Effects of Green Purchasing Strategies on Sustainable Supply Chain Performance at Unilever Tea Kenya Limited

Susan Wambui Rujema[1], Salome Richu[2], and Kalio Aquilars[3]

[1]Jomo Kenyatta University of Agriculture and Technology, Nakuru CBD Campus, P. O. Box 12655-20100, Nakuru, Kenya

[2]School of Human Resource and Development, Jomo Kenyatta University of Agriculture and Technology, P. O. Box 1063-20100, Nakuru, Kenya

[3]Economics Department, Egerton University, Nakuru,
P. O. Box 536-20115, Nakuru, Kenya

ABSTRACT: The purpose of this study was to determine the effects of green purchasing strategies on sustainable supply chain performance at Unilever Tea Kenya Limited. The general objective of the study was to analyze the effects of green purchasing strategies on sustainable supply chain performance at Unilever Tea Kenya Limited. Environmental compliance, systems development and implementation, integration into core corporate function and total quality approach were identified as the key variables that guided the study. The target population was (120) from which a sample size of (92) was arrived at. The instrument for data collection was a questionnaire sent out to supply chain departments at Unilever Tea Kenya Limited through stratified random sampling. Data was analyzed using both descriptive statistics (mean, frequencies, percentages and standard deviation) and inferential statistics (Pearson correlation). After correlation tests were run, all four hypotheses were rejected and the alternative hypotheses accepted. The study established that environmental compliance, systems development and implementation, integration into core corporate function and total quality approach affects sustainable supply chain performance. The study recommended that more organizations especially in developing countries like Kenya could adopt and fully implement green purchasing strategies when sourcing for goods or services. The study further suggests for similar studies in other tea buying companies in Kenya which are in the process of implementing green business practices.

KEYWORDS: Environment Compliance, Implementation, Integration, Quality, Supply Chain.

1 INTRODUCTION

According to Walker *et al.,* 2008, it is either due to forced regulations by the state corporations or the growing concern on the deterioration of the natural environment, that organizations have increased their attention on practices with negative impact on the environment. This attention is not solely on an organization's activities such as production and marketing but also on its supplier activities. Common drivers in green procurement are regulatory compliance, customer pressure, risk minimization and the monitoring of green performance. The practice of environmental purchasing has been a much-neglected subject, but in the last few years significant progress has been made in developing tools and techniques to aid purchasing. The subject is acquiring its own intellectual credibility, although it remains a backwater for many environmental professionals (Morton, 2002). Previously, businesses assumed that incorporating 'green' into their business strategy would cost money, but they now realize that ignoring negative impacts on the environment will be costly in the future (Van der Zee, 2008).

Public concern for environmental issues has gradually but steadily increased over the past three decades since the inception of Earth Day appealing to preserve nature and biodiversity (Kim and Choi, 2005). To a large degree, private

organizations are permitted to invoke whatever criteria they like, and use what control procedures they deem appropriate, to govern the outflow of money to suppliers. They do, of course, have to demonstrate to the owners via the auditors that frauds have not been perpetrated and that arrangements have been made to the advantage of the company, but the precise form of commercial arrangements is open to considerable flexibility (Green, 1998). Consumers buy products based on a combination of cost, quality, availability, maintainability, and reputation factors. The companies along with their supply chains, which can provide these desired things, will ultimately be successful (Wisner *et al.,* 2008). But when confronted with risky purchase decisions, most firms consider first and foremost, sellers or suppliers with proven track record. Such firms are favoured as familiar suppliers help reduce perceived risks (Hutt and Speh, 2009). Supplier selection in particular is crucial in management of a supply chain. The decision is one of the most fundamental and important decisions made by buyers and organizations. This is because supplier selection and management can be applied to a variety of suppliers throughout a products' life cycle from initial raw materials acquisition to end-of-life service providers (Bai and Sarkis, 2009).

As a result of globalization the world is 'getting flat' (Friedman, 2005). Trade has become faster and easier, and has increased in volume. Various groups challenge globalization, claiming it creates inequalities between rich and poor. These groups seem to overlook that globalization creates opportunities for everyone, including the poor. Because developing countries have comparative advantages in terms of production, cheaper labour, natural resources and warm climates, companies relocate production there. Globalization thus creates a chance for the poor to participate in the world economy. Globalization has brought unparalleled opportunities for economic growth, but has highlighted widening income gaps between rich and poor. Improved technology and transportation have boosted exports from developing countries to wealthier parts of the world. This has sometimes brought more income for the poor. But in many cases, the rich have got richer, and the poor, poorer (Marije, 2008).

