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Sustainable Procurement Practices and Service Delivery at National Police in Nairobi City County, Kenya

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ABSTRACT

Purpose: The general objective of the study is to examine the effect of sustainable procurement practices on Service Delivery at National Police in Nairobi City County, Kenya. This study was guided by Stakeholder Theory and Diffusion of Innovation Theory.

Methodology: This study adopted a descriptive research design. The target population for this study comprised 376 officers within the National Police Service (NPS), drawn from procurement, logistics, finance, and command units. The study used Yamane (1967) formula to determine the size of the sample. From the formula, the sample size will be 192 respondents. This research used a questionnaire to collect primary data. Before the data could be analysed, the researcher ensured the data was checked for completeness, followed by data editing, data coding, data entry, and data cleaning. Inferential and descriptive statistics were employed for analysis of quantitative data with the assistance of Statistical Package for Social Sciences (SPSS version 29). Descriptive statistics such as frequency distribution, mean (measure of dispersion), standard deviation, and percentages were used. Inferential data analysis was conducted by use of Pearson correlation coefficient, and multiple regression analysis.

Findings: The study concludes that eco-friendly sourcing has a positive and significant influence on Service Delivery at National Police in Nairobi City County, Kenya. The study also concludes that green innovation has a positive and significant influence on Service Delivery at National Police in Nairobi City County, Kenya.

Unique Contribution to Theory, Policy and Practice: Based on the findings, the study recommends that National Police Service in Kenya should strengthen eco-friendly sourcing by prioritizing suppliers that provide environmentally sustainable products and services while integrating environmental criteria into procurement decisions. This would help reduce environmental impact, improve resource efficiency, promote compliance with environmental standards, and enhance the efficiency and reliability of service delivery.

Keywords: *Sustainable Procurement Practices, Eco-Friendly Sourcing, Green Innovation, Service Delivery, National Police*

Background of the Study

National security is universally recognized as a cornerstone of political stability, social cohesion, and economic prosperity (Kiswili, & Ismail, 2020). Effective policing services, as a central component of national security, ensure the protection of human rights, enforcement of law and order, and safeguarding of state sovereignty (Maxwell, 2021). Globally, governments allocate significant resources to strengthen security institutions because lapses in service delivery within the police service often translate into increased crime, terrorism risks, and weakened investor confidence. For example, the United Nations Office on Drugs and Crime (UNODC) reports that countries with effective police service delivery record lower crime prevalence, higher citizen trust, and stronger institutional legitimacy. Thus, police service delivery is not only a national concern but also a global developmental priority tied to sustainable peace and inclusive growth (Nangpiire, Gyebi, & Nasse, 2024).

In Africa, however, police service delivery faces persistent challenges ranging from corruption, underfunding, and logistical inefficiencies to lack of accountability. According to the African Development Bank (AfDB), inadequate provision of security services undermines public trust in state institutions and hinders social development. Police services across several African countries are frequently characterized by inadequate equipment, limited mobility, and poor welfare for officers, leading to ineffective emergency response and low citizen satisfaction (Walker, & Brammer, 2022). Studies further indicate that procurement-related irregularities—such as inflated tenders, delayed supplier payments, and weak contract management—directly contribute to gaps in service delivery, leaving citizens vulnerable to insecurity. Addressing these challenges requires institutional reforms that embed sustainable procurement practices to ensure resources are effectively mobilized and utilized (Ruparathna, & Hewage, 2021).

In Kenya, the National Police Service (NPS) plays a pivotal role in maintaining law and order, yet it continues to grapple with challenges that weaken its service delivery. Reports by the Auditor-General and Transparency International have highlighted issues such as mismanagement of police procurement contracts, inadequate patrol vehicles, shortages of uniforms, and poor housing for officers. These inefficiencies have contributed to low levels of public trust, with surveys by the Kenya National Bureau of Statistics (KNBS) consistently showing citizen confidence in the police below 40%. Sustainable procurement practices—including ethical sourcing, supplier diversification, lifecycle cost management, and logistics flexibility—offer a viable pathway for reform. By ensuring transparency, reducing wastage, and promoting value-for-money in procurement, the NPS can enhance its operational efficiency, improve officer welfare, and ultimately deliver better security services to the Kenyan public.

Service delivery in the National Police Service (NPS) of Kenya is a central aspect of its mandate, as it directly influences public trust, security, and social order. The NPS is tasked with maintaining law and order, preventing and detecting crime, protecting life and property, and

upholding human rights (Wambui, 2024). Effective service delivery in this sector is therefore measured by the ability of the police to respond promptly, fairly, and efficiently to the needs of citizens, while adhering to professional and ethical standards. One of the key elements of service delivery within the NPS is accessibility and responsiveness (Muema, 2021). Citizens expect the police to be available and capable of responding swiftly to incidents of crime, emergencies, or threats to public safety (Omwange & Juma, 2025). To enhance accessibility, the NPS has established police stations and posts across the country, as well as introduced toll-free hotlines and digital reporting platforms. However, challenges such as understaffing, inadequate resources, and logistical constraints sometimes hinder timely responses, especially in remote or rural areas (Kiswili & Ismail, 2020).

