EdinBurg Peer Reviewed Journals and Books Publishers
Journal of Procurement and Supply Chain
Vol. 5||Issue 3||pp 1-24||August||2025
Email: info@edinburgjournals.org||ISSN: 2789-3405

Influence of E-Procurement on Procurement Contract Implementation in Kitui County, Kenya

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Accepted: 18 July 2025 || Published: 04 August 2025

Abstract

The purpose of this study was to investigate the influence of e-procurement practices on procurement contract implementation in Kitui County, Kenya. The study adopted a descriptive survey research design, targeting 227 staff working in procurement, contract management, inventory, assets, and accounts departments within the county government. A stratified random sampling technique was used to select a sample size of 145 respondents. Primary data was collected using a structured questionnaire, which was pre-tested to ensure clarity and reliability. The instrument's reliability was confirmed using Cronbach's Alpha with a threshold of 0.7. Data was analyzed using descriptive statistics (means, frequencies, and standard deviations) and inferential statistics (Pearson's correlation and multiple linear regression). The findings revealed that e-tendering (β=0.146, p=0.001<0.05), e-evaluation (β = 0.122, p = 0.007<0.05), e-ordering (β = 0.118, p = 0.033<0.05), and e-invoicing (β = 0.119, p = 0.000<0.05) each had a positive and statistically significant effect on procurement contract implementation. The study concluded that e-procurement practices enhance procurement contract implementation by improving efficiency, accuracy, compliance, and transparency throughout the procurement cycle. It was recommended that county governments fully standardize e-procurement processes and that the Public Procurement Regulatory Authority (PPRA) enforce digital compliance across public entities to reduce reliance on manual systems and enhance contract performance.

Keywords: *E-Procurement, Procurement Contract Implementation, E-Tendering, E-Evaluation, E-Ordering, E-Invoicing, Kitui County, Kenya*

How to Cite: Kyalo, G., Akwalu, E., & Kovulo, R. M. (2025). Influence of E-Procurement on Procurement Contract Implementation in Kitui County, Kenya. *Journal of Procurement and Supply Chain, 5*(3), 1-24.

1. Introduction

The advent of digital technology has revolutionized procurement processes globally, transforming traditional, paper-based procedures into more efficient, transparent, and accountable electronic systems. E-procurement, defined as the use of internet-based systems to manage procurement functions such as supplier discovery, tendering, negotiation, ordering, and post-delivery evaluation (Shahin et al., 2022), has emerged as a key enabler of operational efficiency. According to Taherdoost (2023), e-procurement covers all procurement activities carried out through online platforms, ensuring speed and accuracy in the delivery of goods and services to end-users.

The adoption of e-procurement systems has been linked to improved procurement performance, particularly in terms of contract execution and oversight. Ganesh (2021) highlighted that such systems close gaps in contract management by digitizing and streamlining operations, while Jules (2022) emphasized their role in enhancing transparency through audit trails. Improved supplier monitoring, reduced procurement cycle times, and strengthened fraud mitigation are also core benefits of e-procurement adoption (Ozor & Nyambane, 2020). Furthermore, Ahmad (2024) observed that the integration of electronic platforms facilitates real-time monitoring of contracts, enabling better supplier compliance and early detection of risks.

Globally, successful cases of e-procurement implementation are evident. In Portugal, the Chorus platform has enabled public institutions to digitize procurement workflows, reduce costs, and enhance performance (Hashim et al., 2020; Mélon et al., 2020). Likewise, Germany's Vergabe- und Vertragsmanagement-System (VgV-System) supports full-cycle procurement management and has led to improved compliance and supplier collaboration (Held et al., 2021). Rwanda and Uganda also report increased transparency and reduced procurement costs following the adoption of e-procurement systems (Jules, 2022). However, challenges persist in countries like Burundi due to weak legal frameworks and the absence of e-procurement mandates (Boladale & Olasunkanmi, 2022).

Kenya has made significant strides in implementing e-procurement in the public sector. The Integrated Financial Management Information System (IFMIS), introduced in the early 2000s, supports end-to-end digitization of procurement processes (Mwangi, 2019). Initiatives like the Open Contracting Partnership have further enhanced transparency, especially in infrastructure procurement, saving an estimated $50 million annually (Ozor & Nyambane, 2020). Despite these advancements, procurement contract implementation remains a challenge. According to Hashim et al. (2022), ineffective contract execution, characterized by poor oversight, corruption, and inefficiency, leads to cost overruns and substandard service delivery. Conversely, effective contract implementation ensures fairness, competition, and value for money, reinforcing public trust and promoting economic growth (Mavidis & Folinas, 2022).

