population and the record of green initiatives and list and characteristic of manufacturers under the umbrella body. Data was analyzed by employing descriptive statistics and inferential analysis using statistical package for social science (SPSS). The data was then presented using frequency distribution tables, bar charts and pie charts for easier understanding. The study found out that; green marketing influenced performance of manufacturing firms in Kenya. The study recommends that; that the policy makers such as the Government of Kenya, Kenya Ports, Kenya Bureau of Standards and Kenya Association of Manufacturers should partner to ensure that policies that regulate manufacturing sector are harmonized.

Keywords: Green marketing, environmental sustainability and performance of manufacturing firms

Background of the Study

Balancing economic and environmental performance has become increasingly important for organizations facing competitive, regulatory, and community pressures (Chege, 2012). The present day competition characterizing business environments coupled with increased demands for environmental sustainability has required that enterprises need to implement strategies to reduce the environmental impacts of their products and services and thus to establish their environmental image which demands that companies have to re-examine the purpose of their business (Green et al, 2012). However, it is not just about being environment-friendly; it is about good business sense and higher profits. In fact, it is a business value driver and not a cost centre (Aberdeen Group 2001).

This "green" approach requires that manufacturers, suppliers, and customers within the supply chain work together to develop environmental solutions and monitor the implementation of those solutions (Agaba & Shipman, 2007). According to Vachon and Klassen, (2007) organizational competitive advantage can be gained through the adoption of an environmental strategy and implementation of environmental collaboration and monitoring practices. According to (Bakker et al, 2008), business processes that must be integrated and coordinated include those in pursuit of green supply chain practices adoption such as purchasing, manufacturing, marketing, logistics, and information systems.

Adoption of such practices has been found to be a source of competitive advantage more so in such environments characterized by stiff competition and enlightened customers (Basheka & Bisangabasaija, 2010). Therefore, one of the ways that firms can use to maintain their relevance and competitiveness is the adoption of green supply chain practices. The competitiveness of an organization will lead to sustainability which refers to the development that meets the needs of the present generation without compromising the ability of the future generation to meet their needs (Caridi et al, 2004). The implementation of an ERP system like any large project is fraught with danger. The Standish Group surveyed approximately 8000 applications and found that only 16% were successful.

The significant risks attaching to technology investments discourage many firms from committing resources to enhance their performance into the future (Davenport, 2008). This is understandable as most organizations fail to realize or to appreciate the value of investments in ICT (Davis, 2009). Despite this, ERP systems are the system of choice in the complex environment of globalization and they currently represent a firm's largest IT investment (Gebauer et al, 2008). The estimated annual expenditure on ERP systems is $50 billion (Jessup and Valacich, 2003). Such investments are more likely to result in competitive advantage if they result in the transformation of business processes rather than just in the automation of such processes (Joel et al, 2009).

With the increasing awareness of environmental sustainability issues, manufacturing firms have now begun to think and act green. In addition, firms need to implement wise strategies to compromise with green issues without neglecting their business objectives. In addition, three main approaches are involved in the creation of "green" supply chains; environment, strategy and logistics (Kwon and Zmud, 2007). This is a problem for all firms and governments the world

over given the fact that environment degradation does not occur in isolation to the regions causing the pollution with the effects being felt miles and miles away from its source. For instance, in Malaysia, environmental issues have become a priority for the government and public (Macinnis and Jaworski, 2009).

The Manufacturing industry in the country is one of the main contributors to environmental deterioration, with the Department of Environment Annual Report 2010 showing that pollution from the manufacturing industry has increased from 85% to 97% between 2005 and 2009 respectively (Morosan and Jeong, 2008). Kenya has to balance both operational and environmental performance. Pathak et al, (2007) studies the extent of GSCM practices adoption in the food manufacturing industry and found out that GSCM practice adoption is still low as most manufacturing firms in the food sector are still considering adoption, except for eco-friendly design practices which are currently under consideration. In addition, internationally incorporated companies are currently considering adoption compared to the local companies who were still planning to consider its adoption. A little bit of improvement on both environmental and operational performance is being realized as a result of adopting GSCM practices (Obiso, 2011).