Professionalism and accountability are also vital in the service delivery framework of the NPS. The 2010 Constitution of Kenya and subsequent police reforms emphasized the need for a people-centered policing approach (Machira, Ajwang & Kabubo, 2024). This involves treating citizens with respect, protecting their rights, and ensuring that officers act with integrity and transparency. Mechanisms such as the Internal Affairs Unit and the Independent Policing Oversight Authority (IPOA) have been put in place to monitor police conduct and improve accountability, thereby enhancing the quality of service delivery (Wambui, 2024). Another dimension of service delivery is community policing, which seeks to strengthen collaboration between the police and the public. Through initiatives like Nyumba Kumi, citizens are encouraged to work closely with security officers to prevent crime and share intelligence (Muema, 2021). This participatory approach not only improves the effectiveness of policing but also builds trust and reduces the perception of the police as merely enforcers of law, instead positioning them as partners in promoting safety and security. Despite these efforts, the NPS faces persistent challenges that affect service delivery, such as corruption, resource limitations, and occasional misuse of force (Omwange & Juma, 2025). These issues undermine public confidence and highlight the need for continuous reforms, capacity building, and adequate funding. Enhancing training, improving welfare for officers, and leveraging technology can significantly improve service delivery outcomes (Kiswili & Ismail, 2020).

Statement of the Problem

National security and effective policing are indispensable for social stability, economic growth, and citizen well-being. Globally, countries dedicate between 2% and 6% of GDP to security and policing services (World Bank, 2022), reflecting the centrality of effective service delivery by police institutions. Where policing is weak, crime rates escalate, investor confidence erodes, and citizen trust in government institutions declines. In Kenya, the National Police Service (NPS) is constitutionally mandated to safeguard law and order, yet evidence suggests that its service delivery has not matched public expectations. According to the Afrobarometer Survey (2021), only 36% of Kenyans expressed trust in the police, significantly lower than other public institutions, highlighting deep-seated challenges in the quality of policing services.

Despite large resource allocations, the NPS continues to grapple with inefficiencies that undermine service delivery. For instance, the Kenya National Bureau of Statistics (KNBS, 2022) reported that the government allocated over KSh 128 billion to policing in the 2021/22 financial year, making it one of the highest-funded departments. However, service delivery gaps persist, evidenced by inadequate patrol vehicles, poor housing for officers, shortage of modern equipment, and delayed response to emergencies. The Auditor-General's Report (2021) revealed procurement-related irregularities worth over KSh 5 billion within the police service, including inflated contracts and undelivered supplies. These inefficiencies have contributed to persistent insecurity in urban areas, with Nairobi and Mombasa accounting for over 40% of reported crimes nationally (KNBS, 2022). Such data underscore a paradox where high spending has not translated into commensurate improvements in service delivery.

A critical underlying factor in these challenges is the lack of adoption of sustainable procurement practices. Procurement within the NPS has been plagued by non-transparent tendering, limited supplier diversification, poor logistical planning, and minimal emphasis on value-for-money principles. Studies by Transparency International (2020) indicate that 30% of Kenya's security procurement budget is vulnerable to corruption-related leakages, leading to inefficiencies and waste. Without integrating sustainable procurement practices—such as ethical sourcing, lifecycle costing, logistics flexibility, and supplier accountability—the NPS risks continued inefficiencies that weaken police capacity and diminish public trust. Therefore, the problem this study addresses is the limited understanding and application of sustainable procurement practices within the National Police Service, and how this affects the effectiveness, accountability, and quality of its service delivery.

Objectives of the Study

General Objective

The general objective of the study is to examine the effect of sustainable procurement practices on Service Delivery at National Police In Nairobi City County, Kenya

Specific Objectives

i. To assess the effect of eco-friendly sourcing on Service Delivery at National Police In Nairobi City County, Kenya
ii. To establish the effect of green innovation on Service Delivery at National Police In Nairobi City 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. 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 (Munir & Watts, 2024). 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 (Clark, 2023). 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 (Marege, 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 (Barasa, Kimia & Motochi, 2020). Understanding the dynamics among these different stakeholders helps organizations make informed decisions that consider a wider array of perspectives and potential impacts. Stakeholder Theory also highlights the ethical responsibility of businesses to engage with their stakeholders transparently and fairly (Kinyua, 2024). 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 (Munir & Watts, 2024). This theory is relevant in assessing the effect of eco-friendly sourcing on Service Delivery at National Police In Nairobi City County, Kenya.

Diffusion of Innovation Theory

The Diffusion of Innovations Theory explains how new ideas, products, or practices spread within a social system over time. Developed by Everett Rogers (1962), the theory focuses on the process through which an innovation is communicated and adopted by members of a community or organization (Othman, 2020). It highlights that the spread of an innovation is not instantaneous but occurs gradually as people learn about it, evaluate its benefits, and decide whether or not to incorporate it into their lives or work (Omari & Deusdedita, 2022). Central to the theory are five categories of adopters based on their willingness to embrace an innovation: innovators, early adopters, early majority, late majority, and laggards. Innovators are the first to try new ideas, often taking risks, while early adopters tend to be opinion leaders who help influence others (Cherotich & Ngugi, 2020). The early and late majority make up the bulk of adopters, adopting innovations after seeing evidence of success, and laggards are the last, typically resistant to change and adopting only when necessary. Understanding these categories helps organizations and marketers target their efforts effectively (Chrisostom & Monari, 2020).

The theory also emphasizes five key factors influencing the adoption rate of an innovation: relative advantage (how much better the innovation is compared to current options), compatibility (how well it fits with existing values and practices), complexity (how difficult it is to understand or use), trialability (the opportunity to test it before full adoption), and observability (how visible the results are to others) (Offei & Nataliia, 2022). Innovations that score well on these factors tend to spread more quickly. Diffusion of Innovations Theory provides valuable insight into how change occurs in societies and how to facilitate the successful uptake of new ideas (Othman, 2020). This theory was used to establish the effect of green innovation on Service Delivery at National Police In Nairobi City County, Kenya.

