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ABSTRACT

The purpose of the study was to analyze the determinants of green procurement implementation in public sector in Kenya, a case study of REA in Kenya. Descriptive research design was used. The study established that the correlation coefficient was 0.799. This indicated a very strong positive relationship between the independent variable and dependent variable. It showed that the independent variables in the study were able to explain 63.80% variation in the green procurement implementation in the public sector in Kenya while the remaining 36.20% is explained by the variables or other aspects outside the model. This implied that the variables are very significant and they therefore need to be considered in any effort to boost green procurement implementation in the organization. The study recommended that the organization should have a cross functional cooperation for environmental improvements. The organization supply chain actors should be involved to enhance green procurement implementation. The special supply chain players should be involved in decision making to enhance green procurement implementation. There should be adequate awareness to the stakeholders which is a major hindrance to the green procurement implementation. The study recommended that green products, services and works cost more than non-green ones thus affecting green procurement implementation in the organization. The strategic sourcing should focus on searching for low-cost and high-value materials; developing technology and inventory control more efficient. The organization green sourcing means working with suppliers to purchase materials with higher rate of recycled content, pollution. The organization need to carry out appraisals on the procured products ensure that the supplies meet the sustainability requirements. The organization should encourage product re-usability to minimize the environmental degradation. There is need to have formulated and implemented green procurement policy to support green procurement initiatives. There is need to have formulated and implemented green procurement policy to support green procurement initiatives. The organizations should comply with the environment policy and strive to know the green needs of the public and suppliers.

Key words: *Organization Management, Stakeholder Involvement, Purchasing Price, Process Management, Green Procurement Implementation*

INTRODUCTION

Environmental concerns have increasing emerged as a major concern to both the political leaders across the world and increasingly among the business executives. For example, in a survey undertaken by McKinsey on 2,192 executives in 1998, over 80 percent of the executives anticipated the emergence of some kind of environmental issue within the next five years in countries where their companies operate (Lee, 2009). The concerns by the organizations on the environmental issues and attempts to proactively consider the environment in their business or organizational activities have led to emergence of green concepts. Green concepts include green supplies, green procurement and generally green management amongst other concepts (Nair, 2008). Green procurement is defined as taking into account environmental criteria for goods and services to be purchased in order to ensure that the related environmental impact is minimized (Thobane, 2009). It involves the integration of environmental issues into purchasing decisions based on price, performance and quality. Increasing costs of waste management, worker safety and public health concerns, and the emergence of acute and chronic environmental problems both locally and globally are just a few of the issues spurring on local communities to improve the environmental characteristics of their operations (Maignan, Hillebrand & McAlister, (2012). The environmental concerns and the attempts to proactive consider the impact of business activities on the environment affects the financial performance of the companies and more so Small and Medium Enterprises (SMEs). In the public sector, a large literature has explored engagement with sustainability in supply chain management and has highlighted benefits in the form of risk reduction and performance enhancement (Zhu, Sarkis & Geng, 2009). Sustainability in supply chain management requires a company or organization to carry out an assessment of the environmental consequences of a product at all the various stages of its lifecycle. This means considering the costs of securing raw materials, and manufacturing, transporting, storing, handling, using and disposing of the product (Zhu, Sarkis & Geng, 2009). With increasing awareness of environmental protection worldwide, the green trend of conserving the Earth's resources and protecting the environment is overwhelming, thereby exerting pressure on corporations in Taiwan. The pressure and drive accompanying globalization has prompted enterprises to improve their environmental performance (Zhu & Sarkis, 2006). Consequently, corporations have shown growing concern for the environment over the past ten years (Sheu, 2005). The pressure on corporations to improve their environmental performances comes from globalization rather than localization (Sarkis & Tamarkin, 2005). Increasing environmental concern has gradually become part of the overall corporation culture and, in turn, has helped to reengineer the strategies of corporations (Madu, 2002). In Japan, Green Procurement Network (GPN) and its leading roles in February 1996, by an initiative of the Environmental Agency of Japan, was established to promote green purchasing among businesses, governmental organizations and individual consumers in Japan (Claver-Cortes, 2007). The mission of the GPN is to spread the concept of green purchasing, and to provide guidelines and information necessary for practicing green purchasing. Since then the GPN has taken a leading role to promote green purchasing in Japan (Li & Geiser, 2009). In South Africa, green procurement is still a relatively new concept, playing only a small role in public procurement decisions (Lozano & Valles, 2013). For larger development projects all state entities are required to do environmental impact assessments by national law. Beyond this, several provinces and municipalities are pursuing the development and/or implementation of a green procurement policy

(Preuss, 2013). According to Odhiambo, (2008) many organizations 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. Similar to public buyers, private sector organizations have in the last two decades adopted green procurement practices for specific products (e.g., recycled-content office paper, renewable energy, paints, cleaners, etc.), with a few others have developed green procurement policies that cover a wider range of products, services and environmental issues (Odhiambo, (2008). As the business benefits of these efforts become better known, green procurement is continuing to grow in the private sector (Lucas, 2007). Kenyan government has not been left behind in looking at the issues concerning green procurement practices. The government has introduced energy saving bulbs to conserve energy, According to KPLC (2010) in Nairobi more heat than light is being generated by the free energy-saving-bulbs project launched in March 2010. The Sh460 million Kenya Power and Lighting Company project was to distribute free 1.25 million energy saving bulbs in the country which will save the national power grid some 60MW. The Rural Electrification Authority was established under Section 66 of the Energy Act, 2006 (No 12 of 2006) as a body corporate. It was created in order to accelerate the pace of rural electrification in the country, a function which was previously undertaken by the Ministry of Energy. Its Mandate is to accelerate the pace of rural electrification in order to promote sustainable socio-economic development. Their mission is to efficiently provide high quality and affordable electricity connectivity in all rural areas and to achieve high standards of customer service through advancing community participation to ensure long term sustainability and socio economic development towards becoming the provider of quality and affordable electricity to all in the rural area. REA core values include professional integrity and excellence, customer focus, team work, respect for people, passionate and commitment to staff welfare (Energy Act, 2006). According to Odhiambo and Kamau (2013), within 5 years of operations the number of public facilities connected to electricity has risen to 23,167 (90%) out of 25,873 main facilities indentified by the master plan.

Statement of the problem

Global warming, the greenhouse effect, natural disasters, disappearing rainforests, air and water pollution, pesticide residue, bioengineered food are nonstop issues that require the prevention and solution from all individuals to organizations in the world today. Concerns about environmental issues have hit a high desire to do more for the environment. Especially, environmental responsibility is gradually turning from a regulatory compliance to a business imperative. At no time have there been more requirements from companies and consumers to respond to environmental protection, human health and safety. Among business activities, those in the supply chain such as production, logistic, sourcing has shown a huge negative impact on the environment; even to be known as the major source of environmental problems (Eltayeb, *et al.* 2010). This matter did not only have an effect on consumer health and wellbeing globally, but also on their choices, purchases, perception, and preferences (Sarigöllü, 2009). Due to this, environmental issue has been the main focus in business world during the past decades .More and more companies are discovering that a supply chain which incorporates environmental responsibility is good not just for the environment but also for the business (McCrea, 2010). According to Faith-Ell, Balfors & Folkeson, (2010) environmental sustainability is still among the issues included in the eight international development goals (The Millennium Development Goals) that were established following the Millennium Summit of the

United Nations in 2000, following the adoption of the United Nations Millennium Declaration. According to Kenya Solid Waste Management (2013), industrial wastes constitute about 23% of the total waste generated in the Nairobi city, only about 25% of the estimated 1,500 tonnes of solid waste generated daily get collected. Given the above scenario, the government of Kenya has put into place Environmental Management and Coordination Act (EMCA) 1999 that provides for the establishment of an appropriate legal and institutional framework for the management of the environment and related matters. All organizations within the country are obliged to comply with the Act (Martin, 2012). According to Kenya Solid Waste Management (2013), industrial wastes constitute about 23% of the total waste generated in the Nairobi city, only about 25% of the estimated 1,500 tonnes of solid waste generated daily get collected. This statistics indicate that environmental issues have not been fully addresses. It is against this background that this inquiry sought to analyze determinants of green procurement implementation in public sector in Kenya. This research study will provide valuable contribution to green procurement literature.