Evidence from Kenya's county governments supports these findings. Matunga (2023) found that poor procurement practices contributed to delayed, costly, and low-quality public projects. For example, over 40% of contracts experienced delays exceeding three months, and 25% of deliverables were either rejected or redone due to quality issues. Many counties also exceeded their contract budgets by 20-30% due to weak cost controls. These inefficiencies demonstrate the need for enhanced e-procurement capabilities to improve contract implementation, particularly at the county level, such as in Kitui County.

Electronic procurement (e-procurement) refers to the automation and digitization of procurement functions, including supplier selection, tendering, ordering, invoicing, and payment (Pucihar & Lenart, 2024). Its core goals are to improve efficiency, reduce costs, and foster transparency (Chukwuemeka & Poi, 2022). Key components include e-tendering, e-evaluation, e-ordering, and e-invoicing.

E-tendering digitizes the solicitation of supplier proposals and ensures fair competition through secure bid submission and automated evaluations (Masudin et al., 2021). E-evaluation facilitates unbiased, data-driven supplier selection based on predefined criteria, leading to improved service delivery and better value for money (Zhao & Lee, 2021; Ahmad, 2022). E-

ordering streamlines the creation and approval of purchase orders, improving procurement compliance and reducing rogue spending (Gichuhi, 2021). Lastly, e-invoicing automates the processing of supplier payments, integrating with financial systems to enhance cash flow and reduce paperwork (Hesami et al., 2024).

Procurement contract implementation refers to the extent to which the agreed terms of a procurement contract covering quality, timelines, and budgets are fulfilled (Yuan et al., 2021). It ensures that goods and services meet expected standards and are delivered efficiently, contributing to value for money (Decarolis, 2019). Key dimensions include adherence to contract specifications, compliance with regulations, and realization of project objectives (Kelman Choi et al., 2021). Service delivery quality is measured by how well contractual obligations are met, ensuring user satisfaction and minimizing disputes (Gichuhi, 2021). Timeliness, a crucial performance indicator, affects overall contract success by preventing delays and aligning service delivery with operational needs (Ahmad, 2024).

1.1 Problem Statement

Globally, the use of digital technology in procurement has resulted in the redesign or replacement of paper-based processes at every stage of the procurement cycle. This has improved supplier collaboration, given real-time spend insight, and streamlined workflows. This move to e-procurement is influencing the procurement ecosystem of the future by integrating innovation and technology into all facets of contract administration in both public and private companies (Walutsach et al., 2020). Over the past three years, Kitui County government has experienced persistent issues of poor procurement contract execution, undermining service delivery and financial integrity. In 2021, the delivery of substandard vehicle wheels, which depreciated within seven months, exemplified poor quality assurance in contract implementation (Office of the Auditor General, 2021). In 2022, the delayed delivery of stationery worth Ksh 12.3 million exhibited inefficiencies in contract execution timelines (Kitui County Assembly, 2023). Moreover, in 2022, there were 3 delayed road construction projects, while some six access roads developed potholes just a year after completion (Transparency International Kenya, 2022). Similarly, in 2023, cost overruns amounting to approximately Ksh. 45.4 million reflected inadequate financial control and poor adherence to contract budgets, leading to the need for a supplementary allocation (Transparency International Kenya, 2023).

The persistent poor execution of procurement contracts in Kitui County poses threats to economic development, effective service delivery, and the prudent use of public funds (Nzuma, 2022). According to Kinyili (2025), delivery of substandard goods results in wastage of resources and increases maintenance costs, undermining trust in public spending. Delayed delivery of essential supplies disrupts administrative operations, lowering the efficiency of county services. Moreover, cost overruns strain the county's financial plans and divert funds from critical development projects. These failures erode public confidence in governance, weaken the local economy by misallocating resources, and impede the achievement of long-term development goals, pointing out the need for systemic reforms (Ngesa, 2023).