Conceptual framework

The conceptual framework consists of the independent and dependent variables. The conceptual framework highlights the independent variable and dependent variables. The independent variables are eco-friendly sourcing and green innovation while the dependent variable is s Service Delivery at National Police in Nairobi City County, Kenya as shown in Figure 1 below:

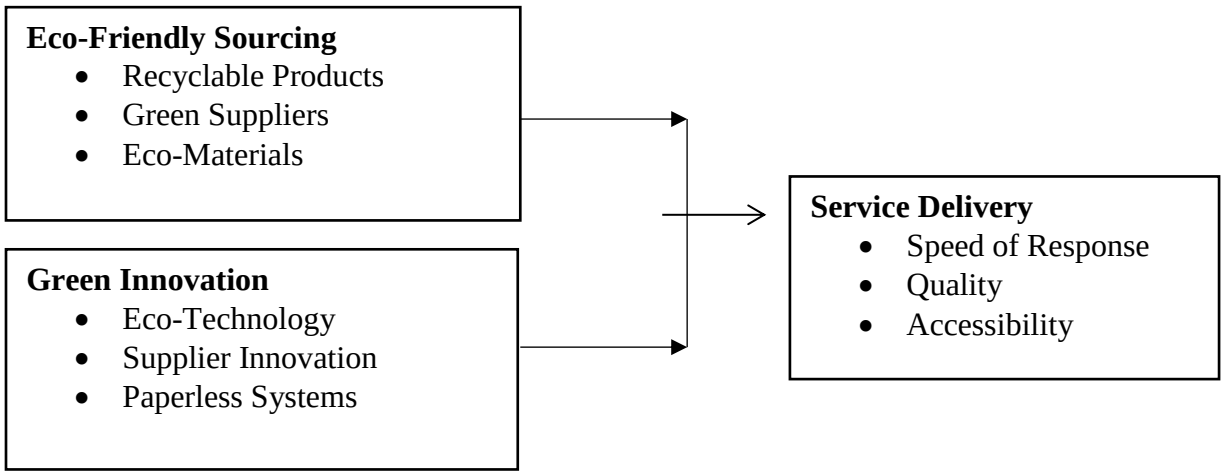


Figure 1: Conceptual Framework

Eco-Friendly Sourcing

Eco-Friendly Sourcing refers to the strategic process of acquiring goods, materials, and services in a manner that minimizes negative impacts on the natural environment throughout the entire procurement cycle (Munir & Watts, 2024). It involves selecting products and suppliers that prioritize sustainability through environmentally responsible production methods, resource efficiency, and reduced waste generation (Clark, 2023). This approach emphasizes the consideration of environmental performance as a key criterion during supplier selection and contracting, ensuring that procurement decisions support conservation of natural resources, lower

carbon footprints, and promote long-term ecological balance (Marege, 2020). By integrating environmental concerns into sourcing strategies, organizations aim to enhance operational responsibility, foster sustainable supply chains, and align procurement activities with broader environmental protection goals (Barasa, Kimia & Motochi, 2020). Recyclable Products refer to goods and materials that can be collected, processed, and remanufactured into new products after their initial use. These products are designed with the end-of-life stage in mind, ensuring that their components can be reintegrated into the production cycle instead of becoming waste (Kinyua, 2024). Procuring recyclable products helps reduce the demand for virgin raw materials, lowers energy consumption during production, and minimizes the volume of waste directed to landfills. This practice promotes resource conservation, supports circular economy principles, and enhances the overall sustainability of procurement activities by extending the life cycle of materials and reducing environmental degradation (Munir & Watts, 2024).

Green Suppliers are vendors or contractors who integrate environmentally responsible practices into their operations, products, and services. They adopt sustainable production methods, adhere to environmental regulations, and implement measures to reduce emissions, conserve resources, and manage waste responsibly (Clark, 2023). Working with green suppliers ensures that sustainability principles are embedded throughout the supply chain, not just at the point of purchase (Marege, 2020). Such suppliers contribute to the achievement of organizational environmental goals by providing eco-conscious solutions, maintaining ethical standards, and supporting cleaner production and distribution processes (Barasa, Kimia & Motochi, 2020). Partnering with these suppliers strengthens sustainable procurement frameworks and enhances accountability across the supply network. Eco-Materials are materials that are sourced, produced, and processed in ways that have minimal adverse effects on the environment (Kinyua, 2024). They are typically renewable, biodegradable, non-toxic, and require less energy and fewer natural resources during manufacturing compared to conventional materials. Eco-materials play a critical role in sustainable procurement by promoting the use of environmentally sound resources that support ecological preservation and reduce the environmental footprint of goods and infrastructure (Munir & Watts, 2024). Their adoption encourages innovation in product design, stimulates sustainable industries, and aligns procurement practices with environmental conservation objectives, ultimately contributing to long-term sustainability and responsible resource management (Clark, 2023).

Green Innovation

Green Innovation refers to the development and implementation of new ideas, technologies, processes, or systems that aim to improve environmental performance while supporting organizational efficiency and growth (Othman, 2020). It focuses on integrating sustainability principles into innovation activities to reduce negative environmental impacts, conserve resources, and promote cleaner production methods (Omari & Deusdedita, 2022). Green innovation involves rethinking traditional practices, adopting eco-friendly technologies, and

fostering a culture of continuous improvement that aligns economic objectives with environmental responsibility (Cherotich & Ngugi, 2020). By embracing green innovation, organizations enhance their competitiveness, comply with evolving environmental standards, and contribute to sustainable development through environmentally conscious advancements. Eco-Technology refers to environmentally friendly technologies designed to minimize ecological harm while enhancing operational efficiency and sustainability (Chrisostom & Monari, 2020). These technologies emphasize the use of renewable resources, reduced emissions, waste minimization, and energy conservation throughout production and service delivery processes (Offei & Nataliia, 2022). By adopting eco-technology, organizations can transform their operations to align with environmental protection goals, improve resource utilization, and reduce their overall environmental footprint. This approach not only supports regulatory compliance and sustainability targets but also drives long-term cost savings and strengthens organizational resilience in an evolving environmental landscape (Othman, 2020).