Objectives of the Study

The purpose of the study was to establish the determinants of green procurement implementation in public sector in Kenya. The specific objectives were:-

- To establish how organization management influence green procurement implementation in public sector in Kenya
- To find out how stakeholder involvement affects green procurement implementation in public sector in Kenya
- To examine how purchasing price influence green procurement implementation in public sector in Kenya
- To determine how process management influence green procurement implementation in public sector in Kenya

LITERATURE REVIEW

Theoretical Review

Likert Theory

This study is based on theories and models of leadership especially the Likert theory (1973) on organizational management. In this theory four system approaches to leadership have been identified: system 1; system 2; system 3 and system 4. Each of these systems is characterized by its own unique approaches ranging from system 1 that is extremely autocratic and its corresponding effects on overall leadership in an organization to system 4 that is extremely democratic in nature, characterized by its own unique approaches and resultant effects on overall leadership in an organization. System 2 and 3 are authoritarian and democratic approaches but at varying levels. System 1 is characterized by low non- existent confidence in subordinates and lack of involvement in decision making by subordinates. In this the workers are coerced to work under threats and punishment. Authority is centralized at the top of the organization's structure. System 2 leadership style, also known as 'benevolent' authoritarian system of leadership, is a diluted dictator system and paternalistic in nature. Here the leader has some regards for subordinates. Whereas some few regards are given to subordinates motivation still remains low and they only make decisions that matter of little wait. The decisions that matter continue to be centralized at the top. Clearly the leader has little faith in the ability of the subordinates. In system 3, management has substantial though not complete confidence in the subordinates. Subordinates are fairly motivated and have a leeway in the decision making process-that

leaves the subordinates feeling appreciated. Even low level subordinates are given responsibilities. Studies based on the above four systems reveal that system 4 is the best management style for an organization because it has little grievance, low employee turnover, absenteeism and increased job satisfaction resulting in general increased productivity. Subordinates are rewarded to be motivated. Since the decision making process is decentralized they feel appreciated and highly energized to work towards the achievement of organizational goals.

Stakeholder Theory

The stakeholder theory is a theory of organizational management and business ethics that addresses morals and values in managing an organization. It was originally detailed by Freeman in 1984. Stakeholder theory suggests that the purpose of a business is to create as much value as possible for stakeholders. In order to succeed and be sustainable over time, executives must keep the interests of customers, suppliers, employees, communities and shareholders aligned and going in the same direction (Freeman, 1984; Miles, 2012). Stakeholder theorists such as Friedman and Miles (2002), Phillips (2003) view the corporation as a collection of internal and external groups (e.g., shareholders, employees, customers, suppliers, creditors, and neighboring communities)

Stakeholder approach can assist managers by promoting analysis of how the company fits into its larger environment, how its standard operating procedures affect stakeholders within the company (employees, managers, stockholders) and immediately beyond the company (customers, suppliers, financiers) (Miles, 2012). Freeman (1984) suggests, for example, that each firm should fill in a "generic stakeholder map" with specific stakeholders. stakeholder theory participates in a broader debate about business and ethics: will an ethical company be more profitable in the long run than a company that looks only to the "bottom line" in any given quarter or year? This theory was critical in this study as it helps explain how multinational companies can use their corporate culture to maximize value to the stakeholders. Every organization attempting to accomplish something has to ask and answer the following question," "What are we trying to accomplish? Or, put even more simply: When all is said and done, how do we measure better versus worse? Even more simply, how do we keep score? (Jensen, 2000; 2002). Stakeholder theory contends that managers should make decisions so as to take into account all of the interests of all stakeholders in a firm which according to the theory can be achieved through effective organizational management, business ethics, morals and values.

Transaction Cost Economics (TCE) Theory

Transaction Cost Economics is a central theory in the field of Strategy (Stephen & Helen, (2011). It addresses questions about why firms exist in the first place (i.e., to minimize transaction costs), how firms define their boundaries, and how they ought to govern operations (Daddi *et al*., (2010). According to Lozano and Valles, (2013) TCE was originally developed to help to determine the efficiency in producing goods and services at low cost to ensure low prices to customers. Yet, Walker and Brammer (2009) already addressed the importance of transaction costs in organizations when analyzing bidding process. Parties have to bid for the right quality of goods and services and the award has to go to the bidder offering the lowest price. Walker and Brammer (2009) argues that the problems associated with contracting solutions in the types of environments encountered in manufacturing sector transactions are likely to be difficult to tackle. Competitive bidding can indeed be an effective way of determining the lowest cost supplier in supply of green products. Uncertainty

about cost, prices and demand conditions of green products leave long-term and short term contracts for manufacturing of green products and services in pharmaceutical industry inevitably incomplete (Srivastava, 2013). This theory is link: How does purchasing price affect green procurement implementation in public sector in Kenya?

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. Such forces can be exerted through persuasion, invitation to join shared behavioral models, laws and regulations, and government mandates. Coercive forces are typically given to governmental authorities by issuing laws and regulations. Mimetic isomorphism is a firm's standard response to environmental uncertainty by imitating themselves as other organizations, for example 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. When these members interact, they reinforce and spread norms of behavior among themselves (Furusten 2013; Miles, 2012). Everything we do is a Process, which is the transformation of a set of inputs, which can include action, methods and operations, into the desired outputs, which satisfy the customers' needs and expectations. In each area or function within an organization there will be many processes taking place, and each can be analyzed by an examination of the inputs and outputs to determine the action necessary to improve quality. The theory as explained above is in synchrony with the specific objective to establish the influence of regulatory framework on green procurement implementation in public sector in Kenya.