1.1   STATEMENT OF THE PROBLEM

Managing the supplier qualification and selection process is a necessary step for companies seeking to manage their corporate legitimacy and reputations. Increasingly more authors are addressing supplier selection issues in the light of environmental aspects (Sarkis, 2006). Social and environmental conditions in developing countries lag behind those in the West. Business leaders and public opinion increasingly acknowledge this, and agree that not just public actors, but also private companies need to engage in poverty alleviation. Corporate social responsibility (often referred to as CSR) also affects procurement by western companies in developing countries. As a result, a third element has joined the traditional strategic procurement elements of costs and quality as an influence on global procurement strategies which focuses on social and environmental issues. But globalization and liberalization also involve risks such as the overuse of natural resources, pollution, and the exploitation of people through human rights violations and setting unfair wages and prices. Partly due to pressure from civil society, the private sector is increasingly aware of these risks, and company boards are increasingly interested in developing sustainable businesses as was acknowledged during the Millennium Summit of the United Nations in the year 2000 (Marije, 2008). In Kenya, there has been a long-standing concern about land degradation and deforestation. Many large corporations have committed to sustainable development and show concerns on sustainability issues.

1.2   OBJECTIVES OF THE STUDY

The study was guided by one general objective and four specific objectives.

1.2.1   GENERAL OBJECTIVE

The general objective of this study was to assess the effects of green purchasing strategies on sustainable supply chain performance at Unilever Tea Kenya Limited.

1.2.2   SPECIFIC OBJECTIVES

i. To establish the influence of environmental compliance on sustainable supply chain performance at Unilever Tea Kenya Limited.
ii. To identify the role of systems development and implementation on sustainable supply chain performance at Unilever Tea Kenya Limited.
iii. To determine the relationship between integration into core corporate function sand sustainable supply chain performance at Unilever Tea Kenya Limited.
iv. To assess the effect of total quality approach on sustainable supply chain performance at Unilever Tea Kenya Limited.

1.2.3   HYPOTHESES

H_{01}: There is no significant influence of environmental compliance on sustainable supply chain performance at Unilever Tea Kenya Limited.

H_{02}: There is no role of systems development and implementation on sustainable supply chain performance at Unilever Tea Kenya Limited.

H_{03}: There is no relationship between integration into core corporate function and sustainable supply chain performance at Unilever Tea Kenya Limited.

H_{04}: There is no direct effect of total quality approach on sustainable supply chain performance at Unilever Tea Kenya Limited.

1.3   THEORETICAL FRAMEWORK

Global environmental management initiative (GEMI) offers four-level classification of sustainable sourcing strategies and performance, from simple compliance with minimum standards to assigning green purchasing to strategic corporate function (Hamner, 2006):

Level 1: Compliance. In this case, buying firms verify supplier's performance based on compliance with environmental, health and safety regulations and grant preference to those sourcing companies that better match purchaser's own environmental policies and related standards.

Level 2: Systems Development and Implementation. At this level of development, purchasing strategy is based on well-developed systems of supplier evaluation. Delisting of suppliers is implemented in regard to those companies that do not comply with purchaser's environmental requirements.

Level 3: Integration into Core Corporate Function. At third level, environmental evaluation model is integrated with supplier selection models. This coordinated scheme of supplier evaluation is applied at all business units (not only by environmental managers, but supply management, purchasing and marketing departments etc.)

Level 4: Total Quality Approach. In this case only those suppliers are granted with purchasing contracts who have implemented integrated sustainability approaches in managerial practices. Supplier's environmental management and quality improvement systems are continuously monitored and evaluated to check consistencies with corporate environmental policies. Collaborative relationships with suppliers are developed to reveal and implement synergies for further sustainability improvements both in purchasing and selling companies.

