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SUSTAINABLE PROCUREMENT AND PERFORMANCE OF TEXTILE COMPANIES IN KIAMBU COUNTY, KENYA

[1] Koskei Simion Kiprotich, [2] Dr. Wachiuri Elizabeth

[11]Masters Student, Jomo Kenyatta University of Agriculture and Technology
[2]Lecturer, Jomo Kenyatta University of Agriculture and Technology

ABSTRACT

The textile industry plays a vital role in Kenya's socio-economic development. It is a significant contributor to employment, especially for women and youth, and supports a wide range of related sectors, including agriculture (particularly cotton farming), retail, and logistics. However, textile companies in Kiambu County, encounter several challenges that impact their performance. The general objective is to establish the influence of sustainable procurement on performance of textile companies in Kiambu County, Kenya. Specifically, the study sought to determine the influence of green tendering on performance of textile companies in Kiambu County, Kenya and to establish the influence of green specification on performance of textile companies in Kiambu County, Kenya. This study was guided by: Stakeholder Theory and Institutional Theory. The descriptive research design was employed. This study target population was the textile manufacturing companies in Kiambu County. The research focused on listed medium and large-scale textile manufacturing companies in Kiambu County, Kenya. There are 88 listed textile manufacturing companies in Kiambu County, Kenya which are registered members of the Kenya Association of Manufacturers (KAM). The sampling frame of the study was the 603 respondents from the 88 textile manufacturing companies. The study's sample size was reached at using Krejcie and Morgan sample size determination formula (Russell, 2019) and sampled 235 respondents. The 235 respondents were chosen with the help of stratified random sampling technique. A questionnaire which is a form of quantitative data collection tool was used to collect primary data. A pilot test was conducted to determine validity and reliability of the data collection instrument. Data obtained from the field was coded, cleaned, and entered into the computer for analysis using the SPSS version 25. For the quantitative reports, the tables consisted of mean and standard deviation values that were used to make interpretation of the analysis. Descriptive statistical included frequency, percentages, mean and standard deviation. Inferential statistical analysis used comprised of multiple regression and correlation analysis. Tables were used to display the rate of responses and to facilitate comparison. The study concludes that green tendering has a significant effect on performance of textile companies in Kiambu County, Kenya. In addition, the study concludes that green specification has a significant effect on performance of textile companies in Kiambu County, Kenya. Based on the findings, the study recommends that the management of textile companies in Kenya should develop and implement clear green specifications in their product design and material selection processes.

Key Words: Sustainable Procurement, Green Tendering, Green Specification, Performance of Textile Companies

Background of the Study

The manufacturing sector is a crucial component of the global economy, encompassing industries involved in the transformation of raw materials into finished goods through the use of labor, machinery, and technology (Riadi & Machfudiyanto, 2023). It includes a wide range of subsectors such as automotive, electronics, textiles, food processing, and heavy machinery. This sector not only drives economic growth by creating jobs and generating exports, but also fosters innovation and productivity through advancements in automation, robotics, and smart manufacturing techniques (Tiwari, Wei & Nor, 2020). Textile companies are businesses involved in the production, processing, and distribution of fibers, yarns, fabrics, and finished textile products such as clothing, home furnishings, and industrial materials. These companies operate across various stages of the textile supply chain, including spinning, weaving or knitting, dyeing, finishing, and garment manufacturing. They may work with natural fibers like cotton and wool or synthetic materials such as polyester and nylon (Islam, *et al*, 2022).

Textile companies play a vital role in the global economy by producing the fabrics and materials essential for a wide range of industries, including fashion, home furnishings, automotive, healthcare, and construction. They serve as the backbone of the clothing and apparel industry, supplying raw and finished textiles to designers, brands, and retailers (Jermsittiparsert, Sutduean & Sutduean, 2023). Through the transformation of raw fibers into yarns, fabrics, and eventually finished products, textile companies contribute significantly to employment and industrial development, especially in emerging economies where the sector often supports large portions of the workforce (Subramanian & Shanmuga, 2020).

In addition, textile companies are key players in driving innovation in materials and production processes. Many invest in research and development to create high-performance fabrics, such as moisture-wicking athletic wear, fire-resistant materials for safety gear, and smart textiles embedded with technology (Azanlerigu & Atiga, 2024). These innovations extend the functionality of textiles beyond traditional uses, opening up new markets and applications. Moreover, as environmental concerns grow, textile companies are increasingly adopting sustainable practices (Mawonde & Nyoni, 2021). This includes using organic or recycled fibers, reducing water and energy consumption, and implementing eco-friendly dyeing and finishing techniques. The industry's shift toward circular economy models—such as recycling old garments into new textiles—reflects its evolving role in promoting environmental responsibility. Overall, textile companies not only provide essential goods but also influence trends, technology, and sustainability practices across multiple industries (Luoga, 2024).

Sustainable procurement refers to the process of sourcing goods and services in a way that considers not only the traditional factors of price, quality, and availability but also the environmental, social, and economic impacts throughout the product lifecycle. It involves selecting suppliers and products that minimize negative effects on the environment, promote ethical labor practices, and contribute to the long-term well-being of communities (Uduak, Efedhoma & Ofoegbu, 2024). This approach encourages the integration of sustainability criteria, such as reducing carbon footprints, conserving resources, supporting fair trade, and ensuring transparency in supply chains, into the procurement decision-making process. Green tendering involves incorporating environmental criteria into the procurement process when inviting bids from suppliers (Nangpiire, Gyebi & Nasse, 2023). It ensures that the suppliers selected not only meet quality and price requirements but also align with sustainability goals, such as minimizing carbon emissions, reducing waste, and using environmentally friendly materials. Green specifications are detailed requirements set by organizations that guide suppliers in offering products or services that are energy-efficient, recyclable, or have minimal negative environmental

impacts. This helps create a demand for more sustainable products and encourages innovation in green technologies (Wako & Lambaino, 2024). This study sought to establish the influence of sustainable procurement on performance of textile companies in Kiambu County, Kenya.