Conceptual Framework

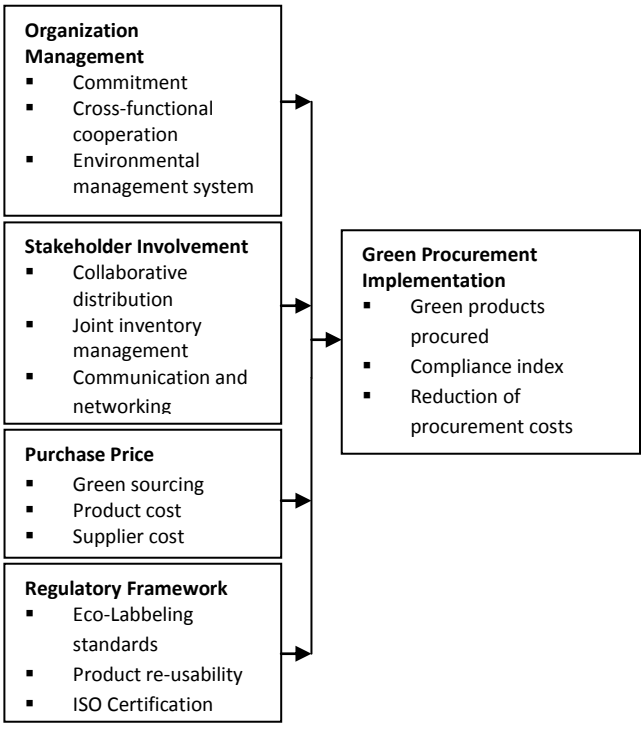

Figure 1: Conceptual Framework

Organization Management

The poor organizational design, institutional inertia, and poor procurement processes can prevent successful green procurement practice. Scattered and complex procurement functions cause unnecessary work as different departments or

organizations work to meet identical needs. This leads to teams being under-resourced and over-worked (Williams et al., 2007). Organizations should centralize procurement and have one team that creates the procedure, manages contracts, and acts as a liaison with other departments. This centralized team works against the effects of institutional inertia, in which organizations resist change. Institutional inertia can be a barrier to green procurement because it prevents procurement policies from evolving to meet environmental sustainability requirements. Procurement practices must also include proper data collection (Williams etal., 2007). This includes quality data on contracts and prices that is readily available within the organization. Organizations should be sure that departments are not pressured to spend their entire budget for fear of reduction in coming years, as this leads to frivolous and unnecessary spending.

According to Zhu *et al.,* (2009) an organization structure is the total sum of ways in which an organization divides its levels into distinct tasks and then achieves co-ordination between them. The structure is the basic framework within which the executives' decision making behavior occurs (Emilsson & Hjelm, 2013). The quality and nature of decisions made are influenced by the quality of communication in the organization. The grouping of various organizations' departments and the provision of authority should be planned so that conflicts do not occur. A structure helps in the division of work, departmentalization and shows linkage of different records and activities (Li & Geiser, 2009).

The size of the organization and lack of commitment are both factors that may affect the organization involvement in Green procurement. With regard to the organization's size and structure, the larger organization will have more commitment for Green movement as the brand image or public awareness of larger organizations will be more broadly disgraced. Zhu et al. (2008) highlights that "The significant effect of organization size on Environmental strategy may be due to resource-based aspects such as the greater capacity or greater slack characteristics of larger organizations to aid in absorbing the risks and unpredictability associated with voluntary Environmental strategies, or to these organizations' higher visibility (and hence, higher external scrutiny)" (Seuring & Muller,2008).

Additionally, lack of alignment between corporate strategy and its green strategies, single-minded focus on internalization or no motivation to implement green initiatives will have negative impact on Green movement. Similarly, knowledge sharing barrier due to internal knowledge gap when explicit knowledge is shared less than the tacit knowledge may cause the lack of general knowledge about environmental issues, and the strategies for the organization to improve their environmental performance. Along with inadequate knowledge, lack of training, control mechanisms, audit and evaluation system, poor technological integration are challenging factors for organizations to develop Green procurement strategy (Simpson, 2013).

Stakeholder Involvement

Firms are expected to be under enormous pressure imposed by their customers and stakeholders such as their shareholders, the government, non-governmental organizations (NGOs) or other pressure groups, to implement reverse logistics. Since customers are prepared to pay more for environmental-friendly products (Reinhardt & Vasishth, 2009). Brito & Dekker, (2003) identified three driving forces of reverse logistics; legislation, economics and corporate citizenship.The three drivers are also interlinked and boundaries are sometimes blurred, and reverse logistics is often

carried out for a mix of motives. Regarding actors in reverse logistic systems, they divided them in three groups: forward supply chain actors (manufacturers, wholesalers, retailers); specialized reverse chain players (jobbers, remanufacturers,); and opportunistic players (such as charities). With respect to their roles, the actors are actually responsible for operations in the reverse logistics chain. Ravi & Shankar (2005) indicate that a lack of awareness about reverse logistics is one of the barriers to its implementation. The results of the study also prove that there is a strong relation between awareness and practice of reverse logistics (Zhang, 2007). Moreover, Cain (2008) finds that there is a considerable effect of reverse logistics on a company; thus, higher awareness should be generated on the importance of reverse logistics. Sharma et al.(2011) also suggest that the awareness of reverse logistics could bring economic benefits by recovery of the returned product for use.

Purchasing Price

Environmentally preferable products and services can potentially be more expensive, less expensive, or similarly priced in comparison to conventional products. Products and services should have the same "utility" as products currently used (Sarkis & Tamarkin, 2005). That means that the products should work effectively and not cost significantly more than their traditional replacements. According to Walker and Brammer, (2009) the theoretical mainstays are that financial resources that are entirely controlled or owned by the focal organization (Menon, 2013) and that these should be cultivated in order to enhance their contribution to the organization's competitive advantage in its industrial context (Martinsons, 2010). The resource profile of an organization is fundamental to the translation of top management's or the procurement department's desire into their practical engagement in GPP activity. The role of financial aspects attached to GGP, particularly perceptions of the financial viability of implementing GPP play crucial role in shaping the degree to which SP policies are acted upon since green/socially responsible production methods are often perceived of as being inherently more expensive than other methods (Bouweret al., 2006). Given the tight budget constraints and countervailing objectives faced by most public sector organizations, perceptions regarding the cost-effectiveness of GPP do play a particularly important role in decision making.

At two different levels of analysis, human and organizational capital consider, formerly, the 'employees' capacity to deploy resources' (Stafford, Polonsky & Harthman, 2010) 'capabilities' and latterly for example, 'appropriate routines and business processes' (Pun, 2010). In congruence with the material differentiations lens on organizational culture, the current framework focuses on physical and organizational capital, as the level of analysis required to examine human capital aligns itself with a fragmented view of organizational culture (Polonsky *et al.,* (2010) where individual differences would engender political behavior within the department and where each member of the department possesses varying levels of financial resources that facilitate their personal engagement in GPP activity (Wu & Dunn, 2005).

Regulatory Framework

Regulation framework establishes a number of rules and principles which must be observed in the award of public contracts. Within this framework, environmental objectives can be implemented in a variety of ways (Preuss, 2012) At European level, procurement is a voluntary policy, meaning individual public authorities are not obliged to introduce the criteria in their tenders. However Article 11 of Treaty on the Functioning of the

European Union" (TFEU) states: "Environmental protection requirements must be integrated into the definition and implementation of the Union‟s policies and activities, in particular with a view to promoting sustainable development." There are also a number of areas where EU or national legislation creates specific environmental obligations which must be taken into account in public procurement. These range from the requirement to conduct an environmental impact assessment in advance of certain construction projects, to minimum energy-efficiency standards which must be applied when buying office IT equipment, through to rules on the handling of hazardous substances and waste Monczka, (2011).

Governments, as large consumers of goods and services, can leverage their purchasing power to create or further expand existing markets for goods and services. At the same time, procurement policies can discriminate against foreign suppliers by favoring domestic suppliers in either a de jure or a de fact manner. Many governments use procurement policies as a tool for promoting domestic sustainable energy capacities and industries; while this aids domestic industry, it also means that countries might not be choosing among the most competitively-priced equipment and services available globally.