Several studies have examined the implementation of procurement contracts and e-procurement in Kenya, but notable knowledge gaps remain. Njeru and Muthini (2023) focused solely on Meru County when assessing the effect of e-procurement methods on county government performance. Geoffrey and Paul (2021) investigated the implementation of e-

procurement within Kenya's devolved system, concentrating on Machakos, Kiambu, Kajiado, and Nairobi counties. Abdi and Barasa (2023) explored the impact of e-procurement on preferential procurement performance in Kwale County, with an emphasis on equity outcomes in supplier selection. Similarly, Matunga (2023) analyzed the application of public procurement legislation in county governments, highlighting issues of compliance and enforcement. Obiero and Ngugi (2024) studied the relationship between e-procurement practices and organizational performance in Kiambu County. While these studies have enriched the discourse on e-procurement and public sector efficiency, they have not adequately addressed how e-procurement systems influence the actual implementation of procurement contracts. This gap is particularly evident in Kitui County, which has received limited scholarly attention. This study soughtto fill this contextual gap by assessing the influence of e-procurement on procurement contract implementation in Kitui County.

1.2 Specific Objectives

i. To find out the influence of e-tendering on procurement contract implementation in the county government of Kitui, Kenya.

ii. To determine the influence of e-evaluation on procurement contract implementation in the county government of Kitui, Kenya.

iii. To evaluate the influence of e-ordering on procurement contract implementation in the county government of Kitui, Kenya.

iv. To assess the influence of e-invoicing on procurement contract implementation in the county government of Kitui, Kenya.

2. Literature Review

2.1 Theoretical Review

Transaction Cost Theory (TCT)

This theory, originally proposed by Ronald Coase (1937) and later advanced by Oliver Williamson (1975, 1985), explains how organizations seek to minimize the costs associated with economic exchanges. These transaction costs include expenses incurred in searching for information, negotiating agreements, and monitoring performance. According to TCT, the characteristics of a transaction, such as asset specificity, uncertainty, and frequency, determine the most efficient governance structure for managing it. Transactions involving high uncertainty or asset specificity are typically managed better within hierarchical organizations (such as firms) rather than through market mechanisms. This theoretical framework helps explain why organizations choose internal processes or market-based solutions, or a hybrid of both, to manage procurement activities.

TCT has been widely applied in procurement and contract management to explain decisions related to governance structures. Williamson (1985) argued that vertical integration reduces costly market exchanges, while Croom and Brandon-Jones (2007) demonstrated that electronic procurement systems can lower transaction costs by improving information flow and reducing reliance on intermediaries. Similarly, Osei-Afoakwa et al. (2013) found that e-tendering systems reduce negotiation and monitoring costs in public procurement, thereby improving contract performance. These findings affirm TCT's relevance in analyzing e-procurement systems, which can enhance efficiency by minimizing transaction-related expenses. Despite

critiques such as Ghoshal and Moran's (1996) view that TCT overly emphasizes opportunism and neglects trust and Perrow's (1986) concern about its limited scope, TCT remains valuable.

Agency Theory

Agency Theory, developed by Jensen and Meckling (1976), explains the relationship between principals (e.g., employers or public institutions) and agents (e.g., employees, suppliers, or procurement officials) who act on their behalf. The theory focuses on key challenges such as information asymmetry, goal divergence, and opportunistic behavior, which arise when agents pursue personal interests that may conflict with those of the principal. In public procurement, these issues are prevalent, particularly when monitoring agents' actions is difficult or costly. Eisenhardt (1989) emphasized the importance of aligning incentives and establishing control mechanisms to reduce agency costs. In the procurement domain, such mechanisms are crucial in ensuring compliance, fairness, and performance in contract execution.

Building on this, scholars such as Mitzkus (2013) and Beal Partyka (2022) have demonstrated how Agency Theory applies to procurement and supply chain management by addressing risks related to agent behavior. Mitzkus highlighted its role in evaluation strategies, helping reduce opportunism, while Partyka illustrated how the theory enhances contract performance through better risk management and alignment of objectives. Although Agency Theory has been criticized for its narrow assumption that individuals are purely self-interested (Gichio, 2014) and for downplaying the value of trust and long-term collaboration (Wiese & Toporowski, 2013), its relevance remains significant.

2.2 Empirical Review

Gichuhi and Waruguru (2020) studied e-tendering at the Geothermal Development Company in Nakuru, Kenya, using a sample of 150 staff. Regression and correlation analysis revealed that e-selection and e-awarding improved transparency, reduced costs, and enhanced compliance. While conducted in a parastatal, the findings underscore the performance benefits of e-tendering relevant to county governments.