Statement of the Problem

Manufacturing companies in Kenya have been experiencing problems in the performance of their production and operations management (Wanyama, 2010). In the year 2000 manufacturing sector was the second largest sub sector of the economy after agriculture (R.o.K, 2011) but in 2012, it was in the fourth place behind agriculture, wholesale and retail trade, transport and communication (World Bank, 2013). As a result, the sector had seen a reduction in its contribution to GDP from 13.6% in the early 90‘s to 9.2 % in 2015 (R.o.K, 2015). Majority of manufacturing firms are faced with global resource exhaustion and rising environmental deterioration and thus cannot perform well. Therefore, they cannot do away with environmental issues any longer in businesses today. Globalization, pressures from the public, laws and environmental standard are making enterprises improve to better environmental practices as well. To maintain sustainable growth and development firms have to integrate their economic performance and the environment.

Owing to environmental and ecological responsibility, enterprises are encouraged to reuse, remanufacture and recycle used products to reduce harmful effects to the environment, especially

manufacturers of electrical consumer products (Raghunathan *et al,* 2011). However, this is not yet the case in Kenyan manufacturing firms' supply chain at present. Hart (1997) indicates that today many companies have accepted their responsibility to do no harm to the environment. Environmental issues, resource re-usage and information technology applications are gaining interest in supply chain management researches (Siemsen et al, 2014).

Green Supply Chain Management practices by manufacturing firms in Kenya by (Odhiambo, 2008) studied the way the practices and the challenges faced by manufacturing firms. The findings obtained indicated that the practice that received the least consideration was reverse logistics and that the multinationals were more aware of the practice than the locals. Green Supply Chain Management and the performance of manufacturing firms in Mombasa, Kenya' by (Akech, 2015) sought to identify the Green Supply Chain practices and the challenges faced by manufacturing firms. The findings indicated that the practices have a positive impact on manufacturing firms in Mombasa. The study also highlighted the relevance of Green Supply Chain in overcoming environmental challenges was highly appreciated.

Carayannisa and Popesscu, (2015) investigated the relationship between green logistics practices and firm performance in healthcare organizations in Turkey. This study focused on health care organizations and thus presenting a conceptual gap. The study also was based on Turkey and thus presenting a contextual gap. The current study will focus on manufacturing firms. Croom, (2012) conducted study on Indian textile suppliers' sustainability evaluation using the grey approach. The study focused on Indian textile suppliers' sustainability and thus presenting a conceptual gap. The current study will focus on role of green supply chain. Irfan and Chun, (2008) conducted a study titled; reverse logistics and the relation reverse logistics and the relation between industry and retail industry and retail in the after in the after sale reverse flow management. This study used only reverse logistic as the only independent variable and thus presenting a conceptual gap. The current study will use reverse logistic with three other more variables, that is, green marketing, green distribution, green manufacturing practices. Therefore this study is conducted so as to bridge the existing knowledge gaps.

Green Marketing Practices

Srivastava (2007) classified the study of GSCM into three broad categories: the importance of GSCM, green design and green operations. The importance of GSCM was found in the earlier literature concerning GSCM during its implementation stage. In relation to this, several attempts have been made in recent studies to streamline the GSCM practices. A GSCM study by (Heijden et al, 2013) has reaffirmed on the GSCM practices in their study. By investigating the effect of GSCM drivers and the moderating effects of institutional market, regulatory and competitive pressures on the GSCM practices, the study has used four GSCM practices mentioned in the earlier literatures; green purchasing, cooperation with customers, eco-design and investment recovery.

This is again confirmed by Hsu et al. (2013) in their latest study by verifying the vital drivers that affects the three GSCM practices that include green purchasing, eco-design and reverse logistics. In relation to this, GSCM practices exist in compliance with the regulatory and legislation requirements, or as a tool for preserving competitive advantage in the industry. Green marketing supports green manufacturing since it is customer or demand focused as opposed to product oriented manufacturing strategy. Through green marketing initiatives, firms are able to develop their own positive efforts to be more socially responsible and to meet customer expectations for more environmentally conscious products (Shane, 2003).