In order to purchase green products, consumers must be able to identify them. Eco-labelling is a means to identify products and their position as far as greening is concerned (TCEM, 2007). As environmentally sustainable purchasing becomes more popular, the number of products advertised as green products is bound to increase. Swanson et al., (2005) note that one of the challenges to green purchasing lies in factors to consider when distinguishing environmentally preferable products. Chari and Chiriseri (2014) posits that orders are currently being awarded based on lowest cost principle neglecting environmental and social considerations. These challenges are increased when green washing techniques are used by manufacturers. Green washing is defined as the act of misleading consumers regarding the green environmental practices of a company and the green environmental benefits of a product or service (TCEM, 2007).

Green Procurement Implementation

Green Procurement (formerly known as Affirmative Procurement) is the purchase of environmentally preferable products and services in accordance with one or more of the established "green" procurement preference programs (Daddi *et al*., 2010). Green procurement is the purchasing of products or services which have a lower impact on the environment over their whole life cycle than the standard equivalent (Preuss, 2013). It involves the integration of environmental issues into purchasing decisions based on price, performance and quality. This means that products or services that consume fewer natural resources should be given preference over competing products or services exerting a greater environmental impact (Stephen & Helen, 2011).

To prevent waste and pollution, these programs require considering environmental impacts, along with price, performance, and other traditional factors, when making purchasing decisions (Srivastava, 2013). Many organizations worldwide are making an effort to purchase products and services that are less harmful to local and global environments. According to Maignan *et al.,* (2012), both public and private sector organizations are implementing purchasing practices that include environmental (and social) considerations green procurement. Governments are realizing the benefits of green procurement practices such as cost savings from reduced energy consumption, resource use, and material management (Emilsson

& Hjelm, 2013). They also reap more qualitative benefits such as improved image and achieving policy/program objectives. According to Marron (2013) leading private sector organizations have also demonstrated significant movement towards greening procurement practices.

Many private firms are working to improve the environmental performance of their operations and products and green procurement has been a logical extension of this work (Lozano & Valles, 2013). This supply chain approach looks beyond the company's "gates" in an ongoing effort to reduce costs and risk. Leading companies are using life-cycle assessment and material tracking tools to identify materials, substances and chemicals in their products that pose significant environmental, health and safety risks and re-design their products to reduce or eliminate such materials (Dickinson *et al*., 2010).

Empirical Review

Organization Management

According to Robinson (2008) study on leadership and green procurement strategy implementation in UK firms, transactional leadership is exhibited through the provision of either positive reward in case of meeting established goals or negative rewards when the performer fails to achieve the desire objectives. In this case, organizations that fails to embrace green procurement practices are penalized heavy fines and those that comply with green procurement directives achieves international recognition and are also allowed to access various international markets. A study by Bouweret al.(2006) indicated increased cost of green products compared to those not environmentally friendly as amajorbarrier to adoption. Brammer&Walker(2011) says that often sustainable products simply cost more than conventional products where there is little regard to either the environmental or social implications of the production process in addition to cost for employee training or extended time engagement with suppliers

In a survey conducted by Avollio (2005) involving 276 senior operating Executives, it was found that 57% of firms unsuccessfully implemented their strategic plans mostly due to lack of effective leadership. Similarly, in 2006 a white paper on strategy indicated that implementation of strategies was the commonest challenge facing different sorts of organizations. A report in that white paper indicates that 83% of the surveyed companies failed to implement their strategy smoothly, and only 17% felt that they had a consistent strategy implementation process. Lack of application of effective leadership styles contributed to strategy implementation challenges in most of these organizations. Pechlaner and Elmar (2009) noted that team leadership plays major role in strategy implementation since it helps in improving decision-making and management processes during strategy implementation process.

Stakeholder Involvement

Abdullah and Yaakub (2015) also conducted a study to examine how the level of green production adoption among manufacturers in Malaysia can be influenced by customer/stakeholder pressure, regulatory pressure, financial and competitive pressure, and corporate citizenship pressure. The study found out that the demanding customers and stakeholders' involvement have a moderate positive influence on the level of reverse logistics adoption. This study concluded that the government, shareholders, consumers and pressure groups such as NGOs have an influence on a firm's decision and their voices could lead to an increased likelihood of the firm adopting reverse logistics.

Anne *et al.* (2015) conducted a study to examine

the relationship between reverse logistics and competitiveness of food manufacturing firms in Kenya. The study found out that the government and all stakeholders in the manufacturing sector carried public awareness campaigns on the importance of environmental conservation to encourage the locals to become active drivers towards the adoption of reverse logistics practices. Álvarez-Gil (2006) conducted a study on reverse logistics, stakeholders' influence, organizational slack, and managers' posture in Spain. The study found out that customers, employees, and the government salience in terms of Reverse Logistics activities and manager's progressive posture have a significant influence on the final decision of implanting Revere Logistics programs. Conversely, the study found that shareholder salience negatively impacts the decision.

According a report "How mature is the Green Supply Chain?" conducted by BearingPoint's global survey in 2008, in Japan, almost 85% of companies cite regulation as a motive, compared to 75% in the UK, 72% in North America and 67% in France. These figures indicate the importance of environmental rules and directives in the development of green supply chain as well as green sourcing. They also suggest that the most environmentally active countries have the toughest ecological regulations and the bigger the company, the greater pressure on complying regulations appears to exert. That reasons why the percentage of companies responding to the survey in terms of establishing an environmental strategy in Japan is the highest. (2008 Supply Chain Monitor "How mature is the Green Supply Chain?). In this matter, (Pedersen, (2009) found that the environmental regulations in the European Union are tighter than in Asia.

In fact, emerging Asia-Pacific economies such as China, India, and Vietnam may already have environmental regulations but supplier compliance is less certain, resulting greater supply chain risk. Additionally, recent surveys have suggested, sustainability performance is low in Asia-Pacific, particularly China. However, "Supplier audits are less likely to disclose environmental violations until they become catastrophic events leading to plant closures or product quality violations.

Rao *et al.,*(2005) in their study on green supply chain management in South East Asian Region (Malaysia, Philippines, Indonesia, Singapore and Thailand,) found that environmental green supply chain management practices had started to take place the implementation of drivers of GSCM and investigated the occurrence of drivers for automobile company and other industries. Results indicated that drivers for automobile industry are the greatest among other companies. (Simpson et al., (2013) explored the moderating impact of relationship conditions existing between a customer and its suppliers and effectiveness of the customer's environmental performance requirements (otherwise known as "green-supply"). (Chen and Chung-Chiang, (2005) looked into the relationship between green innovation and green image of companies in Taiwan. The study proposed a new concept of green core competence.

Lee (2014), has identified the drivers of participation in green supply chain initiatives by considering small and medium sized suppliers and their most important stakeholders, including buyers and the government. Nawrocka et al., (2005), they found that Sweden, has concentrated on the role of ISO 14001 in environmental supply management practices in Swedish companies. They described the existing and potential role of ISO 14001 for three key operational tasks of environmental supply chain management: to communicate the requirements to the supplier, to motivate and enable the supplier, and to verify that the supplier follows the requirement.

Shang *et al.* (2006) explored key green supply chain management (GSCM) capability dimensions and firm performance based on electronics related manufacturing firms in Taiwan. On the basis of a factor analysis, six green supply chain management dimensions were identified: green manufacturing and packaging, environmental participation, green marketing, green stock, green suppliers, and green eco-design. Chiou *et al*., (2007) they found that Taiwan has explored the correlation between greening the supplier and green innovation in Taiwan Company by using Structural Equation Modeling. They concluded that greening the supplier through green innovation leads to significant benefits to the environmental performance and competitive advantage of the firm.