Sustainable supply chain management expands the concept of sustainability from a company to the supply chain level (Carter and Rogers, 2008). The supply chain includes the flow and transformation of goods and information from raw material stage, through to the end user (Seuring and Muller, 2008). Discussions of sustainability are driven by the basic notion that a supply chain's performance should be measured not just by profits, but also by the impact of the chain on ecological and social systems (Jennings and Zandbergen, 2005). Exemplars are organizations that are well ahead of their industry on either social and/or environmental performance while still maintaining economic viability. Identifying exemplars in sustainable supply chain management is complicated because rigorous metrics of environmental and/or social performance are absent in many industries. Some of the potential respondent organizations had received third party certification and/or recognition. For instance, one firm was the first in their industry to receive the Environmental Protection Agency's (EPA) Green Seal, while others had certifications from Non-Governmental Organization's (NGO) such as the Rainforest Alliance.
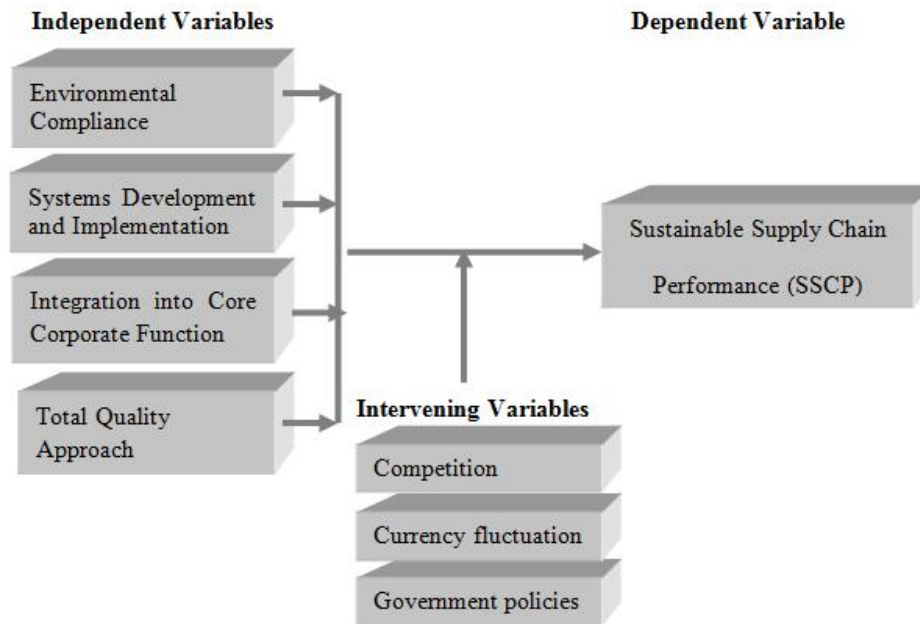
1.4   CONCEPTUAL FRAMEWORK

Figure 1.1: The Conceptual Framework

1.5   JUSTIFICATION OF THE STUDY

This study is significant especially to the supply chain staff of tea manufacturing companies in Kenya as it may guide in their steps to developing sustainable purchasing strategies. The basis of the study was to ascertain whether firms perform better or not through applying green purchasing strategies in decision making. The study was significant in that it can guide one on how to carry out a research in the future as scholars may revisit related topics in order to carry out further studies. The study was intended to contribute to the growing body of literature on sustainable supply chain performance in Kenya which is scarce. Gold *et al.,* (2010) referred to literature on SSCM as still limited, and literature reviews are scant with only nine comprehensive literature review papers on SSCM being available today. Kariuki (2014) study sought to analyze the key drivers of sustainable procurement in public institutions in Kenya: case of Kenya Electricity Generating Company olkaria, geothermal station Naivasha. The study's findings showed that environmental drivers, social drivers and economical drivers play a major role in the procurement processes of public organizations in Kenya.

1.6   RESEARCH METHODOLOGY

A research design is the blueprint used to guide a research study, and for fulfilling objectives and answering questions (Mugenda and Mugenda, 2003). The proposed study applied survey design which involves selecting a sample that is a representation of the population of the study who give their opinions. The instrument for data collection was a questionnaire sent out to the various supply chain departments at Unilever Tea Kenya Limited through stratified random sampling. The reason for sampling in this study was to lower cost, improve accessibility of study population and to enhance the speed of data collection. The target population was (120) from which a sample size of (92) was arrived at using Yamane, (1967)'s formula.

1.7   RESEARCH FINDINGS AND DISCUSSIONS

From a target population of 120 employees of Unilever Tea Kenya Limited, 92 were sampled. 77 fully completed questionnaires were received, analyzed and interpreted which represents a response rate of 83.70% which was acceptable.