According to Iles (2006) chemical manufacturers can use green chemistry as a sustainable tool to reduce toxicity, resource and energy use, and pollution of chemicals. Perry and Singh (2002) conducted a survey among 91 MNCs in Malaysia and found that the most important determinants of voluntary environmental actions was pressure to conform to corporate head office on environmental criteria, increased workforce environmental awareness, consumers especially those located in high-income communities, and community NGOs, and the media

RESEARCH METHODOLOGY

A descriptive research design was used in this study. Descriptive survey is a method of collecting information by interviewing or administering a questionnaire to a sample of individuals Orodho (2003). A population is the total of all the individuals or items that have certain characteristics which are of interest to a researcher. Mugenda (2008) describes target population as a complete set of individual cases object with some common characteristics to which researchers want to generalize the result of the study. The target population of this study was 727 registered manufacturing companies in Kenya as per KAM Directory 2017. The 12 sectors and the target population per sector is given in Table 3.1.

Table 3. 1 : Target Population

S/No	Sector	Target population	Percentage Represented	Sample size
1.	Building, Construction and Mining	18	3	7
2.	Chemical & Allied	56	9	22
3.	Energy, Electrical and Electronics	60	10	25
4.	Food & Beverages	131	23	58
5.	Leather & Footwear	17	3	7
6.	Metal & Allied	65	11	34
7.	Motor Vehicle & Accessories	83	14	35
8.	Paper & Board	47	8	4
9.	Pharmaceutical & Medical Equipment	29	5	14
10.	Plastics & Rubber	20	3	7
11.	Textile & Apparels	42	7	19
12	Timber, Wood & Furniture	13	2	5
	TOTAL	**581**	**100**	**237**

(KAM, 2017)

Data Collection Procedure

The questionnaire for this study constitutes the tool of data collection targeting managers in procurement/supply chain. The questionnaire was emailed as an attachment in word format and for those preferring hard copies, research assistants were engaged to drop and pick. The instrument is designed in such a manner to permeate appropriate measurements of the dependent

and independent variables. The manufacturing firms were first contacted and the intention to drop the questionnaires and the request to explain to the supply chain managers/procurement managers. The questionnaires were delivered to the respondents who are in charge of logistics functions and the researcher was to wait for them to be filled. The study expects a 100% response rate. A request letter for data collection from NACOSTI accompanied all the questionnaires.

Data Analysis and Presentation

This study produced both quantitative and qualitative data. Once the questionnaires are received they were coded and edited for completeness and consistency. Quantitative data was analyzed by employing descriptive statistics and inferential analysis using statistical package for social science (SPSS).

The data was then presented using frequency distribution tables, bar charts and pie charts for easier understanding.

Reliability and factor analysis for green marketing adoption

Reliability analysis for testing the internal consistency of all items in each dimension of green marketing adoption was conducted in this study. All the items achieved Cronbach's alpha of 0.7 suggesting that the questionnaire had high reliability as shown in Table 4.8.

Table: Reliability and factor analysis for green marketing adoption

Construct	Items	Cronbach's Alpha	Total to Item correlation	KMO	Loadings	Variance explained
Green marketing adoption	Command a Bigger Market Share	0.745	.578	0.67	.749	62.88%
	Command a Successful Market Niche		.544		.733	
	Enjoy Low cost Advantage		.490		.681	
	Developed Strong Marketing Ability		.449		.609	
	Developed Strong Capability in Research		.473		.654	
	Reputation in Product and Reverse logistics		.396		.571	
	Acquired a Strategic Position in the Market		.784		0.944	
	Clear Product Differentiation		.784		0.944	

The researcher also, tested the validity of the questionnaire. According to Mugenda (2008); Bryman (2012), construct validity refers to how well you translated or transformed a concept, idea, or behavior (a construct) into a functioning and operating reality and the operationalization.

Construct validity was achieved through restricting the questions to conceptualization of the variables and ensuring that indicators of each variable fell with the same construct. The purpose of this check was to ensure that each measure adequately assessed the construct it was purported to assess. The factor loading of the items in the model of green marketing adoption were all positive and significant. This meant that although these items were developed from literature reviewed focusing on the context of developed countries, the items converged very well to their respective dimensions and were applicable in the Kenyan context.

Construct Green Marketing

Supply chain management efforts great potential for organizations to reduce costs and improve customer service performance. In today's competitive market, companies are pressured to achieve high green marketing with fewer resources i.e. inventory, expedited shipments and overtime.