Faheem and Siddiqui (2019) studied e-procurement in Pakistan's B2B context using SEM and CFA on data from 239 professionals. Findings revealed that electronic evaluation significantly improved supply chain performance by enabling real-time analysis, automated monitoring, and continuous feedback. Although insightful, the study's focus on B2B procurement in Pakistan presents a contextual gap from the current study in Kitui County.

Waithaka and Kimani (2021) conducted a desktop study on electronic appraisal practices and supply chain performance. They found that tools such as e-vendor assessment, digital tracking, and automated feedback systems improved transparency, reduced bias, and enhanced decision-making. The study's desktop methodology differs from the empirical approach used in the present research.

Oteki (2019) examined the impact of e-monitoring and e-evaluation on procurement in eight Kenyan sugar firms. Results showed these tools enhanced contract performance, reduced delays, and strengthened supplier relationships. Despite being relevant, the study was limited to the sugar industry, making its context different from county-level procurement in Kitui.

Gichuhi (2021) investigated the impact of e-ordering systems at the Geothermal Development Company, focusing on 60 procurement staff. The study found that tools like e-cataloguing and e-authorization significantly enhanced efficiency, reduced processing times, and improved

order accuracy. While relevant, the study presents a scope gap as it focused on a parastatal, not a county government like Kitui.

Obiero and Ngugi (2024) examined e-ordering in the Kiambu County Government using data from 75 procurement and administrative staff. Results showed that practices such as e-cataloguing and e-receipts improved procurement efficiency, transparency, and supplier management. However, the study's scope limits its applicability to Kitui County, where the current research was conducted.

Njoki and Nelson (2022) evaluated automated procurement systems in Nairobi's retail sector using data from 40 supermarkets. They found that automated ordering improved inventory control, procurement efficiency, and overall operations. Despite its insights, the study had a contextual gap as it focused on retail establishments, unlike the present study on county government procurement.

Ahmad (2024) examined how e-invoicing influences cost reduction in multinational corporations in India. Using financial data from 30 companies, the study found that e-invoice validation and matching reduced administrative costs, improved transaction accuracy, and shortened processing times. However, the study presents a contextual gap, as it focused on global firms rather than county-level government procurement in Kenya. Bellon et al. (2022) assessed the impact of VAT e-invoicing on tax compliance in Peru, using data from 200 firms and tax officials. Results showed that e-invoicing enhanced compliance, reduced evasion, and improved revenue collection efficiency. Despite these findings, the study centered on tax systems rather than procurement, creating a contextual distinction from the current study focused on Kitui County procurement practices.

Narayanam et al. (2020) explored the effects of blockchain-based e-invoicing in international trade among multinational corporations. Findings indicated that blockchain improved invoicing accuracy, reduced fraud, and enhanced cross-border transaction efficiency. While informative, the study's scope on global trade settings differs from the public procurement environment in Kitui County, revealing a scope gap. Sifuna and Taronge (2019) examined the effect of e-procurement practices on procurement performance in private universities in South Africa. Using data from 68 procurement professionals, the study found that e-tendering improved transparency, e-evaluation minimized assessment errors, and e-contracting streamlined communication and reduced delays. However, the study presents a contextual gap, having been conducted in an academic setting rather than a public government institution like Kitui County.

Adefemi (2023) assessed how e-procurement practices affect contract performance in state-owned enterprises in Rivers State, Nigeria. From 101 participants, findings revealed that e-procurement enhances transparency, reduces procurement time, and lowers transaction costs. E-tendering, e-evaluation, and e-contracting were all linked to better contract administration. While informative, the study focused on state enterprises, creating a contextual difference from the current study in Kitui County government.

Ngugi and Mugo (2019) studied the relationship between e-procurement practices and contract performance in Kenyan commercial corporations. Using correlational analysis on data from 150 procurement officers, the study found that e-tendering improved transparency, e-evaluation shortened procurement cycles, and e-contracting enhanced supplier relationships

and contract adherence. Despite the relevance, the study showed a scope gap, as it focused on commercial entities rather than a county government setting.

3. Methodology

This study was informed by the Transaction Cost Theory, Agency Theory. It employed a descriptive research design. The descriptive research design was chosen due to its ability to easily and cost-effectively collect detailed data from a large sample.

The population of the study consisted of 227 employees in the procurement departments in the County government of Kitui. The unit of observation in the study was the 80 employees in the Contract management department, 65 employees in the procurement department, 71 employees in the Inventory and assets department, and 11 employees in the accounts department, while the unit of analysis was the County Government of Kitui. A sample of 145 respondents was selected through the use of stratified random sampling.