1.7.1   DEMOGRAPHIC CHARACTERISTICS

This section provides the general characteristics of the respondents. The information was sort to establish the gender, age, academic qualifications, and duration of service, department and level of operation. The researcher sort to know the gender of the respondents and the findings were as follows: forty two (54.5%) of the respondents were male while thirty five

(45.5%) were female. The male dominated but this can be attributed to the nature of work especially in some departments such as logistics. This implies that there is relative gender parity in the organization since the difference is minimal.

1.7.2   AGE GROUP OF RESPONDENTS

The researcher established the age brackets of the respondents. This is a demographic that affects behaviors or perceptions of individuals on issues in organizations. The findings show that nine (11.7%) are between 18-24 years, twenty one (27.3%) are between 25-29 years, twenty nine (37.7%) are between 30-40 years while eighteen (23.4%) are above 40 years. This implies that the age group of staff is well distributed with a majority being below 40 years. These results indicate that the population is relatively young.

1.7.3   EDUCATION LEVEL OF RESPONDENTS

The study sort to determine the education level of the respondents. Education level can contribute to some of the purchasing strategies adopted by an organization. The findings indicated that three (3.9%) have secondary level education as their highest level of education, sixteen (20.8%) have reached certificate level, twenty two (28.6%) have diplomas, twenty four (31.2%) have degrees and twelve (15.6%) have attained post graduate level studies. This shows that majority of the respondents are well educated and capable of providing the relevant information. This implied that they were well equipped with the right skills and knowledge.

1.7.4   RESPONDENTS' DURATION OF SERVICE

The researcher sort to know the period of time that the employees have worked with the organization since this affects the understanding of a company's daily operations. The findings indicate that twenty four respondents have worked for 3-5 years at (31.2%), twenty (26.0%) have worked for 6-10 years, seventeen (22.1%) have worked for 0-2 years while sixteen (20.8%) have worked for more than 10 years. This indicates that majority of the respondents have a wider experience within the organization and have enough knowledge especially when filling out questionnaires.

1.7.5   RESPONDENTS' LEVEL OF OPERATION

Twenty seven supervisors had the highest percentage at (35.1%). Middle management had twenty five (32.5%); top management respondents were thirteen (16.9%) while entry level were twelve (15.6%). This response rate is attributed to the fact that most of the top management staff are busier The entry level lower response rate could be attributed to the fact that they may not have a wider experience in the company compared to the rest who have probably been in the industry longer. On the descriptive statistics results, all questions had a standard deviation of below one which indicates that the results were not significantly varied. The mean from all the respondents was between 3 and 5. 5 represented strongly agree while 4 represented agree which means that majority of the respondents agreed with the statements. 3 represented neutral, 2 represented disagree while 1 represented strongly disagree.

1.7.6   EFFECT OF ENVIRONMENTAL COMPLIANCE ON SUSTAINABLE SUPPLY CHAIN PERFORMANCE

When the respondents were asked to respond as to whether environmental compliance affects the sustainable supply chain performance. The mean from all the respondents was between 3 and 5. 5 represented strongly agree while 4 represented agree which means that majority of the respondents agreed with the statements. 3 represented neutral, 2 represented disagree while 1 represented strongly disagree.

Table 1 Correlation between Environmental Compliance and Sustainable Supply Chain Performance (SSCP).

		ENVIRONMENTAL COMPLIANCE	SSCP
ENVIRONMENTAL COMPLIANCE	Pearson Correlation	1	.529[**]
	Sig. (2-tailed)		.000
	N	77	77
SSCP	Pearson Correlation	.529[**]	1
	Sig. (2-tailed)	.000	
	N	77	77

**. Correlation is significant at the 0.01 level (2-tailed).

Table 1 shows the correlation coefficient (r) equals .529 indicating a significant relationship between environmental compliance and sustainable supply chain performance. The null hypothesis is rejected while the alternative hypothesis is accepted because the level of significance is less than 0.01. When the correlation is considered to be significant it means that the researcher can be 99% confident that the relationship between environmental compliance and sustainable supply chain performance at Unilever Tea Kenya Limited.

1.7.7 EFFECT OF SYSTEMS DEVELOPMENT ON SUSTAINABLE SUPPLY CHAIN PERFORMANCE

When the respondents were asked to respond to various statements as to whether systems development affects the sustainable supply chain performance. The mean on a Likert scale of 1-5 from all the respondents was between 3 and 5. 5 represented strongly agree while 4 represented agree which means that majority of the respondents agreed with the statements. 3 represented neutral, 2 represented disagree while 1 represented strongly disagree.