Supplier Innovation involves encouraging and collaborating with suppliers to develop and adopt new methods, products, or systems that enhance environmental sustainability within the supply chain (Omari & Deusdedita, 2022). It focuses on fostering partnerships where suppliers introduce innovative solutions such as greener materials, energy-efficient production techniques, or improved logistics that reduce waste and emissions (Cherotich & Ngugi, 2020). Through supplier innovation, organizations can extend their sustainability impact beyond internal operations, creating a network of environmentally conscious partners. This collaboration promotes continuous improvement, strengthens supply chain resilience, and ensures that environmental considerations are embedded in every stage of procurement and production (Chrisostom & Monari, 2020). Paperless Systems refer to the use of digital technologies and electronic processes to eliminate or significantly reduce the reliance on paper in organizational operations. These systems encompass electronic documentation, digital communication, automated workflows, and secure data storage platforms that replace traditional paper-based methods (Offei & Nataliia, 2022). Implementing paperless systems enhances operational efficiency by reducing printing costs, improving document accessibility, and streamlining information management (Othman, 2020). From an environmental perspective, paperless systems contribute to forest conservation, lower waste generation, and reduce carbon emissions associated with paper production and disposal. This shift supports organizational sustainability goals while fostering modern, efficient, and environmentally responsible work practices (Omari & Deusdedita, 2022).

Empirical Review

Eco-Friendly Sourcing and Service Delivery

Munir and Watts (2024) conducted a study on the effect of exploring eco-friendly business practices and corporate innovation in Pakistan. The quantitative study was conducted to collect

the data through convenience sampling techniques. In total, 138 responses were analyzed through the partial least squares method. The findings reveal that the implementation of green practices increases corporate innovation. The conclusion highlight the moderating influence of organization size and provide evidence that green practices improve corporate innovation

Clark (2023) conducted a study on the influence of social hierarchies in brand communities on envy: exploring the effects of deservedness and personal brand attachment. The study conducted two experiments to examine the antecedents and consequences of envy, as well as their effect on members of brand communities. The study found that for Malicious Envy, the impact of the source of the material item was greater for high SBC participants than for low SBC participants. The study concluded that Envy is a strange emotion and it is stranger still to know that we can experience two types of Envy.

Marege (2020) conducted a study on the effect of determinants of eco-friendly practices in level five private hospitals in Nairobi, Kenya. The research design adopted was cross sectional survey design. The population of the study comprised of all the 16 level five private hospitals operating in Nairobi. The study found out that the level five hospitals have adopted eco-friendly practices that include water, green purchasing, environmental management systems, transportation, waste management, food and use of alternative source of energy. The study on the effect of in order to pursue sustainable development, environmental issues have become critical concerns all over the world.

Barasa, Kimia and Motochi (2020) conducted a study on the effect of trends in green computing paradigms towards environment, eco-friendly technology and future sustainable Kenya. This is accomplished by content analysis design that involves collecting data from existing sources. The study found that this is achieved by identifying the state of the art technologies and establishing its impact on environmental sustainability using desktop review shall be used on a global perspective. The study concluded that it is evident that most of the trends in emerging technologies today green computing included revolve around cost savings without putting into consideration environmental sustainability

Kinyua (2024) conducted a study on the effect of eco-friendly perceptions on guests' behavior in eco-rated camps at the Maasai Mara national reserve in Kenya. The target population comprised of 44 eco-rated camp managers and 208, 620 visitors to the reserve. Ten camp managers were purposively selected and 399 hotel guests were selected using clustered, stratified and proportionate random sampling techniques. The study established that perceived behavioral consequences and perceived behavioral control had significant direct effect on guests' behavior hence, both null hypotheses were rejected. The study concluded that perceived behavioral consequences and perceived behavioral control had significant effect on guests' behavior and that behavioral intentions had partial mediation effect

Green Innovation and Service Delivery

Othman (2020) conducted a study on the effect of green innovation practices and economic value added: an applied study on companies listed on the Qatar stock exchange. Content analysis was used to gather study data. The sustainability reports and all other materials related to green accounting subject published by the study sample during the period (2014-2019) was deeply viewed. The study applied on seven sectors consists of 47 companies listed in the Qatar exchange selected based on data availability. The study also found that there is a statistically significant effect of green innovation on the EVA of listed Qatari companies. The study also found that there is a statistically significant effect of green innovation on EVA of listed Qatari companies. The study concluded that the quality of green innovation practices in the listed Qatar companies was weak, was its average in the banking and financial services sector and the telecommunications sector, whereas it's weak in the insurance and real estate sectors.

Omari and Deusdedita (2022) conducted a study on the effects of green innovation management systems on organization performance in Tanzania Manufacturing Industry- a Case study of food and beverage manufacturing Company in Mwanza City. In order to accomplish the objectives, qualitative approach method was adopted. Using purposive sampling, five participants in the inventory and production department were selected and interviewed. The findings of the study revealed that the food and beverage manufacturing company had evidence of different types of inventories which included raw materials, work-in-progress and finished goods managed under FIFO system for cost reduction and production efficiency. It was concluded that green innovation management system using principles of Economic order quantity affects organizational performance in terms of cost reduction, production efficiency, flexibility and profitability.