Liu *et al.,* (2008) in China has analyzed the relationship between green supply chain management level (LGSCM) and the classified determinant factors. They confirmed that a company's environmental management capacities will be strongly enhanced by frequent internal training of employees to increase its involvement in GSCM practices. Ninlawan et al.,(2009), in Thailand analyzed the recent green activities in computer parts' manufacturers and also measured the level of green supply chain management. The in-depth interview regarding green procurement, green manufacturing, green distribution, and reverse logistic has been conducted.

Diabat and Govindan (2010), identified the drivers influencing the implementation of GSCM using an Interpretive Structural Modeling (ISM) methodology and extracted 11 drivers collected through past literature: Certification of suppliers' environmental management system; environmental collaboration with suppliers; collaboration between product designers and suppliers to reduce and eliminate product environmental impacts; government regulation and legislation; green design; ISO 14001 certification; integrating quality environmental management into planning and operation process; reducing energy consumption; reusing and recycling materials and packaging, environmental collaboration with customers; and reverse logistics. Eltayeb and Zailani (2011), has identified the four key drivers or motivators to green supply chain initiatives: Regulations, customer requirements, expected business gains, and social responsibility. Eltayeb et al.,(2012) analyzed the relationship between green supply chain initiatives and performance outcomes and identified the key initiatives (eco-design) that have positive effect on the four types of outcomes (environmental, economic, cost reductions, and intangible outcomes).

Purchase Price

Costs of Green Products The role of financial aspects attached to GGP, particularly perceptions of the financial viability of implementing GPP play crucial role in shaping the degree to which SP policies are acted upon since green/socially responsible production methods are often perceived of as being inherently more expensive than other methods (Bouwer et al., (2006). Given the tight budget constraints and countervailing objectives faced by most public sector organizations, perceptions regarding the cost-effectiveness of GPP do play a particularly important role in decision making. A study by Bouwer et al,. (2006) indicated increased cost of green products compared to those not environmentally friendly as a major barrier to adoption. Brammer &Walker (2011) says that often sustainable products simply cost more than conventional products where there is little regard to either the environmental or social implications of the production process in addition to cost for employee training or extended time engagement

with suppliers.

On a wider perspective, green procurement uses the right kinds of materials, technology, and processes supported by the right kind of suppliers. In traditional theory, strategic sourcing focuses on searching for low-cost and high-value materials; developing technology and inventory control more efficient. In green theory, green sourcing means working with suppliers to purchase materials with higher rate of recycled content, pollution prevention, energy efficiency. A research conducted by the Carbon Trust a research and advisory group in U.K on how to reduce the ecological impact of Trinity Mirror a U.K. newspaper publisher found that 80 percent of the total carbon emissions come from paper production and this rate will decrease if this company buys paper with high recycled content from a supplier using low-carbon energy sources (Turner & Houston , 2009).

A survey of 256 U.S. manufacturing firms, which asked the firms to identify the key players in their pollution prevention strategies, revealed that nearly half identified suppliers as key players. Florida (1996). Green procurement aims to reduce overall expenditure on organizations, products, and services by removing or minimizing the usage of "hazardous to Green initiatives" in the entire supply chain. This also reduces expenditure on waste treatment of end of life products and other by products (Emmett & Sood 2010). According to Turner and Houston (2009) the potential of Green procurement today is reminiscent of the quality movement in the late 1980s. Within a few years, in many companies, quality took its place alongside price and service to become the third element of strategic Sourcing. Today, environmental sustainability is poised to become an important fourth element.

Also from their study, green procurement encourages the same kind of in-depth, widespread awareness of practices and processes that companies have gained from adopting Lean Six Sigma, process optimization, collaborative decision-making, and other quality-oriented methods." Green Sourcing may include certification of suppliers, procurement of environmentally friendly materialer/producer (Hervani *et al*,(2005), reducing waste products and minimization of the use of harmful products in production (Rao & Holt ,2005). According to Turner and Houston (2009) study the fundamentals of green sourcing are similar to those of quality in three ways: approach to costs, brand appeal, and cross-functional insights into processes. Therefore, green procurement goes beyond considering the economics of the scenario or the impact on the customer and also takes into account the environmental impact on the choices to be made.

Regulatory Framework

Hussain and Shale (2014) carried out a case study of Unilever Kenya Limited, and focused on how sustainable procurement practices impact on organizational performance. The study found that, corporate social responsibility, product re-usability, supplier involvement and ethical practices contribute to green procurement in the firm. The authors concluded that, the firm product re-usability contributed greatly to green procurement in the organization. Nderitu and Ngugi (2014) carried out a study in Kenya on the effects of green procurement practices on East African Breweries Limited. The study revealed that a plethora of factors are required for successful implementation of green procurement practices. Chien and Shih, (2007) carried out an investigation on the green supply chain management practices likely to be adopted by the electrical and electronic industry in Taiwan and the research targeted companies which

had attained ISO 14001 on green certification. The study found out that adoption of green procurement generated favourable environmental and financial performance for the respective companies. Chari and Chiriseri (2014) investigated the factors that hinder the adoption of sustainable procurement in Zimbabwe. The study found out that lack of management support, unavailability of sustainable products, lack of knowledge and wrong perception that sustainable product is expensive were limiting factors in the adoption of sustainable procurement. The study suggests that employees should be trained and educated on sustainability practices. Qiao and Wang (2009) examined the development of Chinese green procurement and the issues involved in its implementation and concluded that the Chinese government uses green procurement to promote sustainable development and to protect the environment. The Chinese government established its public procurement system in 1990 and went further to implement green procurement in 2004

Green Procurement Implementation

A study undertaken by the Green Public Procurement in Europe in 2003 on the 'State of Play of Green Public Procurement in the European Union' revealed the wide variation in achievement in this area within Europe. Denmark showed an impressive amount of commitment to green public procurement with 40% of administrations that include environmental criteria for more than 50% of their purchases. Similarly in Sweden 50% of administrations include environmental criteria for more than 50% of their purchases. Germany rated third with 30% and the UK at 23% still beat the average of 19%. In another illustration, on October 2005, Wal-Mart President and CEO announced that Wal-Mart was launching a sweeping business sustainability strategy to dramatically reduce the company's impact on the global environment and thus become "the most competitive and innovative company in the world." He set three ambitious goals to achieve this: To be supplied 100 percent by renewable energy; to create zero waste; and to sell products that sustain Wal-Mart's resources and the environment (Olson, 2009).

RESEARCH METHODOLOGY

The study employed descriptive research design because it is an excellent way of finalizing results and proving or disproving a hypothesis. The study target population involved 160 staff working at REA head quarter offices in Nairobi drawn from procurement related departments which included human and administration, finance and control, legal, audit at the REA head office.