Kiambu County, and particularly the industrial town of Thika, hosts a number of significant textile companies that contribute both to the local economy and Kenya's broader manufacturing sector. Thika Cloth Mills (TCM) is one of Kenya's oldest and most established textile manufacturers (Nyoike & Ismail, 2023). Located in Thika town, TCM specializes in the production of woven fabrics, including suiting and uniform materials, which are supplied to both local and regional markets. The company has maintained operations despite the challenges faced by the Kenyan textile industry over the years, including competition from imports and fluctuating demand. TCM is known for its integration of spinning, weaving, and finishing processes, which makes it a rare vertically integrated textile firm in Kenya. It also supports local cotton growers by sourcing some of its raw materials domestically (Wako & Lambaino, 2024).

Trite Apparel Exporters, also based in Kiambu County, represents a newer generation of textile firms focused primarily on garment manufacturing for export markets. The company operates within the framework of the African Growth and Opportunity Act (AGOA), which allows eligible Kenyan firms duty-free access to U.S. markets (Wechuli & Odari, 2022). Trite Apparel specializes in the production of finished clothing items, particularly uniforms and casual wear, for overseas buyers. It emphasizes quality control and compliance with international labor and environmental standards, which has helped it secure long-term contracts with global brands and buyers. Gimex, another player in Thika's textile sector, functions primarily as a garment manufacturer, with a focus on both domestic retail and export (Wanja & Odoyo, 2020). The company is known for producing affordable fashion and uniforms, and it has gradually expanded its capabilities in response to growing demand. Gimex is often praised for its flexible manufacturing capacity, which allows it to handle both large-scale orders and smaller, customized batches. Like Trite Apparel, Gimex benefits from government initiatives aimed at revitalizing the Kenyan textile and apparel industry, including support under the Export Processing Zones (EPZ) program (Nyoike & Ismail, 2023).

Statement of the Problem

The textile industry plays a vital role in Kenya's socio-economic development. It is a significant contributor to employment, especially for women and youth, and supports a wide range of related sectors, including agriculture (particularly cotton farming), retail, and logistics (Wako & Lambaino, 2024). Textile companies in regions like Kiambu County not only stimulate industrialization and local manufacturing but also contribute to the country's export earnings and Gross Domestic Product (GDP). The revitalization of the textile industry aligns with Kenya's Vision 2030 development blueprint, which emphasizes value addition and industrial growth as key drivers of economic transformation (Wechuli & Odari, 2022).

Textile companies in Kiambu County, encounter several challenges that impact their performance. Customer satisfaction in the textile industry is significantly affected by the high cost of production, which leads to increased prices for consumers (Wanja & Odoyo, 2020). In Kenya, electricity costs account for up to 25% of the operating costs for textile firms, compared to 6% in Ethiopia and 7% in China. This disparity results in higher prices for Kenyan-made products, potentially reducing customer satisfaction due to perceived value. Additionally, the prevalence of second-hand clothing (mitumba) in the market offers consumers more affordable options, further challenging local textile companies in meeting customer expectations (Nyoike & Ismail, 2023).

The market share of textile companies is under pressure due to several factors. The influx of second-hand clothing into the Kenyan market has led to a decline in demand for locally produced textiles (Wako & Lambaino, 2024). Between 2017 and 2021, Kenya imported an average of 160,638 tonnes of second-hand clothing annually, with 183,830 tonnes imported in 2021 alone. This influx has significantly impacted the market share of local textile companies. Furthermore, the limited availability of quality cotton locally forces companies to import raw materials, increasing production costs and reducing competitiveness in both local and international markets (Wechuli & Odari, 2022). Profitability in the textile sector is adversely affected by high production costs and limited access to affordable financing. The cost of doing business in Kenya increased by nearly 25% from May 2022 to February 2023, driven by factors such as rising electricity tariffs, labor costs, and logistics expenses. These increased costs have led to a reduction in profitability for textile companies. Additionally, the lack of access to affordable financing options hampers the ability of companies to invest in modern equipment and technology, further impacting their profitability (Nyoike & Ismail, 2023).

Sustainable procurement, which integrates environmental, social, and economic considerations into purchasing decisions, has become increasingly important in enhancing firm performance (Wanja & Odoyo, 2020). Various studies have been conducted in different parts of the world on sustainable procurement and firm performance. For instance, Wanja and Odoyo (2020) researched on sustainable procurement practices and performance of procurement in food and beverages manufacturing firms. Wako and Lambaino (2024) examined on sustainable procurement and performance of cement manufacturing firms and Wechuli and Odari (2022) investigated on the role of sustainable procurement practices on corporate governance. However, none of these studies focused on green tendering and green specification on performance of textile companies in Kiambu County, Kenya. To fill the highlighted gaps, the current study sought to establish the influence of sustainable procurement (green tendering and green specification) on performance of textile companies in Kiambu County, Kenya

Objectives of the Study

General Objective

The general objective is to establish the influence of sustainable procurement on performance of textile companies in Kiambu County, Kenya

Specific Objectives

i. To determine the influence of green tendering on performance of textile companies in Kiambu County, Kenya
ii. To establish the influence of green specification on performance of textile companies in Kiambu County, Kenya