Cherotich and Ngugi (2020) conducted a study on the influence of green innovation management practices on performance of fast-moving consumer goods manufacturers in Nairobi County, Kenya. The target population was 51 fast moving consumer goods manufacturers in Nairobi County. The study focused on the logistics managers and IT managers of the 51 FMCG manufacturers located in Nairobi as the unit of observation where a census will be conducted on them. Hence a total of 102 respondents were sampled. It was found that electronic procurement is statistically significant to performance of manufacturer of fast-moving consumer goods. This leads to the conclusion that a unit increase in top management support will result to increase in performance of fast-moving consumer goods manufacturers

Chrisostom and Monari (2020) conducted a study on the influence green innovation management on performance of registered automotive firms in Kenya. The study design used was correlational research. The target population for the study was 305 heads of departments of the registered automotive firms in Kenya and a sample of 170 was arrived at using the Fischers' model. Questionnaires and interview guide were used for collecting primary data. The results

obtained from this study were important in terms of reflecting the situation on the usage of green innovation management practices and performance of automotive firms in Kenya. The results further revealed a positive relationship between the green innovation management and the firm's performance. The study concluded that that some green procurement practices like green innovation management had a significant effect on performance.

Offei and Nataliia (2022) conducted a study on the influence of ICT on effectiveness of green innovation in the public sector on the way to healthy green development in conditions of uncertainty. The study used questionnaires to gather primary data. All data collected was checked for completeness, coded and tabulated. The study revealed that, ICT influence the receipt of innovation, tracking the movements of stock within and outside the stores, innovation levels and update, buffer stock management. Furthermore, it can be concluded that ICT influences cost reduction through speeding up transactions, reducing human errors with regards to stock counting, reducing stock-out levels, enhancing the efficiency of inventory operation and serving as a monitoring system.

RESEARCH METHODOLOGY

Research Design

This study adopted a descriptive research design. This is a scientific method of investigation in which data is collected, processed, analyzed and presented in order to describe the current conditions, terms or relationships concerning a certain field (Mugenda, 2019). A scientific method involves observation and description of behavior of subject without influencing it in any way. The choice of this research design was influenced by the fact that it caters for qualitative and quantitative data (Cooper & Schindler, 2019).

Target Population

The target population for this study comprised 376 officers within the National Police Service (NPS), drawn from procurement, logistics, finance, and command units, as these categories are directly responsible for procurement decision-making and frontline service delivery. This population was distributed across senior procurement officers, logistics and supply chain staff, finance officers, divisional commanders, senior administration police, and station-level officers, ensuring representation of both strategic and operational levels of the service. The focus on this group was guided by the fact that procurement and resource allocation are key determinants of police service delivery in Kenya, with the NPS employing over 100,000 officers nationwide (KNBS, 2022), but decision-making concentrated within specialized units handling procurement and logistics (National Police Service Commission, 2024).

Table 1: Target Population

Category of Respondents	Target Population
Senior Procurement Officers (NPS HQ)	45
Logistics & Supply Chain Officers	60
Finance & Accounts Officers	55
Division/Station Commanders (OCPDs)	80
Senior Administration Police Officers	70
Kenya Police Service Officers (Station level)	66
Total	**376**

Source: (National Police Service Commission, 2026)

Sample Size and Sampling Technique

Kothari (2019) explains that a sample size refers to the number of items to be selected from the universe to constitute a sample while sampling procedures refers to the technique used in selecting the items of the sample. The study used Yamane (1967) formula to determine the size of the sample. The selection formula is as follows:

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

Where n= the required sample size

N = is the Target Population (376 respondents)

e = accuracy level required. Standard error = 5%

Sample calculation

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

$$n=\frac{376}{1+(376\ )0.05^2}$$

$$n=\frac{376}{1.94}=192$$

From the formula, the sample size was 192 respondents

Table 2: Sample Size

Category of Respondents	Target Population	Sample Size
Senior Procurement Officers (NPS HQ)	45	23
Logistics & Supply Chain Officers	60	31
Finance & Accounts Officers	55	28
Division/Station Commanders (OCPDs)	80	41
Senior Administration Police Officers	70	36
Kenya Police Service Officers (Station level)	66	34
Total	**376**	**192**

Data Collection Instrument

This research used a questionnaire to collect primary data. According to Grant, (2019) a questionnaire is appropriate in gathering data and measuring it against a particular point of view. It provides a standardized tool for data collection. Structured questions will be used to collect primary data from the field. Questionnaires were preferred because they are effective data collection instruments that allow respondents to give much of their opinions pertaining to the research problem (Crowther & Lancaster, 2018). According to Kothari (2019), the information obtained from questionnaires is free from bias and researchers' influence and thus accurate and valid data was gathered. The preference for the questionnaire is based on the premise that it gives respondents freedom to express their views or opinions more objectively.

According to Lütfi (2020) questionnaire method of data collection is good because the standardized and impersonal format of a questionnaire has uniformity and help in getting data objectively. In using questionnaires respondents' anonymity and confidentiality is assured and they are able to complete them when it is convenient and in their own time (Sekaran, & Bougie, 2019). The process of data collection started after drafting of the final data collection instruments and receipt of permission from all the relevant authorities. Before embarking on data collection, relevant approvals were obtained.