The statistical model was developed from the conceptual framework as follows: the dependent variable (DV) which in the present study is green Procurement Implementation took the variable [Y], and the coefficients of the independent variables (IV) denoted by X_1, X_2,.....X_4 was used to show the relationship of the independent variables and the dependent variable. Statistically, analysis was done using the model:

$$\mathbf{Y= \beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+ \varepsilon;}$$

Where; **Y** is the dependent variable (Green Procurement Implementation);

X is the set of four independent variables, that is

$\mathbf{X_1}$– Organization management

$\mathbf{X_2}$– Stakeholder Involvement

$\mathbf{X_3}$– Purchasing price;

$\mathbf{X_4}$– Process Management;

$\boldsymbol{\beta_{i\ (i=1,\ 2,\ 3,\ 4)}}$ are the parameters associated with the corresponding independent variable that are to be estimated (partial regression coefficients);

β_0 is the intercept; ε is the error variability (error term).

RESULTS AND DISCUSSIONS

Organization Management

The study sought to assess the influence of organization management on green procurement implementation in the public sector in Kenya. This section presents findings to statements posed in this regard with responses given on a five-point likert scale (where 5 = Strongly Agree; 4 = Agree; 3 = Neutral; 2 = Disagree; 1= Strongly Disagree). Table 1 presented the findings. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' has been taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0. Table 1 presented the study findings.

As tabulated, a majority of respondents were found to disagreed that there was commitment of green procurement implementation from the senior managers (2.6234); The organization has a cross functional cooperation for environmental improvements (2.5698); The organization has ensured that the top management support the purchase products that are energy efficient or require less energy to manufacture (2.3456); The organization ensure that there are adequate environmental systems and are operational all the time (2.3458); The organizational design in the procurement processes ensure that the management retain decision making rights on green procurement (2.3593). The decision making process ensure that there are workable results which require middle and lower level input regarding green procurement implementation (2.1255). The study findings are in agreement with the literature review by Williams et al., (2007) who stated that the poor organizational design, institutional inertia, and poor procurement processes can prevent successful green procurement practice. Scattered and complex procurement functions cause unnecessary work as different departments or organizations work to meet identical needs. This leads to teams being under-resourced and over-worked. Organizations should centralize procurement and have one team that creates the procedure, manages contracts, and acts as a liaison with other departments. This centralized team works against the effects of institutional inertia, in which organizations resist change. Institutional inertia can be a barrier to green procurement because it prevents procurement policies from evolving to meet environmental sustainability requirements. Procurement practices must also include proper data collection.

Table 1: Influence of Organization Management on Green Procurement Implementation

Organization Management	Mean	Std. Dev
There is commitment of green procurement implementation from the senior managers	2.6234	.4321
The organization has a cross functional cooperation for environmental improvements	2.5698	.5672
The organization has ensured that the top management support the purchase products that are energy efficient or require less energy to manufacture	2.3456	.9812
The organization ensure that there are adequate environmental systems and are operational all the time	2.3458	.6218

The organizational design in the procurement processes ensure that the management rretain decision making rights on green procurement	2.3593	.3843
The decision making process ensure that there are workable results which require middle and lower level input regarding green procurement implementation	2.1255	.5136

Stakeholder Involvement

The study sought to assess the influence of stakeholder Involvement on green procurement implementation in the public sector in Kenya. This section presented the findings to statements posed in this regard with responses given on a five-point likert scale (where 5 = Strongly Agree; 4 = Agree; 3 = Neutral; 2 = Disagree; 1= Strongly Disagree). Table 2 presented the findings. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' has been taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0. Table 2 presented the study findings.

As tabulated, a majority of respondents were found to disagree that the organization supply chain actors(manufacturers, wholesalers and retailers) are involved to enhance green procurement implementation (2.2362); The special supply chain players (jobbers and remanufacturers) are involved in decision making to enhance green procurement implementation (2.1990); Opportunistic players (charities) are involved and responsible for operations to improve green procurement implementation (2.2321); Lack of awareness to the stakeholders is a major hindrance to the green procurement implementation (2.0081); There is a collaborative distribution by the firm where every player has clearly outline roles to enhance green procurement implementation (2.1125). There is adequate communication and networking aligned with the customer requirements to ensure that there is order fulfillment in the organization (2.1008).The study findings were in agreement with the literature review by Abdullah and Yaakub (2015) stakeholders' involvement have a moderate positive influence on the level of green procurement implementation. The government, shareholders, consumers and pressure groups such as NGOs have an influence on a firm's decision and their voices could lead to an increased likelihood of the firm adopting green procurement. Anne *et al.* (2015) established that government and all stakeholders in the manufacturing sector carried public awareness campaigns on the importance of environmental conservation to encourage the locals to become active drivers towards the green procurement practices. Álvarez-Gil (2006) established that the customers, employees, and the government and manager's progressive posture have a significant influence on the final decision of implanting green procurement programs.

Table 2: Influence of Stakeholder Involvement on Green Procurement Implementation

Stakeholder Involvement	**Mean**	**Std. Dev**
The organization supply chain actors(manufacturers, wholesalers and retailers) are involved to enhance green procurement implementation	2.2362	.4009
The special supply chain players (jobbers and remanufacturers) are involved in decision making to enhance green procurement implementation		

	2.1990	.5321
Opportunistic players (charities) are involved and responsible for operations to improve green procurement implementation		
	2.2321	.5421
Lack of awareness to the stakeholders is a major hindrance to the green procurement implementation		
	2.0081	.2156
There is a collaborative distribution by the firm where every player has clearly outline roles to enhance green procurement implementation		
	2.1125	.3490
There is adequate communication and networking aligned with the customer requirements to ensure that there is order fulfillment in the organization		
	2.1008	.5098

Purchasing Price

The study sought to assess the influence of purchasing price on green procurement implementation in the public sector in Kenya. This section presents findings to statements posed in this regard with responses given on a five-point likert scale (where 5 = Strongly Agree; 4 = Agree; 3 = Neutral; 2 = Disagree; 1= Strongly Disagree). Table 3 presented the findings. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' has been taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0. Table 3 presented the study findings.

As tabulated, a majority of respondents were found to be neutral that that the green products, services and works cost more than non-green ones thus affecting green procurement implementation in the organization (2.4563); The organization purchase of green products was based on the suppliers cost as determined by the environmentally related legislation (2.3252); The sustainable products simply cost more to the organization than conventional products thus little regard to either the environmental implications (2.1128); The cost for employee training or extended time engagement with suppliers is high thus affecting green procurement implementation (2.9082); The suppliers cost consider the environmental impact of their products through the whole life cycle (2.3452). The organization green purchasing is the cost and income, and the environment friendly packaging is the key to the success of the green procurement implementation (2.5560). The strategic sourcing focuses on searching for low-cost and high-value materials; developing technology and inventory control more efficient(2.5560) and The organization green sourcing means working with suppliers to purchase materials with higher rate of recycled content, pollution(2.4560).The study findings are in agreement with the literature review by Bouwer et al,. (2006) indicated increased cost of green products compared to those not environmentally friendly as a major barrier to adoption. Brammer &Walker (2011) says that often sustainable products simply cost more than conventional products where there is little regard to either the environmental or social implications of the production process in addition to cost for employee training or extended time engagement with suppliers. The strategic sourcing focuses on searching for low-cost and high-value materials; developing technology and inventory control more efficient. In green theory, green sourcing means

working with suppliers to purchase materials with higher rate of recycled content, pollution prevention, energy efficiency.