Theoretical Framework

Stakeholder Theory

Stakeholder Theory is a framework in management and ethics that emphasizes the importance of considering all parties affected by a company's actions, not just its shareholders (Olga, Friedemann & Gustav, 2020). Developed by Edward Freeman (1984), the theory posits that businesses operate within a network of relationships that includes various stakeholders—such as employees, customers, suppliers, communities, and investors. By acknowledging these stakeholders and their interests, organizations can create more sustainable and ethically sound business practices. The central idea is that businesses should strive to create value for all stakeholders rather than focusing solely on maximizing shareholder profit. A key aspect of Stakeholder Theory is the identification

and prioritization of stakeholders based on their influence and the significance of their interests. Stakeholders can be categorized into primary and secondary groups (Maholo, 2020). Primary stakeholders are those whose direct involvement is essential for the company's survival, such as employees and customers. Secondary stakeholders may include groups like the media, advocacy organizations, and government entities, which can influence or be affected by the organization's activities. Understanding the dynamics among these different stakeholders helps organizations make informed decisions that consider a wider array of perspectives and potential impacts (Kilonzi & Mwikali, 2022). Stakeholder Theory also highlights the ethical responsibility of businesses to engage with their stakeholders transparently and fairly. This engagement fosters trust and collaboration, which can lead to better outcomes for all parties involved. The theory suggests that businesses should actively seek feedback from stakeholders and incorporate their views into decision-making processes. By doing so, companies not only enhance their social license to operate but also strengthen their long-term viability and reputation (Mutangili, 2020). This theory was used to determine the influence of green tendering on performance of textile companies in Kiambu County, Kenya.

Institutional Theory

Institutional Theory developed by John Meyer and Brian Rowan (1977), within the context of organizational studies and sociology, examines how institutions—both formal (such as laws, regulations, and norms) and informal (such as customs, traditions, and cultural values)—shape organizational behavior, practices, and structures (Lam *et al*, 2020). At its core, Institutional Theory suggests that organizations are not only influenced by economic factors or market forces but are also deeply embedded within broader social and institutional contexts. These institutional contexts provide guidelines, norms, and expectations that influence how organizations operate, make decisions, and respond to external pressures (Mwaipungu & Allopi, 2020).

One key concept within Institutional Theory is institutional isomorphism, which describes the tendency of organizations within a field or industry to become more similar over time (Ngandu, 2023). This occurs through three main mechanisms: coercive isomorphism (pressure from external entities such as governments, regulatory bodies, or powerful stakeholders), mimetic isomorphism (imitation of successful practices or behaviors observed in other organizations), and normative isomorphism (adoption of norms and values considered legitimate within the institutional environment). These forces can lead to convergence in organizational structures, practices, and strategies, even among organizations that are otherwise competing in the same industry (Muthoka & Mutuku, 2023). Furthermore, Institutional Theory emphasizes the role of legitimacy in organizational survival and success. Legitimacy refers to the perception that an organization's actions, structures, and practices are appropriate, acceptable, and in line with societal expectations and norms. Organizations strive to gain and maintain legitimacy because it enhances their credibility, reduces uncertainty among stakeholders, and facilitates access to resources and support. Legitimacy can be achieved by conforming to institutional expectations, aligning with prevailing norms, and demonstrating social responsibility (Khaemba, 2020). This theory was used to establish the influence of green specification on performance of textile companies in Kiambu County, Kenya.

Conceptual Framework

A conceptual framework is a structured representation of the key variables, concepts, and their relationships within a study. It provides a theoretical foundation that guides the research process by explaining how different elements interact (Croswell, 2019). Figure 2.1 shows the conceptual framework adopted by the research study. The independent variables are; green tendering and

green specification while the dependent variable is performance of textile companies in Kiambu County, Kenya.

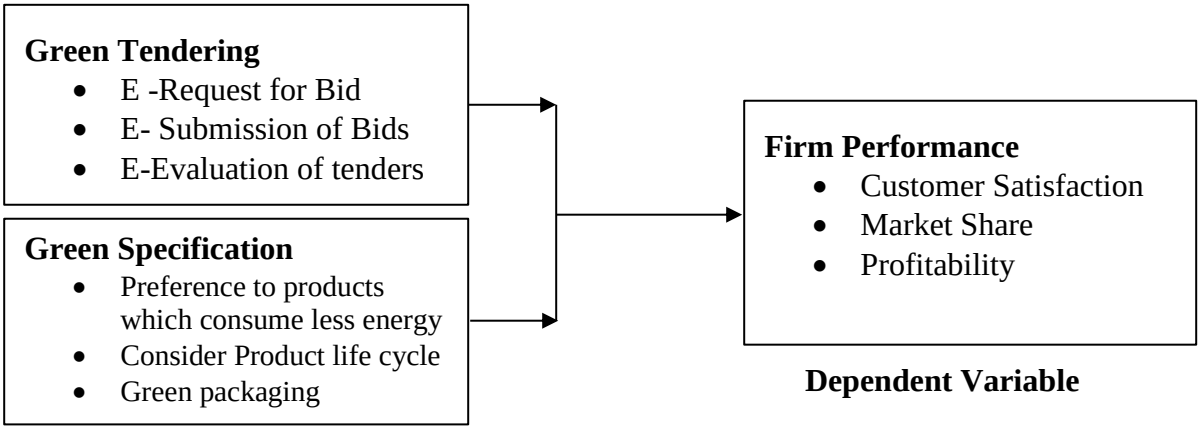

Figure 2. 1: Conceptual Framework

Green Tendering

Green tendering refers to the process of incorporating environmental considerations into the procurement and tendering of goods, services, or works by public or private entities (Olga, Friedemann & Gustav, 2020). It involves evaluating bids not only on traditional criteria such as cost and quality but also on the basis of their environmental impact throughout the lifecycle of the product or service. This can include factors like energy efficiency, use of sustainable materials, waste management, and carbon emissions. E-Request for Bid is a digital process through which procuring entities invite suppliers or contractors to participate in a tender by submitting competitive bids online (Maholo, 2020). This process is typically managed through an e-procurement platform, which hosts all the relevant documentation, requirements, terms, and conditions for the bid. One of the key advantages of E-RFB is the improved accessibility it offers—bidders from different locations can easily access bid information without physical travel or mailing delays.