Pilot Study

According to Bashir, (2018), validity refers to the extent to which a test measures what it is supposed to measure and the extent to its truthfulness, accuracy, authenticity, genuineness, or soundness, whether the means of measurement are accurate and whether they are actually measuring what they are intended to measure. The pilot study was carried out on 19 respondents who are sufficient based on Glesne (2019) who stated that 10% of the population is adequate to constitute the pilot test size.

Data Analysis and Interpretation

Before the data could be analysed, the researcher ensured the data was checked for completeness, followed by data editing, data coding, data entry, and data cleaning. Inferential and descriptive statistics were employed for analysis of quantitative data with the assistance of Statistical Package for Social Sciences (SPSS version 28). To summarize the respondent's responses in relation to their views on the various aspects of the variables, and the respondents' demographic information analysis were undertaken using descriptive statistics (Bhattacherjee, 2016).

Descriptive statistics such as frequency distribution, mean (measure of dispersion), standard deviation, and percentages were used. Descriptive statistics therefore enables researchers to present the data in a more meaningful way, which allows simpler and easier interpretation (Singpurwalla, 2019). Inferential data analysis was conducted by use of Pearson correlation coefficient, and multiple regression analysis. Inferential statistic is used to make judgments about the probability that an observation is dependable or one that happened by chance in the study.

The relationship between the study variables was tested using multivariate regression models.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Whereby;

Y = Service Delivery at National Police In Nairobi City County, Kenya

β_0 = Constant

$\beta_1, \beta_2,$ = Coefficients of determination

X_1 = Eco-friendly sourcing

X_2 = Green innovation

ε = Error term

RESEARCH FINDINGS AND DISCUSSIONS

Descriptive Analysis

Eco-Friendly Sourcing and Service Delivery

The first objective of the study was to assess the effect of eco-friendly sourcing on Service Delivery at National Police In Nairobi City County, Kenya. The respondents were requested to indicate their level of agreement with various statements on eco-friendly sourcing and Service Delivery at National Police In Nairobi City County, Kenya. The study results were as shown in Table 3

The findings show that the respondents agreed that preference is given to suppliers who provide recyclable packaging and materials (M= 3.853, SD= 0.845). In addition, the respondents agreed that use of recyclable products is encouraged to reduce environmental waste (M= 3.821, SD=

0.636). Further, the respondents agreed that supplier selection considers compliance with green standards and certifications (M= 3.810, SD= 0.884).

From the results, the respondents agreed that partnerships are maintained with suppliers who demonstrate commitment to environmental protection (M= 3.793, SD= 0.747). In addition, the respondents agreed that materials that minimize environmental impact are selected for operational use (M= 3.776, SD= 0.509). The respondents also agreed that procurement decisions encourage the adoption of eco-materials in service delivery (M= 3.754, SD= 0.901).

Table 3: Descriptive Results for Eco-Friendly Sourcing

	Mean	Std. Dev.
Preference is given to suppliers who provide recyclable packaging and materials.	3.853	0.845
Use of recyclable products is encouraged to reduce environmental waste.	3.821	0.636
Supplier selection considers compliance with green standards and certifications.	3.810	0.884
Partnerships are maintained with suppliers who demonstrate commitment to environmental protection.	3.793	0.747
Materials that minimize environmental impact are selected for operational use.	3.776	0.509
Procurement decisions encourage the adoption of eco-materials in service delivery.	3.754	0.901
Aggregate	**3.801**	**0.754**

Green Innovation and Service Delivery

The second objective of the study was to establish the effect of green innovation on Service Delivery at National Police In Nairobi City County, Kenya. The respondents were requested to indicate their level of agreement on various statements relating to green innovation and Service Delivery at National Police In Nairobi City County, Kenya. The results were as shown in Table 4.

The findings agreed that investment is made in eco-friendly technologies to improve sustainability (M= 3.836, SD= 0.625). In addition, the respondents agreed that new technologies are regularly evaluated to enhance environmental performance (M= 3.815, SD= 0.790). Further, the respondents agreed that suppliers are encouraged to develop and provide environmentally friendly innovations (M= 3.803, SD= 0.887).

The respondents agreed that collaborative efforts with suppliers promote the adoption of sustainable innovations (M= 3.784, SD= 0.665). The respondents further agreed that Digital systems are utilized to minimize paper usage in daily operations (M= 3.759, SD= 0.537). In addition, the respondents agreed that internal processes are designed to support paperless transactions and documentation (M= 3.750, SD= 0.705).

Table 4: Descriptive Results for Green Innovation

	Mean	Std. Dev.
Investment is made in eco-friendly technologies to improve sustainability.	3.836	0.625
New technologies are regularly evaluated to enhance environmental performance.	3.815	0.790
Suppliers are encouraged to develop and provide environmentally friendly innovations.	3.803	0.887
Collaborative efforts with suppliers promote the adoption of sustainable innovations.	3.784	0.665
Digital systems are utilized to minimize paper usage in daily operations.	3.759	0.537
Internal processes are designed to support paperless transactions and documentation.	3.750	0.705
Aggregate	**3.791**	**0.702**

Service Delivery

The respondents were requested to indicate their level of agreement on various statements relating to Service Delivery at National Police In Nairobi City County, Kenya. The results were as shown in Table 5.

The findings agreed that emergency situations are responded to promptly by officers (M= 3.753, SD= 0.532). In addition, the respondents agreed that response time to reported incidents meets expected service standards (M= 3.730, SD= 0.807). Further, the respondents agreed that investigations and follow-up actions are conducted thoroughly and effectively (M= 3.719, SD= 0.738).