Table 3: Influence of Purchasing Price on Green Procurement Implementation

Purchasing Price	Mean	Std. Dev
The green products, services and works cost more than non-green ones thus affecting green procurement implementation in the organization.	2.4563	.2908
The organization purchase of green products is based on the suppliers cost as determined by the environmentally related legislation	3.3252	.5606
The sustainable products simply cost more to the organization than conventional products thus little regard to either the environmental implications	3.1128	.4326
The cost for employee training or extended time engagement with suppliers is high thus affecting green procurement implementation	2.9082	.2789
The suppliers cost consider the environmental impact of their products through the whole life cycle	2.3452	.4368
The organization green purchasing is the cost and income, and the environment friendly packaging is the key to the success of the green procurement implementation	2.5560	.5098
The strategic sourcing focuses on searching for low-cost and high-value materials; developing technology and inventory control more efficient.	2.4568	.7890
The organization green sourcing means working with suppliers to purchase materials with higher rate of recycled content, pollution prevention, energy efficiency	2.6780	.8752

Regulatory Framework

The study sought to assess the influence of regulatory framework on green procurement implementation in the public sector in Kenya. This section presents findings to statements posed in this regard with responses given on a five-point likert scale (where 5 = Strongly Agree; 4 = Agree; 3 = Neutral; 2 = Disagree; 1= Strongly Disagree). Table 4 presented the findings. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' has been taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0. Table 4 presented the study findings.

As tabulated, a majority of respondents were found to disagree that that the organization carry out appraisals on the procured products ensure that the supplies meet the sustainability requirements (2.1135); The organization does the product re-usability to minimize the environmental degradation (2.6190); The organization has formulated and implemented green procurement policy to support green procurement initiatives (2.3325); The organization comply with the

environment policy and strive to know the green needs of the public and suppliers (2.5612); The organization purchase green products that are Eco-labbelled as means to identify and their position as far as greening is concerned (2.2235). The study findings are in agreement with the literature review by TCEM(2007) that in order to purchase green products, consumers must be able to identify them. Eco-labelling is a means to identify products and their position as far as greening is concerned As environmentally sustainable purchasing becomes more popular, the number of products advertised as green products is bound to increase. Swanson et al., (2005) note that one of the challenges to green purchasing lies in factors to consider when distinguishing environmentally preferable products. Chari and Chiriseri (2014) posits that orders are currently being awarded based on lowest cost principle neglecting environmental and social considerations. These challenges are increased when green washing techniques are used by manufacturers. Green washing is defined as the act of misleading consumers regarding the green environmental practices of a company and the green environmental benefits of a product or service (TCEM, 2007).

Table 4: Influence of Regulatory Framework on Green Procurement Implementation

Regulatory Framework	Mean	Std. Dev
The organization carry out appraisals on the procured products ensure that the supplies meet the sustainability requirements	2.1135	.4560
The organization does the product re-usability to minimize the environmental degradation	2.6790	.4560
The organization has formulated and implemented green procurement policy to support green procurement initiatives	2.3325	.2136
The organization comply with the environment policy and strive to know the green needs of the public and suppliers	2.5612	.3210
The organization purchase green products that are Eco-labbelled as means to identify and their position as far as greening is concerned	2.2235	.6490

Green Procurement Implementation

The study sought to examine the determinants of green procurement implementation, attributed to the influence of organization management, stakeholder involvement, purchasing price and regulatory framework. The study was particularly interested in three key indicators, namely green products procured, compliance index and reduction of procurement costs, with all the three studied over a 5 year period, running from 2012 to 2016. Findings in Table 5 above revealed improved of green procurement implementation across the 5 year period running from the year 2012 to 2016. Green products procured recorded positive growth with a majority affirming to less than 10% in 2012 (42.3%) and 2013 (37.7%), to 10% in 2014 (36.1%) then more than 10% in 2015 (41.1%) and 2016 (37.5%).

A similar trend was recorded in compliance index growing from less than 10% (44.1%) in 2012, to more than 10% in 2013 (36.4%), 2014 (40.4%) and 2015 (37.3%). Reduction of procurement costs further recorded positive growth with a majority

affirming to less than 10% in 2012 (37.9%) and 2013 (35.9%), to 10% in 2014 (35.9%) and 2015 (35.3%) then by more than 10% in 2016 (36.2%). It can be deduced from the findings that key of green procurement implementation indicators have considerably improved as influenced by among other of green procurement implementation attributes, the influence of organization management, stakeholder involvement, purchasing price and regulatory framework. Order fulfillment, cost reduction and lead time reduction have particularly improved by at least 10 percent in the organization pointing to the significance of organization management, stakeholder involvement, purchasing price and regulatory framework in the procurement process.

Table 5: Green Procurement Implementation

Green Products Procured	**2013**	**2014**	**2015**	**2016**	**2017**
Increased by less than 10%	42.3	37.7	31.6	30.7	29.5
Increased by 10%	31.8	32.9	36.1	28.2	33
Increased by more than 10%	25.9	29.4	32.3	41.1	37.5
Compliance Index	**2013**	**2014**	**2015**	**2016**	**2017**
Increased by less than 10%	44.1	35.2	33.4	25.7	27.1
Increased by 10%	31.7	32.6	30.2	33.9	35.6
Increased by more than 10%	23.5	32.2	36.4	40.4	37.3
Reduction of Procurement Costs	**2013**	**2014**	**2015**	**2016**	**2017**
Increased by less than 10%	37.9	35.9	31.2	25.7	33.1
Increased by 10%	36.2	31.3	35.9	35.3	30.7
Increased by more than 10%	25.9	32.8	32.9	39	36.2

Multiple Regression Analysis

The study applied SPSS to compute the measurements of the multiple regression analysis. According to the model summary Table 6, the coefficient of determination (R^2) was used to measure how far the regression model's ability to explain the variation of the independent variabies. The correlation coefficient was 0.799. This indicates a very strong postive relationship between the independent variable and depedent variable. The data showed that the high R square is 0.638. It shows that the independent variables in the study were able to explain 63.80% variation in the green procurement implementataion in the public sector in Kenya while the remaining 36.20% is explained by the variables or other aspects outside the model. This implied that these variables were very significant and they therefore need to be considered in any effort to boost green procurment implementation in the organization.

Table 6: Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
	.799	.638	.583	.001

ANOVA Results

F-test was done to test the effect of independent variables on the dependent variable simultaneously. The F-statistic test basically shows whether all the independent variables included in the model jointly influence on the dependent variable. Based on the study results of the ANOVA Test or F-test in Table 7, obtained F-calculated was 46.637 greater the F-Table (8.459) with significance of 0.000. Since the significance level of 0.000<0.05 we conclude that the set of independent variables affect the green procurement implementation in the public sector in Kenya (Y-dependent variable)

and this shows that the overall model was significant.