The E-Submission of bids marks a major advancement in the tendering process by allowing suppliers to submit all required bid documents electronically (Mutangili, 2020). This not only streamlines the submission process but also improves accuracy and reduces administrative burdens. Bidders can upload their technical and financial proposals directly to a secure online system, which ensures that documents are encrypted and stored safely until the official opening time. E-submission also helps eliminate common issues such as document loss, late delivery due to courier delays, or incomplete submissions (Nasiche & Ngugi, 2020). E-Evaluation of tenders uses technology to assess and score bids in a structured, consistent manner. Through an electronic evaluation platform, evaluators can access all bid documents, collaborate remotely, and input scores based on predefined criteria. This reduces the risk of subjective judgment and inconsistencies in scoring. Many platforms offer features such as automatic flagging of non-compliant bids, comparison tools, and real-time scoring dashboards, which help evaluators make more informed decisions.

Green Specification

Green Specification refers to the practice of including environmental criteria and sustainability requirements in the specifications of products, materials, or services within procurement or construction processes (Lam *et al*, 2020). These specifications aim to minimize negative

environmental impacts throughout a product's life cycle—covering aspects such as energy efficiency, recyclability, low emissions, non-toxicity, sustainable sourcing, and waste reduction. Green specifications guide suppliers and contractors toward environmentally responsible practices by setting clear expectations for eco-friendly performance, thereby promoting sustainable development. They are often used in green procurement, green building projects, and environmentally conscious manufacturing (Mwaipungu & Allopi, 2020). One of the key principles of environmentally responsible procurement is giving preference to products that consume less energy during their use. Energy-efficient products help reduce greenhouse gas emissions and lower operational costs over time, making them both environmentally and economically beneficial.

Evaluating a product based on its life cycle means assessing its environmental impact from production to disposal—also known as "cradle-to-grave" analysis (Muthoka & Mutuku, 2023). This includes raw material extraction, manufacturing, transportation, use, maintenance, and end-of-life disposal or recycling. Life cycle thinking ensures that decisions are not based solely on the upfront cost or energy use but also on long-term environmental performance. Green packaging, also known as sustainable or eco-friendly packaging, focuses on reducing the environmental impact of packaging materials and processes (Khaemba, 2020). This includes using recyclable, biodegradable, or compostable materials; minimizing packaging volume and weight; and avoiding hazardous substances. The goal is to reduce waste, conserve resources, and lower emissions associated with packaging production and disposal. Green packaging not only benefits the environment but also appeals to environmentally conscious consumers and can enhance a company's reputation

Empirical Review

Green Tendering and Firm Performance

Olga, Friedemann and Gustav (2020) conducted a study on the effect of green public procurement: climate provisions in public tenders can help reduce German carbon emissions. This report estimates that government consumption and investment are responsible for at least 12 percent of German greenhouse gas emissions, mostly arising from the provision of public services and construction. The study found that based on a survey among procurement officials, this report shows that the main perceived barrier is the technical complexity of GPP combined with a low administrative capacity. The study concluded that given the large impact of their purchases, governments and other public procurers have both the responsibility and the opportunity to reduce emissions in line with 2050 climate targets.

Maholo (2020) conducted a study on the effect of green tendering and performance of World Bank funded projects in Uganda. A case study of agricultural technology and agribusiness advisory services. A study was conducted on the Agricultural Technology and Agribusiness Advisory Services Project (ATAAS) to assess the effect of open tendering practices on the performance of World Bank funded projects in Uganda. The study findings revealed; a weak positive relationship between pre-qualification and timely implementation of ATAAS activities a weak relationship between Bid invitation and cost effectiveness of ATAAS and a strong significant relationship between Negotiation and Value for money at ATAAS. It was concluded that, a unit improvement in open tendering efficiency leads to 65% increase on performance of ATAAS meaning that, other factors contribute 35% to Performance.

Kilonzi and Mwikali (2022) conducted a study on the effect of factors affecting adoption of green procurement practices in energy sector in Kenya, A case study of Kenya Pipeline Company. This study sought to determine factors affecting adoption of green procurement practices in energy sector in Kenya; a case study of Kenya Pipeline Company. According to the findings of the study

87% of the respondents agreed that technology advancement affect adoption of green procurement practices in energy sector in Kenya. Based on the findings, the study came to a conclusion that technological advancement is key on adoption of green procurement practices in energy sector in Kenya.

Mutangili (2020) conducted a study on the influence green procurement practices in supply chain management and leadership on performance of parastatals in Kenya; A case of Kenya Airways and Kenya Pipeline. In Kenya, parastatals procurement consumes huge figure national budget. The inefficiency and ineptness of overall procurement efficiency in many government parastatals hinders performance. The study found that Kenya Airways and Kenya pipeline should integrate green procurement process in all its purchasing processes since it's characterized by a low environmental impact that is products environmentally friendly in nature and produced using environmentally friendly processes. It is concluded that green packaging influences supply chain performance through reducing environmental impact by products within the supply chain, proper use of products by consumers, appropriate product design to minimize consumption of materials and energy, facilitates reuse, recycle and recovery of component materials.