The respondents agreed that reported cases are handled with a high level of competence and attention to detail (M= 3.703, SD= 0.609). The respondents further agreed that communication channels for reaching the police are adequate and reliable (M= 3.676, SD= 0.772). In addition, the respondents agreed that police stations and posts are well distributed to effectively serve all areas (M= 3.646, SD= 0.857).

Table 5: Descriptive Results for Service Delivery

	Mean	Std. Dev.
Emergency situations are responded to promptly by officers.	3.753	0.532
Response time to reported incidents meets expected service standards.	3.730	0.807
Investigations and follow-up actions are conducted thoroughly and effectively.	3.719	0.738
Reported cases are handled with a high level of competence and attention to detail.	3.703	0.609
Communication channels for reaching the police are adequate and reliable.	3.676	0.772
Police stations and posts are well distributed to effectively serve all areas.	3.646	0.857
Aggregate	**3.705**	**0.719**

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 (Service Delivery at National Police In Nairobi City County, Kenya) and independent variables (eco-friendly sourcing and green innovation).

Correlation Analysis

The present study used Pearson correlation analysis to determine the strength of association between independent variables (eco-friendly sourcing and green innovation) and the dependent variable (Service Delivery at National Police In Nairobi City 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 6: Correlation Coefficients

		Service Delivery	Eco-Friendly Sourcing	Green Innovation
Service Delivery	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	145		
Eco-Friendly Sourcing	Pearson Correlation	.840**	1	
	Sig. (2-tailed)	.000		
	N	145	145	
Green Innovation	Sig. (2-tailed)	.002	.077	
	N	145	145	
	Pearson Correlation	.831**	.116	1
	Sig. (2-tailed)	.001	.019	
	N	145	145	145

From the results, there was a very strong relationship between eco-friendly sourcing and Service Delivery at National Police In Nairobi City County, Kenya (r = 0.840, p value =0.000). The relationship was significant since the p value 0.000 was less than 0.05 (significant level). The findings are in line with the findings of Munir and Watts (2024) who indicated that there is a very strong relationship between eco-friendly sourcing and service delivery.

The results also revealed that there was a very strong relationship between green innovation and Service Delivery at National Police In Nairobi City County, Kenya (r = 0.831, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings are in line with the results of Othman (2020) who revealed that there is a very strong relationship between green innovation and service delivery.

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (eco-friendly sourcing and green innovation) and the dependent variable (Service Delivery at National Police In Nairobi City County, Kenya).

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.779	.607	.606	.10129

a. Predictors: (Constant), eco-friendly sourcing and green innovation

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 0.607. This implied that 60.7% of the variation in the dependent variable (Service Delivery at National Police In Nairobi City County, Kenya) could be explained by independent variables (eco-friendly sourcing and green innovation).

Table 8: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	67.237	2	33.619	109.866	.000[b]
	Residual	43.481	142	.306		
	Total	110.718	144			

a. Dependent Variable: Service Delivery at National Police In Nairobi City County, Kenya

b. Predictors: (Constant), eco-friendly sourcing and green innovation

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 109.866 while the F critical was 3.060. 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 eco-friendly sourcing and green innovation on Service Delivery at National Police In Nairobi City County, Kenya.

Table 9: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	**(Constant)**	0.224	0.058		3.862	0.000
	eco-friendly sourcing	0.336	0.088	0.337	3.818	0.000
	green innovation	0.327	0.085	0.326	3.847	0.001

a Dependent Variable: Service Delivery at National Police In Nairobi City County, Kenya

The regression model was as follows:

$$\mathbf{Y = 0.224 + 0.336X_1 + 0.327X_4 + \varepsilon}$$

According to the results, eco-friendly sourcing has a significant effect on Service Delivery at National Police In Nairobi City County, Kenya β_1=0.336, 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 Munir and Watts (2024) who indicated that there is a very strong relationship between eco-friendly sourcing and service delivery.

In addition, the results revealed that green innovation has significant effect on Service Delivery at National Police In Nairobi City County, Kenya β1=0.327, 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 are in line with the results of Othman (2020) who revealed that there is a very strong relationship between green innovation and service delivery.

CONCLUSION AND RECOMMENDATIONS

Conclusions

The study concludes that eco-friendly sourcing has a positive and significant influence on Service Delivery at National Police In Nairobi City County, Kenya. Findings revealed that recyclable products, green suppliers and eco-materials influence Service Delivery at National Police In Nairobi City County, Kenya

The study also concludes that green innovation has a positive and significant influence on Service Delivery at National Police In Nairobi City County, Kenya. Findings revealed that eco-technology, supplier innovation and paperless systems influence Service Delivery at National Police In Nairobi City County, Kenya

Recommendations

The study recommends that National Police Service in Kenya should strengthen eco-friendly sourcing by prioritizing suppliers that provide environmentally sustainable products and services while integrating environmental criteria into procurement decisions. This would help reduce environmental impact, improve resource efficiency, promote compliance with environmental standards, and enhance the efficiency and reliability of service delivery

The study also recommends that National Police Service in Kenya should strengthen green innovation by adopting and integrating environmentally sustainable technologies, processes, and practices into its operations. This would improve operational efficiency, reduce environmental impacts and resource wastage, promote sustainable use of resources, and ultimately enhance the effectiveness and quality of service delivery.

REFERENCES

Aka, A, Isah, A. D., & Eze, C. J. (2020). *Application of lean manufacturing tools and techniques for waste reduction in Nigerian bricks production process*. Retrieved from http://irepo.futminna.edu.ng:8080/jspui/bitstream/

Al Nuaimi, B. K., Khan, M., & Ajmal, M. (2020). Implementing sustainable procurement in the United Arab Emirates public sector. *Journal of Public Procurement, 20*(2), 97–117.