Additional pressures of increased product variety, shorter product life cycles and shorter desired delivery times have made it increasingly difficult to achieve high service levels with limited resources. The green marketing in an organization provides to its customers in one of the most important factors of an organizational success. However, management is typically unclear as to the ideal green marketing to strive for and the amount of inventory required in order achieving it. Therefore it is important for organization to understand the impact of these factors in order to react to changes effectively as well as to understand where to focus efforts. On the extent to which green marketing influenced performance of manufacturing firms, the study asked the respondents to indicate the extent to which green marketing issues were handled with. A- Likert Scale of 1 to 5) (1 =not at all, 2= small extent, 3=moderate extent, 4=large extent, 5= very large extent) was used. The key issues dealt with included, order lead item, position in the market, forecast accuracy, product differentiation, market share, cost advantage.

The findings were presented in table 4.9 on the extent to which customer Market Share influenced green marketing to affect performance of manufacturing firms in Kenya, 0.5 percent of the respondents indicated that Market Share did not affect performance of manufacturing firms, 1.7 percent of the respondents indicated that Market Share affected performance of manufacturing firms, 42.6 percent of the respondents indicated that Market Share affected performance of manufacturing firms to a moderate extent, 52.4 percent of the respondents

indicated that Market Share affected performance of manufacturing firms to a large extent and 5.0 percent of the respondents indicated that Market Share affected performance of manufacturing firms to a very large extent. This indicated that Market Share were not undertaken in many manufacturing companies and this hindered performance of manufacturing firms being achieved. This findings echoed findings by (Larsson et al, 2008) that low level of Market Share creates unsupportive environment for the achievement of high performance of manufacturing companies in Kenya.

On cost advantage by manufacturing companies, 2.6 percent of the respondents indicated that there was no cost advantage which could lead to more coordinated and integrated design and control of the supply chain in order to provide goods and services levels. 6.2 percent of the respondents indicated that there was cost advantage with customers at a small extent, 68.7 percent of the respondents indicated that there was cost advantage with customers at a moderate extent, 21.3 percent of the respondents indicated that there was real time cost advantage with customers at a large extent, 3.6 percent of the respondents indicated that there was better cost advantage with customers at a very a large extent which influenced better performance of manufacturing firmss in Kenya. There was an agreement with (Lysons & Gillingham, 2003).) that better cost advantage process is the key point of contact for administering product and service agreement developed by customer teams as part of customer relationship management process and the goal is to provide a single source of customer information such as product availability, shipping dates and order status towards supporting a coordinated performance of manufacturing firms among manufacturing companies in Kenya.

On product and service quality , 2.4 percent of the respondents indicated that product and service quality did not influence performance of manufacturing firms in Kenya, 9.6 percent of the respondents, indicated that product and service quality influenced performance of manufacturing firms in Kenya to a small extent, 52.6 percent of the respondents indicated that product and service quality influenced performance of manufacturing firms in Kenya to a moderate extent, 42.5 percent of the respondents indicated that product and service quality influenced performance of manufacturing firms to a large extent while 1.26 percent of the respondent indicated that product and service quality influenced performance of manufacturing firms to a very large extent.

This concurred with (Maleyeff, 2003), that product and service quality is the time that elapses between the customers placing an order and receiving the goods which increases customer satisfaction and minimizes custody monitoring order fulfillment and this facilitates performance of manufacturing firms in Kenya. On forecast accuracy, 2.6 percent of the respondents indicated that clear forecast accuracy leads to ISO 14001 certification between customer and suppliers in the supply chains especially point of sale (POS) and forecast data and this did not influence performance of manufacturing firms of manufacturing companies in Kenya, 6.2 percent of the respondents indicated that forecast accuracy between customers and suppliers influenced performance of manufacturing firms in Kenya to a moderate extent, 83.7 percent of the respondents indicated that clear forecast accuracy, between customers and suppliers influenced performance of manufacturing firms to a large extent in Kenya, while 7.6 percent of the respondents indicated that clear forecast accuracy between customers and suppliers influenced performance of manufacturing firms to a very large extent in Kenya. This was in agreement with (Morris et al, 2000) that the proper application of accurate forecasts between customers and suppliers leads to collaboration, access and sharing of information between different parties and players in the supply chain arena and this therefore supports performance of manufacturing firms in Kenya.