Green Specification and Firm Performance

Mwaipungu and Allopi (2020) conducted a study on the effect of the sustainability of green specification as depicted by sub Saharan Africa's standard specifications and manuals for road works: Tanzania case study. The sustainability of gravel roads depends, among other things, on the appropriate locally formulated manual and standard specification. The study found that this paper reviews what is specified in the Tanzania's Pavements and Materials Design Manual (PMDM) and the Standard Specification for Road Works (SSRWs), in particular on environmental and climatic issues associated with the green specification construction and maintenance activities and mitigation measures adopted. This paper concludes by listing the appropriate measures expected to achieve green specification sustainability

Ngandu (2023) conducted a study on the effect of review of patents, utility models and research for green specification construction materials in Kenya. There is need for the construction industry to adopt green approaches, to counter increase in demand, while promoting sustainability. Intellectual property rights (IPR) provide temporal territorial exclusivity- with some limitation. The study found that this review study was based on 182 Kenya Industrial Property Institute (KIPI) accessible journals between 2003 and 2021, on patents or utility models applications/grants perceived as GCM. The study concluded that identified some other GCM researches, for Kenya, but no reflection to advance to patent or utility models application

Muthoka and Mutuku (2023) conducted a study on the influence of green specification product design on performance of manufacturing enterprises in Kenya's export processing zones. Manufacturing enterprise sectors are known as the backbone of development in general and economic development in particular because they not only help modernize agriculture but also lessen the heavy reliance of people on it by giving them jobs in secondary and tertiary sectors. As a result, the goal of this study was to find out how green specification product design affects manufacturing firms' performance in Kenya's export processing zones. The descriptive research design was used in this study. The study concluded that green specification product design aims at reducing waste and maximizing resource efficiency.

Khaemba (2020) conducted a study on the effect of adoption of green specification building practices and rating system in Kenya: potentials and barriers. This research study was undertaken to identify green building rating attributes that could be adopted for Kenya, and barriers to initial adoption of green building practices and a green specification building rating system in Kenya.

Also, the findings would inform stakeholders about barriers that need to be overcome in order to accelerate green building adoption in Kenya. The study concluded that the overarching theme of this research study was to investigate green specification building rating attributes that could be adopted for Kenya, and barriers to initial adoption of green building practices and a green specification building rating system in Kenya

RESEARCH METHODOLOGY

Research Design

The descriptive research design was employed where data was collected one point in time. Creswell and Creswell (2019) notes that a descriptive survey seeks to obtain information that describes existing phenomena by asking questions relating to individual perceptions and attitudes. The design is considered suitable as it allows an in-depth study of the problem under investigation. Descriptive research design was adopted when describing the given situation, a phenomenon, it takes into consideration current believes customs and also traditions in data collection (Baumgartner, Strong & Hensley 2018).

Target Population

This study target population was the textile manufacturing companies in Kiambu County. The apparel sector in Kenya has a three-tiered structure: in the EPZ, there are 21 large companies, and outside the EPZ there are 170 medium and large companies and more than 70,000 micro and small ones. These firms formed the unit of analysis while unit of observation was the management employees working in these organizations. Top managers play a critical role in decision making and defining the firm's future. These managers were selected since they are directly responsible in the formulation, adoption and implementation of different strategies relating to global procurement.

The research focused on listed medium and large-scale textile manufacturing companies in Kiambu County, Kenya. There are 88 listed textile manufacturing companies in Kiambu County, Kenya which are registered members of the Kenya Association of Manufacturers (KAM) as of 20th January 2023 (KAM, 2024).

Table 1: Target Population

Category	Target Population
Top Managers	67
Middle Level Managers	201
Lower Level Managers	335
Total	**603**

Sampling Frame

A sampling frame refers to a list of all items of a given population from which the study's samples is drawn (Saunders, Lewis & Thornhill, 2019). The sampling frame of the study was the 603 respondents from the 88 textile manufacturing companies.

Sample and Sampling Techniques

The study's sample size was reached at using Krejcie and Morgan sample size determination formula (Russell, 2019). Using this formula a representative sample was obtained. The study's total population was 603.

The formula used for arriving at the sample size is;

$$n = \frac{x^2 NP(1-P)}{\left(ME^2(N-1)\right) + (x^2 P(1-P))}$$

Where:

n=sample size

x^2=Chi-square for the specified confidence level at 1 degree of freedom

N=Population size (603)

P = is the proportion in the target population estimated to have characteristics being studied. As the proportion was unknown, 0.5 was used.

Chuan and Penyelidikan (2019) indicate that the use of 0.5 provides the maximum sample size and hence it is the most preferable.

ME=desired margin of Error (Expressed as a proportion)

$$n = \frac{1.96^2 603 * 0.5 * 0.5}{(0.05^2 * 603) + (1.96^2 * 0.5 * 0.5)}$$

$$n = 235$$

Table 2: Sample Size

Category	Target Population	Sample Size
Top Managers	67	26
Middle Level Managers	201	78
Lower Level Managers	335	131
Total	**603**	**235**

The 235 respondents were chosen with the help of stratified random sampling technique. Stratified random sampling technique was used since the population of interest is not homogeneous and could be sub-divided into groups or strata to obtain a representative sample. The study then used simple random sampling to select respondents from each group.