Table 7: ANOVA

Model	Sum of Squares	d.f	Mean Square	F	Sig.
Regression	22.908	4	5.727	46.637	.000[a]
Residual	12.890	105	.1228		
Total	35.798	119			

NB: F-critical Value = 8.459;

Regression Coefficients

The results of multiple regression analysis obtained regression coefficients t value and significance level as indicated in Table 8. The study conducted a multiple regression analysis so as to determine the relationship between the dependent variable and independent variables. The general form of the equation was to predict green procurement implementation in the public sector from organization management, stakeholder involvement, purchasing price and process management is: ($\mathbf{Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon}$) becomes: $Y= 12.542+ 0.650X_1+ 0.577X_2+ 0.549X_3 + 0.6499X_4$. This indicates that green procurement implementation in the public sector = 12.542 + 0.650* Organization Management + 0.577*Legal Framework + 0.549*Purchasing Price + 0.6499*Process Management + 1.647. From the study findings on the regression equation established, taking all factors into account (independent variables) constant at zero green procurement implementation in the public sector was 12.542. The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in organization management would lead to a 0.650 increase in green procurement implementation in the public sector; a unit increase in stakeholder involvement would lead to a 0.577 increase in green procurement implementation in the public sector, a unit increase in purchasing price would lead to 0.549 increase in green procurement implementation in the public sector and a unit increase in process management would lead to 0.499 increase in green procurement implementation in the public sector. This infers that organization management contributed most to green procurement implementation in the public sector. Based at 5% level of significance, organization management had a t-value (7.076>1.96) with a .000 level of significance; stakeholder Involvement had a t-value (6.254 > 1.96) with a .004 level of significance, purchasing price had a t-value (4.876>1.96) with a .0207 level of significance and process management had a t-value (3.771>1.96) with a .010 level of significance hence the most significant factor was organization management.

Table 8: Coefficient Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	β	Std. Error	**β**		
(Constant)	12.542	1.647		7.615	.000
X_1_Organization Management	.650	.092	.522	7.076	.000

X_2_Stakholder Involvement	.577	.092	.458	6.254	.004
X_3_Purchasing Price	.549	.115	.388	4.876	.007
X_4_Process Management	.499	.132	.376	3.771	.010

CONCLUSION AND RECOMMENDATIONS

From the descriptive statistics the study established that a majority of respondents stated to a moderate extent that there is commitment of green procurement implementation from the senior managers. The organization has a cross functional cooperation for environmental improvements. The organization has ensured that the top management supports the purchase products that are energy efficient or require less energy to manufacture. The organization ensures that there are adequate environmental systems and are operational all the time. The organizational design in the procurement processes ensure that the management retains decision making rights on green. The decision making process ensure that there are workable results which require middle and lower level input regarding green procurement implementation.

It was established that a majority of respondents can be said to a moderate extent organization supply chain actors (manufacturers, wholesalers and retailers) are involved to enhance green procurement implementation. The special supply chain players (jobbers and remanufacturers) are involved in decision making to enhance green procurement implementation. Opportunistic players (charities) are involved and responsible for operations to improve green procurement implementation. Lack of awareness to the stakeholders is a major hindrance to the green procurement implementation. There is a collaborative distribution by the firm where every player has clearly outline roles to enhance green procurement implementation. There is adequate communication and networking aligned with the customer requirements to ensure that there is order fulfillment in the organization.

It was established that the green products, services and works cost more than non-green ones thus affecting green procurement implementation in the organization. The organization purchase of green products is based on the suppliers cost as determined by the environmentally related legislation. The sustainable products simply cost more to the organization than conventional products thus little regard to either the environmental implications. The cost for employee training or extended time engagement with suppliers is high thus affecting green procurement implementation. The suppliers cost consider the environmental impact of their products through the whole life cycle. The organization green purchasing is the cost and income, and the environment friendly packaging is the key to the success of the green procurement implementation. The strategic sourcing focuses on searching for low-cost and high-value materials; developing technology and inventory control more efficient. The organization green sourcing means working with suppliers to purchase materials with higher rate of recycled content, pollution.

The study established that the organization carry out appraisals on the procured products ensure that the supplies meet the sustainability requirements. The organization does the product re-usability to minimize the environmental degradation. The organization has formulated and implemented green procurement policy to support green procurement initiatives. The organizations comply with the environment policy and strive to know the green needs of the public and suppliers. The organization purchase green products that are Eco-labeled as means to identify and their position as far as greening are concerned.

The study sought to examine the determinants of green procurement implementation in the public sector in Kenya, attributed to the influence of organization management, stakeholder involvement, purchasing price and regulatory framework green procurement implementation in the public sector in terms of reduction of costs, green procducts produced ad compliance index recorded low positive improvement in the organization. From inferential statistics, a positive correlation is seen between each determinant variable and green procurement implementation in the organization

Conclusion of the Study

The study revealed that the organization management statistically, strongly and significantly correlated to green procurement implementation in the organization as it had a positive relationship with the dependent variable. This revealed that organization management is an important factor that can enhance green procurement implementation in the public sector. This also reveals that the more organization management if well managed the more green procurement implementation in the public sector. Therefore, from these quantitative results it can be deduced that the study which sought to establish the influence of organization management on green procurement implementation in the public sector was achieved because it established that it influences green procurement implementation in the public sector.

From the study results it was established that stakeholder involvement statistically, strongly and significantly correlated to green procurement implementation in the organization as it had a positive relationship with the dependent variable. This reveals that stakeholder involvement is an important factor that can enhance green procurement implementation in the public sector. This also reveals that the more stakeholder involvement if well managed the more green procurement implementation in the public sector.

According to the study results purchasing price statistically, strongly and significantly correlated to green procurement implementation in the organization as it had a positive relationship with the dependent variable. This reveals that purchasing price is an important factor that can enhance green procurement implementation in the public sector. Therefore, from these quantitative results it can be deduced that the study which sought to establish the influence of purchasing price on green procurement implementation in the public sector was achieved because it established that it influences green procurement implementation in the public sector.

Finally, according to the study results regulatory framework is an important factor that can enhance green procurement implementation in the public sector. This also reveals that the more regulatory framework if well managed the more green procurement implementation in the public sector. Therefore, from these quantitative results it can be deduced that the study which sought to establish the influence of regulatory framework on green procurement implementation in the public sector was achieved because it established that it influences green procurement implementation in the public sector.

Recommendations for the Study

The study recommended that the organization should have a cross functional cooperation for environmental improvements. The organization should ensure that the top management supports the purchase products that are energy efficient or require less energy to manufacture. There should be adequate environmental systems and are

operational all the time. The organizational design in the procurement processes should ensure that the management retains decision making rights on green. The organization supply chain actors (manufacturers, wholesalers and retailers) should be involved to enhance green procurement implementation. The special supply chain players (jobbers and remanufacturers) should be involved in decision making to enhance green procurement implementation. There should be adequate awareness to the stakeholders which is a major hindrance to the green procurement implementation. The study recommends that green products, services and works cost more than non-green ones thus affecting green procurement implementation in the organization. The organization purchase of green products should be based on the suppliers cost as determined by the environmentally related legislation. The strategic sourcing should focuses on searching for low-cost and high-value materials; developing technology and inventory control more efficient. The organization green sourcing means working with suppliers to purchase materials with higher rate of recycled content, pollution.

The organization need to carry out appraisals on the procured products ensure that the supplies meet the sustainability requirements. The organization should encourage product re-usability to minimize the environmental degradation. There is need to have formulated and implemented green procurement policy to support green procurement initiatives. The organizations should comply with the environment policy and strive to know the green needs of the public and suppliers.

Areas for Further Studies

A review of literature indicated that there is limited research on the determinants of green procurement implementation in the Kenyan context. Thus, the findings of this study serve as a basis for future studies on need for the green procurement in the public sector. This study confined itself to one case study namely Kenya Rural Electrification Authority A comparative study should be carried out to compare whether the findings also apply for other organizations in the public sector in order to validate whether the findings can be generalized in Kenya. Additionally, the study did not tie the variables explained in this study as the only determinants which influence green procurement implementataion in the public sector since the remaining 36.20% can explained by the other variables which the study recommends for further study.

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