Budihardjo, M. A, Wahyuningrum, I. F. S., & Muhammad, F. I. (2020). *The role of waste banks in the reduction of solid waste sent to landfill in Semarang, Central Java, Indonesia*. Retrieved from https://iopscience.iop.org/article/

Cherotich, Y., & Ngugi, P. K. (2020). Influence of green innovation management practices on performance of fast-moving consumer goods manufacturers in Nairobi County, Kenya. *International Journal of Social Sciences Management and Entrepreneurship, 3*(2), 17-35

Chrisostom, A. O., & Monari, F. (2020). Influence green innovation management on performance of registered automotive firms in Kenya. *International Journal of Academic Research in Business and Social Sciences, 8*(4), 346–361

Creswell, R. (2019). Research design: *qualitative, quantitative, and mixed methods approaches*. USA: Sage Publications.

Cronbach, L. J. (2019). *My Current Thoughts on Coefficient Alpha and Successor Procedures.* Washington, D: Educational and Psychological Measurement.

Crowther, D. & Lancaster, G. (2018). *Research Methods: A Concise Introduction to Research in Management and Business Consultancy*. New York: Butterworth-Heinemann.

Kimeu, D. M. (2021). *Waste reduction practices on the operational performance of hotels in Mombasa County, Kenya*. Retrieved from https://erepository.uonbi.ac.ke/bitstream/

Kinyua, C. W. (2024). *Eco-friendly perceptions on guests' behavior in eco-rated camps at the Maasai Mara national reserve in Kenya*. Retrieved from https://repository.mut.ac.ke/xml/

Kirea, E. M., & Omwenga, J. Q. (2023). Determinants of waste reduction programmes on sustainable environmental conservation in Mukuru Slums in Kenya. *International Journal of Social Science and Humanities Research, 1*(1), 137-150

Kiswili, N. E, & Ismail, S. N. (2020). Role of sustainable procurement practices on supply chain performance of manufacturing sector in Kenya: a case study of east African Portland Cement Company. *European Journal of Logistics, Purchasing and Supply Chain Management, 4*(3), 1-31

Kothari, C. R. (2019). Research methodology: Methods and techniques. New Age International

Muema, D. (2021). *Sustainable procurement practices and organizational performance of the county governments in Kenya*. Retrieved From, https://erepository.uonbi.ac.ke/bitstream/handle/11295/160881/

Mugenda, O. M., & Mugenda, A. G. (2019). *Research methods: Quantitative and qualitative approaches.* African Centre for Technology Studies.

Mukumba, C. P., & Shakantu, K. K. (2024). Linking Sustainable Public Procurement and the Sustainable Development Goals in Zambia: A Preliminary Investigation. *International Journal of Urban and Civil Engineering, 18*(1), 12-16.

Munir, T., & Watts, S. (2024). *Exploring eco-friendly business practices and corporate innovation in Pakistan*. Retrieved from https://www.researchgate.net/

Nangpiire, C., Gyebi, F. O., & Nasse, T (2024). Sustainable Procurement Practices and Organisational Performance of Small and Medium Enterprises in Ghana. *International Journal of Economics and Financial Issues, 14*(1), 95-106.

Neuman, W. L. (2018). *Social Research Methods: Qualitative and Quantitative Approaches* (7th ed.). Pearson.

Offei, F. A., & Nataliia, L. (2022). *Influence of ICT on effectiveness of green innovation in the public sector on the way to healthy green development in conditions of uncertainty*. Retrieved from https://ir.stu.cn.ua//bitstream/handle/

Oguntona, O. A, Maseko, B. M., & Aigbavboa, C. O. (2020). *Barriers to retrofitting buildings for energy efficiency in South Africa*. Retrieved from https://iopscience.iop.org/article/

Okwako, J. A. (2020). *Assessing implementation of energy efficiency practices and industrial energy management: a case study of Kenyan industries*. Retrieved from https://repository.pauwes-cop.net/bitstream/

Owuor, V., Asatsa, S., & Wabwire, E. (2023). Green building technology and energy efficiency: the case of high-rise buildings in Karura Area in Westlands Constituency, Nairobi County, Kenya. *International Journal of Social and Development Concerns, 18*(1), 105–115

Patton, M. Q. (2019). *Qualitative Research and Evaluation Methods* (4th ed.). SAGE Publications.

Punch, K. F. (2019). *Introduction to Social Research: Quantitative and Qualitative Approaches* (3rd ed.). SAGE Publications.

Ruparathna, R., & Hewage, K. (2021). Sustainable procurement in the Canadian construction industry: challenges and benefits. *Canadian Journal of Civil Engineering, 42*(6), 15-33.

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research Methods for Business Students* (8th ed.). Pearson Education.

Sirati, J. (2023). *Factors impacting the adoption of sustainable procurement in Tanzania: a case study of Tanesco Limited Kinondoni Office*. Retrieved From, https://repository.out.ac.tz/4325/1/

Walker, H., & Brammer, S. (2022). Sustainable procurement in the United Kingdom public sector. *Supply Chain Management: An International Journal*, *14*(2), 128–137.

Wambui, S. M. (2024). *Sustainable procurement practices and supply chain performance of food and beverage processing firms in Nairobi City County, Kenya*. Retrieved From, https://ir-library.ku.ac.ke/server/api/core/bitstreams/

Wei, C, Ni, J., & Shen, M. (2020). *An empirical analysis of provincial energy efficiency in China*. Retrieved from https://digitalcommons.unomaha.edu/cgi/

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