Data Collection Instrument

Greener (2018) indicates that primary data is made up of first-hand information that has not been processed or analyzed. A questionnaire which is a form of quantitative data collection tool was used to collect primary data. The study's primary data was obtained using semi-structured questionnaires. Data was collected using a self-administered semi-structured questionnaire. Semi-structured questionnaires were used since they enable the researcher collect quantitative data. Questionnaires are a good method because they provide clarifications sought by respondents and they can be collected immediately after they are completed. Structured questionnaires are easy to administer, analyze and are economical in terms of time and money. A five-point Likert scale was used to measure all variables. The lowest rating of 1 signifies a low opinion by respondent while a high rating of 5 signifies a high rating by the respondents.

Pilot Study

A pilot test was conducted to determine validity and reliability of the data collection instrument. A pilot study is a small experiment designed to test logistics and gather information prior regarding a larger study, in order to improve the latter quality and efficiency. A pilot study can reveal deficiencies in the design of proposed experiment and procedure and these can be addressed before time and resources are expended on large scale studies. The responses from respondents were used to adjust and refine questionnaire accordingly. According to Mugenda and Mugenda (2019) the pretest sample should be between 1% and 10% depending on the sample size.

Data Analysis and Presentation

Data obtained from the field was coded, cleaned, and entered into the computer for analysis using the SPSS version 25. The data was summarized in order to see emerging trends and issues around specific themes, which are dependent on the variables and objectives. Presentation of data was done in form of quantitative and qualitative reports which was presented in forms of tables and essay. For the quantitative reports, the tables consisted of mean and standard deviation values that were used to make interpretation of the analysis. Percentage, mean and standard deviation was used to show the frequency of responses. Tables were used to display the rate of responses and to facilitate comparison. Qualitative reports were presented in form of essay which was discussed as per the study objectives aligned with the theories and empirical study.

Descriptive statistical included frequency, percentages, mean and standard deviation. Inferential statistical analysis used comprised of multiple regression and correlation analysis. The significant of each independent variable was tested at a confidence level of 95%. The multiple regression model that was utilized as shown below:

$$\mathbf{Y= \beta + \beta_1 X_1 + \beta_2 X_2 + \varepsilon}$$

Where:

Y represents dependent Variable (Performance of Textile Companies in Kiambu County, Kenya),

β represents a constant or Intercept

β_1, β_2, represents the estimated regression coefficients

$\boldsymbol{X_1}$represents Green Tendering

$\boldsymbol{X_2}$represents Green Specification

$\boldsymbol{\varepsilon}$ represents error term (represents the effect of the variables that were not covered by the equation)

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Descriptive statistics

Green Tendering and Firm Performance

The first specific objective was to determine the influence of green tendering on performance of textile companies in Kiambu County, Kenya. The respondents were requested to indicate their level of agreement on various statements relating to green tendering and performance of textile companies in Kiambu County, Kenya. The results were as presented in Table 3.

From the results, the respondents agreed that the electronic RFB incorporates environmental sustainability criteria (M=3.857, SD=0.756). In addition, the respondents agreed that the electronic RFB system informs bidders of the project's environmental requirements (M=3.798, SD=0.590).

Further, the respondents agreed that the e-submission platform allows easy submission of environmentally sustainable proposals (M=3.763, SD=0.667).

From the results, the respondents agreed that the system ensures green criteria are fully considered in bids (M=3.721, SD=0.845). In addition, the respondents agreed that the evaluation process prioritizes environmental impact alongside cost and technical factors (M=3.691, SD=0.726). Further, the respondents agreed that environmental sustainability is a key factor in the e-evaluation scoring system (M=3.677, SD=0.791).

Table 3: Green Tendering and Firm Performance

	Mean	**Std. Deviation**
The electronic RFB incorporates environmental sustainability criteria.	3.857	0.756
The electronic RFB system informs bidders of the project's environmental requirements	3.798	0.590
The e-submission platform allows easy submission of environmentally sustainable proposals.	3.763	0.667
The system ensures green criteria are fully considered in bids.	3.721	0.845
The evaluation process prioritizes environmental impact alongside cost and technical factors.	3.691	0.726
Environmental sustainability is a key factor in the e-evaluation scoring system.	3.677	0.791
Aggregate	**3.751**	**0.729**

Green Specification and Firm Performance

The second specific objective of the study was to establish the influence of green specification on performance of textile companies in Kiambu County, Kenya. The respondents were requested to indicate their level of agreement on various statements relating to green specification and performance of textile companies in Kiambu County, Kenya. The results were as presented in Table 4.

From the results, the respondents agreed that the company prioritizes products that consume less energy in its specifications (M=3.891, SD=0.867). In addition, the respondents agreed that energy efficiency is a key consideration in the selection of products for projects (M=3.886, SD=0.735). Further, the respondents agreed that product life cycle analysis is considered when specifying products (M=3.851, SD=0.813).

From the results, the respondents agreed that the environmental impact throughout the product's life cycle is factored into product selection (M=3.820, SD=0.733). Further, the respondents agreed that green packaging solutions are a priority when selecting products (M=3.731, SD=0.819). In addition, the respondents agreed that packaging that minimizes environmental impact is preferred in product specifications (M=3.718, SD=0.795).