On position in the market, 0.96 percent of the respondents indicated that position in the market did not influence performance of manufacturing firms in Kenya, 8.62 percent of the respondents indicated that position in the market influenced performance of manufacturing firms to a small extent in Kenya, 53.6 percent of the respondents indicated that position in the market influenced performance of manufacturing firms to a moderate extent in manufacturing companies in Kenya, 42.8 percent of the respondents indicated that position in the market influenced performance of manufacturing firms to a large extent in Kenya, while 2.4 percent of the respondents indicated that position in the market influenced to a very large extent in Kenya. This echoed (Pavlou, 2003), (that increased level of position in the market results in improving demand estimation that allows for setting safety stocks more accurately and in addition as a strategic approach for decreasing safety stocks without sacrificing the green marketing which leads to performance of manufacturing firms in Kenya.

The study further found that, 0 percent of the respondents indicated product differentiation to increase revenues by raising purchase/usage levels and therefore increasing the range of product

bought from the suppliers did not influence performance of manufacturing firms in Kenya, 4.6 percent of the respondents indicated that product differentiation in buying goods works and services from suppliers influenced performance to a small extent in Kenya, 43.7 percent of the respondents indicated that product differentiation to buying goods, services and works from suppliers influenced performance of manufacturing firms to a moderate extent in Kenya, 47.6 percent of the respondents indicated that customers loyalty to buying goods, service and works from suppliers influenced performance of manufacturing firms to a large extent in Kenya, while 4.1 percent of the respondents indicated that customers loyalty in buying goods, services and works from suppliers influenced performance of manufacturing firms to a very large extent in Kenya. These findings supported findings by (Brown et al, 2005) that product differentiation in buying goods, services and works from suppliers are designed to strengthen commitment and create velvet handcuffs to bond the customer with the supplier in the market and therefore promotes customer and supplier relationships and hence enhancing performance of manufacturing firms in manufacturing companies in Kenya.

Table 4.9, therefore, indicates that majority of the respondents with an average percentage of 48.98, 45.67, 42.56 and 2.64 rated all green marketing management factors as influencing performance of manufacturing firms to a moderate extent, a large extent, and a very large extent respectively. Further, majority (92.45%) of the respondents indicated that the major factors influencing green marketing affect performance of manufacturing firms in Kenya to a large extent included. Market share, cost advantage, position in the market, forecast accuracy and product differentiation, as factors affecting green marketing in buying goods, services and works from the suppliers. These findings concurred with (Brown et al, 2005) that lack of buyer and supplier commitment, longer lead times, lack of effective quality management, lack of reliability and empathy affects performance of manufacturing firms in Kenya. The study therefore, concluded that factors such as cost advantage, market share, position in the market, forecast accuracy and product differentiation in buying of goods, services and works influenced how green marketing affected performance of manufacturing firms in Kenya.

Table: Green marketing

Green marketing	not at all	small extent	moderate extent	large extent	very large	**Total**
Market share	1.9	2.5	46.6	45.8	3.2	100
Position in the market	1.7	4.6	56.8	34.9	2.0	100
Cost advantage	4.6	7.2	46.6	32.4	9.2	100
Forecast accuracy	2.8	9.8	53.5	29.5	4.4	100
Product differentiation	0.8	9.6	52.5	32.5	4.6	100
Average	**2.36**	**6.74**	**51.2**	**35.88**	**4.68**	**100**

Correlation analysis for green marketing

A correlation analysis for the construct green marketing was conducted to find out how customer service correlated with performance of manufacturing firms. Table 4.22 shows that the Pearson correlation coefficient was 6.7699. (Baily, 2008) indicates that green marketing has a positive correlation with performance of manufacturing firms (p-values >0.05). The significance of green marketing verses green supply chain adoption enhancement and performance as indicated in the table below. These findings indicate that there is a positive linear relationship between green marketing and performance of manufacturing firms. Central to this is the notion of the internal customer "every part of an organization contributes to external customer satisfaction by satisfying its own internal customers" (Baily, 2008). From emanating perspective this internal customer notion is also well accepted (Bayton, 2008)

Table: Correlation analysis for construct green marketing

		performance of manufacturing firms	**green marketing**
performance of manufacturing firms	Pearson Correlation	1	6.76
	Sig. (2-tailed)	0.000	
	N	83	83
green marketing	Pearson Correlation	6.76	1
	Sig. (2-tailed)	0.000	
	N	83	83
Correlation is significant at the 0.01 level (2-tailed)			

Regression Analysis

In addition, the researcher conducted a linear multiple regression analysis so as to test the relationship among variables (independent) on the implementation of green procurement. The study applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study.