Table 2 Correlation between Systems Development and Implementation with Sustainable Supply Chain Performance (SSCP)

Correlation analysis was used to establish the effect of systems development and implementation on sustainable supply chain performance as shown below.

		Systems Development and Implementation	SSCP
Systems Development and Implementation	Pearson Correlation	1	.559[**]
	Sig. (2-tailed)		.000
	N	77	77
SSCP	Pearson Correlation	.559[**]	1
	Sig. (2-tailed)	.000	
	N	77	77

**. Correlation is significant at the 0.01 level (2-tailed).

Table 2 shows the correlation coefficient (r) equals .559 indicating a significant relationship between systems development and sustainable supply chain performance. The null hypothesis is rejected while the alternative hypothesis is accepted because the level of significance is less than 0.01. When the correlation is considered to be significant it means that the researcher can be 99% confident that the relationship between these two variables.

1.7.8 EFFECT OF INTEGRATION ON SUSTAINABLE SUPPLY CHAIN PERFORMANCE

When the respondents were asked to respond to statements as to whether integration into core corporate function affects the sustainable supply chain performance. The mean from all the respondents was between 3 and 5. 5 represented strongly agree while 4 represented agree which means that majority of the respondents agreed with the statements. 3 represented neutral, 2 represented disagree while 1 represented strongly disagree.

Table 3 Correlations between Integration into Core Corporate Function and Sustainable Supply Chain Performance (SSCP).

		Integration into Core Corporate Function	SSCP
Integration into Core Corporate Function	Pearson Correlation	1	.540**
	Sig. (2-tailed)		.000
	N	77	77
SSCP	Pearson Correlation	.540**	1
	Sig. (2-tailed)	.000	
	N	77	77
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 3 shows the correlation coefficient (r) equals 0.540, indicating a strong relationship. P value which is the significance is <.01 and **means the null hypothesis can be rejected. Correlation evidence is significant because it can help identify potential causes of behavior. There is therefore a strong relationship between integration into core corporate function and the sustainable supply chain performance at Unilever Tea Kenya Limited.

1.7.9   EFFECT OF TOTAL QUALITY APPROACH ON SUSTAINABLE SUPPLY CHAIN PERFORMANCE

When the respondents were asked to respond to various aspects on whether total quality approach affects the sustainable supply chain performance. The mean from all the respondents was between 3 and 5. 5 represented strongly agree while 4 represented agree, 3 represented neutral, 2 represented disagree while 1 represented strongly disagree on a likert scale of 1-5. This means that majority of the respondents agreed fully with the statements.

Table 4 Correlation between Total Quality Approach and Sustainable Supply Chain Performance (SSCP)

		Total Quality Approach	SSCP
Total Quality Approach	Pearson Correlation	1	.509**
	Sig. (2-tailed)		.000
	N	77	77
SSCP	Pearson Correlation	.509**	1
	Sig. (2-tailed)	.000	
	N	77	77
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 4 shows the correlation coefficient (r) equals 0.509 indicating a significant relationship between total quality approach and sustainable supply chain performance P-value which is the significance level is <.01 and asterisks means we can reject the null hypothesis. When two variables are related, or correlated, one can make predictions for these two variables. There is therefore a strong relationship between total quality approach and the sustainable supply chain performance at Unilever Tea Kenya Limited.

2   SUMMARY AND CONCLUSIONS

The study was looking into the effects of green purchasing strategies on the sustainable supply chain performance. Based on the summary of the findings, it was concluded that environmental compliance had an influence on sustainable supply chain performance at Unilever Tea Kenya Limited. Systems development and implementation plays a role on sustainable supply chain performance at Unilever Tea Kenya Limited. Integration into core corporate function influences sustainable supply chain performance at Unilever Tea Kenya Limited. Total quality approach has an effect on sustainable supply chain performance at Unilever Tea Kenya Limited. All four hypotheses were rejected and the alternative hypotheses accepted.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations were made. All stakeholders in the tea industry can collaborate to ensure full implementation by working with suppliers to develop and implement corporate social, ethical and environmental reports for those suppliers who do not have such programs in place. Performance could be constantly measured and the experiences documented in order to communicate results and track progress.

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