Table 4: Green Specification and Firm Performance

	Mean	Std. Deviation
The company prioritizes products that consume less energy in its specifications.	3.891	0.867
Energy efficiency is a key consideration in the selection of products for projects.	3.886	0.735
Product life cycle analysis is considered when specifying products.	3.851	0.813
The environmental impact throughout the product's life cycle is factored into product selection.	3.820	0.733
Green packaging solutions are a priority when selecting products.	3.731	0.819
Packaging that minimizes environmental impact is preferred in product specifications	3.718	0.795
Aggregate	**3.816**	**0.794**

Inferential Statistics

Inferential statistics in the current study focused on correlation and regression analysis. Correlation analysis was used to determine the strength of the relationship while regression analysis was used to determine the relationship between dependent variable (performance of textile companies in Kiambu County, Kenya) and independent variables (green tendering and green specification).

Correlation Analysis

The present study used Pearson correlation analysis to determine the strength of association between independent variables (green tendering and green specification) and the dependent variable (performance of textile companies in Kiambu County, Kenya). Pearson correlation coefficient range between zero and one, where by the strength of association increase with increase in the value of the correlation coefficients.

Table 5: Correlation Coefficients

		Firm Performance	Green Tendering	Green Specification
Firm Performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	208		
Green Tendering	Pearson Correlation	.861**	1	
	Sig. (2-tailed)	.002		
	N	208	208	
Green Specification	Pearson Correlation	.885**	.263	1
	Sig. (2-tailed)	.000	.058	
	N	208	208	208

From the results, there was a very strong relationship between green tendering and performance of textile companies in Kiambu County, Kenya (r = 0.861, p value =0.002). The relationship was significant since the p value 0.002 was less than 0.05 (significant level). The findings are in line with the findings of Olga, Friedemann and Gustav (2020) who indicated that there is a very strong relationship between green tendering and firm performance.

Moreover, the results revealed that there is a very strong relationship between green specification and performance of textile companies in Kiambu County, Kenya (r = 0.885, p value =0.000). The

relationship was significant since the p value 0.000 was less than 0.05 (significant level). The findings conform to the findings of Mwaipungu and Allopi (2020) that there is a very strong relationship between green specification and firm performance.

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (green tendering and green specification) and the dependent variable (performance of textile companies in Kiambu County, Kenya).

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.881	.776	.775	.10228

a. Predictors: (Constant), green tendering and green specification

The model summary was used to explain the variation in the dependent variable that could be explained by the independent variables. The r-squared for the relationship between the independent variables and the dependent variable was 0.776. This implied that 77.6% of the variation in the dependent variable (performance of textile companies in Kiambu County, Kenya) could be explained by independent variables (green tendering and green specification).

Table 7: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	113.105	2	56.553	1379.34	.000[b]
	Residual	8.426	205	.041		
	Total	121.531	207			

a. Dependent Variable: performance of textile companies in Kiambu County, Kenya
b. Predictors: (Constant), green tendering and green specification

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 1379.34 while the F critical was 3.040. The p value was 0.000. Since the F-calculated was greater than the F-critical and the p value 0.000 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of green tendering and green specification on performance of textile companies in Kiambu County, Kenya.

Table 8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.281	0.073		3.849	0.000
	green tendering	0.380	0.098	0.381	3.878	0.000
	green specification	0.365	0.094	0.364	3.883	0.001

a Dependent Variable: performance of textile companies in Kiambu County, Kenya

The regression model was as follows:

$$\mathbf{Y = 0.281 + 0.380X_1 + 0.365X_2 + \varepsilon}$$

According to the results, green tendering has a significant effect on performance of textile companies in Kiambu County, Kenya, β_1=0.380, p value= 0.000). The relationship was considered

significant since the p value 0.000 was less than the significant level of 0.05. The findings are in line with the findings of Olga, Friedemann and Gustav (2020) who indicated that there is a very strong relationship between green tendering and firm performance.

The results also revealed that green specification has significant effect on performance of textile companies in Kiambu County, Kenya, β1=0.365, p value= 0.001). The relationship was considered significant since the p value 0.001 was less than the significant level of 0.05. The findings conform to the findings of Mwaipungu and Allopi (2020) that there is a very strong relationship between green specification and firm performance.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study concludes that green tendering has a significant effect on performance of textile companies in Kiambu County, Kenya. The study findings revealed that e -request for bid, e-submission of bids and e-evaluation of tenders influences performance of textile companies in Kiambu County, Kenya.

In addition, the study concludes that green specification has a significant effect on performance of textile companies in Kiambu County, Kenya. The study findings revealed that preference to products which consume less energy, consider product life cycle and green packaging influences performance of textile companies in Kiambu County, Kenya.

Recommendations

The study recommends that the management of textile companies in Kenya should integrate environmental criteria into their procurement processes by adopting green tendering practices that prioritize suppliers with sustainable production methods. By requiring bidders to meet environmental standards companies can not only minimize their ecological footprint but also improve their overall operational efficiency.

In addition, the study recommends that the management of textile companies in Kenya should develop and implement clear green specifications in their product design and material selection processes. These specifications should include the use of eco-friendly raw materials, biodegradable or recyclable packaging, and sustainable production techniques that reduce waste and emissions.

REFERENCES

Ahaiwe, E. O., & Nwadigoha, E. E. (2021). Reverse logistics practices and sales growth of starline Nigeria limited, abia state. *Nigerian Journal of Management Sciences 22*(1), 1-20

Azanlerigu, J. A., & Atiga, O. (2024). The nexus between sustainable procurement orientation and firm performance. *Southern African Business Review, 28*(4), 1-20.

Gichuhi, H. K., & Osoro, A. (2025). Sustainable procurement practices and performance of food and beverages manufacturing firms in Kiambu County, Kenya. *International Journal of Social Sciences Management and Entrepreneurship, 9*(1), 317-333.