Table 4. 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.896[a]	.881	.132	.3295

Influence of Green Marketing on the Performance of Manufacturing Companies in Kenya

Green marketing was one of the determinants used to measure the performance of manufacturing companies in Kenya. Based on the study, it was found out that market share, market niche, cost, market ability, research and development, market positioning and product differentiation affected performance of manufacturing companies in Kenya. Thus, manufacturing companies in Kenya outsource green supply chain activities when transactional green manufacturing of producing in-house are higher and that green of green supply chain activities from supply chain would increase the company's profitability.

In addition, the study revealed that agency or administrative fees, handling and processing fees affected the performance of manufacturing companies in Kenya. Therefore, manufacturing companies in Kenya would apply green supply chains whose administrative, handling and processing fees are relatively lower in order for them to break-even and eventually increase profit margins. Finally, it was revealed from study that there was a positive correlation between green manufacturing and performance of manufacturing companies. Manufacturing companies considered green marketing as a key factor in decision making when selecting supply chain adoption. If manufacturing companies in Kenya do not select the right supply chain partner, there is a great possibility of green manufacturing escalation which adversely affects the overall performance of the company.

Conclusion

From the study findings, it could be concluded that green marketing had a positive significant influence on performance of manufacturing companies in Kenya. The study showed that transportation and distribution green manufacturing, customs clearance, document processing, freight forwarding, tracking and tracing affected performance of manufacturing companies in Kenya. Thus, these green marketing are regarded as transactional green manufacturing and they provide a major decision when manufacturing companies supply chains. Hence, manufacturing companies outsource green supply chain activities when transactional green manufacturing of producing in-house are higher than green available service. Further, agency or administrative fees, handling and processing fees affected the performance of manufacturing companies in Kenya. Therefore, manufacturing companies in Kenya would supply chains whose agency or administrative fees, handling and processing fees are relatively lower in order for them to break-even and increase overall performance of the company.

References

Adams, D., Nelson, R. and Todd, P. (2012), "Perceived usefulness, ease of use, and usage of information technology: a replication", *MIS Quarterly*, Vol. 16. 227-47.

Agaba, E & Shipman, N. (2007), Public Procurement Reform in Developing Countries: The Ugandan Experience. In G. Piga & K. V. Thai (Eds.), *Advancing Public Procurement*: Practices, Innovation and Knowledge-Sharing (373-391). Boca Raton, FL: Pr Academics Press.

Gungor, A., & Gupta, S. M. (2009). Issues in environmentally conscious manufacturing and product recovery: a survey. *Computers & Industrial Engineering*, *36*(4), 811-853.

Haron, M, & Arulchellakumar, J. A. (2012). Efficiency Performance of Manufacturing Companies in Kenya: Evaluation and Policies. *International Journal of Management and Business Research. 2(3)*, 233-242.

Lin, R. J., Chen, R. H., & Nguyen, T. H. (2011). Green supply chain management performance in automobile manufacturing industry under uncertainty. *Procedia-Social and Behavioral Sciences*, *25*, 233-245.

Rao, P., & Holt, D. (2005). Do green supply chains lead to competitiveness and economic performance? .*International journal of operations & production management*, *25*(9), 898-916.

Sarkis, J. (2005). Performance measurement for green supply chain management. Benchmarking: *An International Journal* 12(4): 330–353.

Srivastava, S.K. (2007) 'Green supply chain management: a state-of-the-art literature review', *International Journal of Management Reviews*, Vol. 9, No. 1, 53–80.

Vachon, S., Klassen, R.D., Johnson P.F. (2007). *Customers as green suppliers: Managing the complexity of the reverse supply chain*. In: Sarkis J (Ed.), Greening Manufacturing.