Islam, M., Turki, A., Murad, W., & Karim, A. (2022). *Do Sustainable Procurement Practices Improve Organizational Performance?* Retrieved From, file:///C:/Users/user/Downloads/

Jermsittiparsert, K., Sutduean, J., & Sutduean, C. (2023). Sustainable Procurement & Sustainable Distribution Influence the Organizational Performance (Economic, Social and Environmental): Moderating Role of Governance and Collaboration at Thai Food Industry. *International Journal of Supply Chain Management, 8*(3), 83-94.

Khaemba, P. (2020). *Adoption of green building practices and rating system in Kenya: potentials and barriers*. Retrieved from https://digital.library.ncat.edu/cgi/

Kilonzi, F., & Mwikali, M. A. (2022). *Factors affecting adoption of green procurement practices in energy sector in Kenya, A case study of Kenya Pipeline Company*. Retrieved from file:///C:/Users/user/Downloads/

Maholo, D. M. (2020). *Green tendering and performance of World Bank funded projects in Uganda. A case study of agricultural technology and agribusiness advisory services*. Retrieved from file:///C:/Users/user/Downloads/

Mawonde, D., & Nyoni, J. (2021). The effect of sustainable procurement practices on corporate image in mining companies in Mashonaland Central Province in Zimbabwe. *International Journal of Research and Innovation in Social Science, 5*(12), 255-258.

Mutangili, S. K. (2020). Influence of green procurement practices in supply chain management and leadership on performance of parastatals in Kenya; A case of Kenya Airways and Kenya Pipeline. *Journal of Procurement and Supply Chain, 3*(2), 64-78.

Muthoka, B. M., & Mutuku, M. (2023). Influence of green product design on performance of manufacturing enterprises in Kenya's export processing zones. *International Journal of Social Science and Humanities Research, 11*(2), 332-337

Mutua, D. M, Odock, S., & Litondo, K. (2020). The effect of green logistics practices on performance of logistics firms in Kenya. *DBA Africa Management Review 10* (4), 20-35

Mwaipungu, R. R., & Allopi, D. (2020). The sustainability of gravel roads as depicted by sub Saharan Africa's standard specifications and manuals for road works: Tanzania case study. *WIT Transactions on the Built Environment, 138*(1), 581-592

Mwanyota, L. J, Muranga, N, Maalu, J., & Iraki, X. N. (2020). Reverse logistics and competitive advantage: the mediating effect of operational performance among manufacturing firms in Kenya. *European Scientific Journal, 16*(19), 217-237

Ngandu, C. N. (2023). *Review of patents, utility models and research for green construction materials in Kenya*. Retrieved from https://www.researchgate.net/profile/

Ngei, N. M., & Kihara, A. (2020). Influence of inventory management systems on performance of gas manufacturing firms in Nairobi City County, Kenya. *International Journal of Business & Law Research, 5*(2), 21-39

Nyaga, I. W., & Achuora, J. O. (2020). Sustainable procurement practices and performance of procurement in food and beverages manufacturing firms in Kenya. *Global Scientific Journals, 8*(3), 1637-1656

Nyoike, N. P., & Isanail, N. (2023). Effects of Sustainable Procurement Practices on Procurement Performance in Manufacturing Sector in Kenya: A Case of Unilever Kenya Limited. International Journal of Social Science and Humanities Research, 5(2), 298-306.

Olga, C, Friedemann, G., & Gustav, W. (2020). *Green public procurement: climate provisions in public tenders can help reduce German carbon emissions*. Retrieved from https://www.econstor.eu/bitstream/

Panya, K. O., & Marendi, P. G. (2021). Effects of reverse logistic practices on the performance of fast moving consumer goods companies in Kenya. *The Strategic Journal of Business & Change Management, 8* (4), 747-762

Riadi, H., & Machfudiyanto, R. A. (2023). *Critical Success Factor in Applications of Sustainable Procurement to Improve Procurement Performance in Construction Projects*. Retrieved From, file:///C:/Users/user/Downloads/

Sari, D. P, Ulkhaq, M. M, Rinawati, D. I., & Rasyida, D. R. (2020). Barriers of reverse logistics implementation: a case study in a car battery industry in Indonesia. *International Journal of Supply Chain Management, 7*(5), 54-67

Subramanian, C., & Shanmuga, P. V. M. (2020). Impact of Sustainable Procurement in Supply Chain Management. *International Journal of Management and Commerce Innovations, 7*(2), (989-994.

Tiwari, S., Wei, C. S., & Nor, N. M. (2020). *Factors influencing sustainable procurement practices in the Malaysian manufacturing firm*. Retrieved From, file:///C:/Users/user/Downloads/

Uduak, D. W., Efedhoma, P. E., & Ofoegbu, P. (2024). Sustainable Procurement and Performance of Oil and Gas Firms in Nigeria. *African Journal of Entrepreneurship & Innovation, 3*(4), 20-50

Wako, A. D., & Lambaino, N. (2024). Sustainable procurement and performance of cement manufacturing firms in Kenya. *International Journal of Social Sciences Management and Entrepreneurship, 8*(4), 1079-1096.

Wanja, N. I., & Odojo, A. J. (2020). Sustainable procurement practices and performance of procurement in food and beverages manufacturing firms in Kenya. *Global Scientific Journals, 8*(3), 1637-1656.

Wechuli, J. W., & Odari, N. S. (2022). Role of sustainable procurement practices on corporate governance in the Kenyan Public Transport Sector: a case of Kenya Ports Authority. *International Journal of Social Science and Information Technology, 3*(2), 1583-1598.