Primary data was collected using a structured questionnaire, which assisted in gathering quantitative data. Before the actual data collection, a pilot test was conducted to assess the clarity and completeness of the questionnaire. A sample of 15 supply chain officials from the Machakos County government was selected for this pilot test. The reliability of the questionnaire was evaluated using Cronbach's Alpha.

Castillio (2009) provides the following rules of thumb: >0.9 indicates excellent, >0.8 indicates good, >0.7 indicates acceptable, >0.6 indicates questionable, >0.5 indicates poor, and <0.5 indicates unacceptable. A Cronbach's alpha value of 0.7 was used as the threshold for reliability for this study. Quantitative data was analyzed using SPSS (v.28), and analysis involved correlation and regression analysis. The analyzed data were presented in the form of frequency tables.

4. Results and Discussion

4.1 Descriptive statistics

4.1.1 Descriptive Results for E-tendering

The first objective of the study was to find out the effect of e-tendering on procurement contract implementation in the county government of Kitui, Kenya. Participants of the research were supposed to indicate their agreement with statements provided concerning e-tendering practice in their organization. This was done on an ordinal scale ranging from one (1) to five (5). The lowest value of 1 indicated strong disagreement, while the highest possible value of 5 indicated strong agreement. A neutral stand was represented by (3). The perspectives in percentages, means, and SD are as indicated in Table 1.

Table 1: Descriptive Results for E-tendering

	SD	D	N	A	SA	Mean	SD
We use electronic systems to give contract awards.	2.42%	2.42%	15.32%	49.19%	30.65%	4.03	0.88
We use online tools to forecast inventory needs and avoid shortages	2.42%	1.61%	6.45%	45.16%	44.35%	4.27	0.85
Online systems are used to advertise the tender opportunities to attract potential suppliers	5.65%	9.68%	15.32%	49.19%	20.16%	3.69	1.08
Detailed tender documents are provided to interested parties electronically	1.61%	3.23%	4.03%	43.55%	47.58%	4.32	0.83
We electronically assess the bids based on predefined criteria	3.23%	8.06%	8.87%	55.65%	24.19%	3.9	0.97
We electronically assess the bidder's reputation	2.42%	13.71%	16.13%	48.39%	19.35%	3.69	1.02
Agg mean.						3.98	0.94

From the analysis, a large proportion of respondents (79.84%) concur that they utilize electronic systems for contract awards. A small fraction, totaling 4.84%, held a contrary view, while 15.32% were neutral. The mean score was 4.03 (the highest possible was 5.00), and the SD was 0.88, showing that that electronic contract awarding was widely implemented across all departments in Kitui County although the minority who disagreed or remained neutral hints that there could be inconsistencies in some departments, lack of standardized implementation across all units or partial reliance on manual processes.

Additionally, a significant share of the participants, accounting for 89.51% accepted that online tools are employed for inventory forecasting and shortage prevention within their departments. Only 4.03% expressed a contrasting position, whereas 6.45% remained neither accepted nor contrasted. The mean of 4.27 was accompanied by an SD of 0.85, indicating that digital inventory forecasting was a well-adapted practice within Kitui County government.

Further, about 69.35% affirmed that they use online platforms to advertise tender opportunities, 15.33% indicated otherwise, and an equal proportion of 15.32% neither confirmed nor refuted this practice. With a mean of 3.69 and SD of 1.08, it reveals some disparities, insinuating that while digital tender advertisement was common in the Kitui county government departments, some of them may still be relying on traditional tender advertising methods in some instances.

Close to 91.13% of the participants acknowledged that detailed tender documents are provided to interested parties electronically. 4.84% indicated a disagreement, while 4.03% remained on a neutral stand. A high mean value of 4.32 was obtained, accompanied by a SD of 0.83. This shows that electronically distributing tender documents was a highly common practice within Kitui County. The minimal disagreement and neutrality indicate that only a few departments

could be facing limitations in electronic document provision, likely due to technical hitches or resistance to full digitization.

An additional observation was that 79.84% agreed that bid evaluation was conducted electronically using a predefined criterion. Approximately 11.29% refuted, while 8.87% remained impartial. A mean score of 3.9 and SDev of 0.97 was derived, illuminating a high implementation of the practice. The variations in responses, however, suggest that some departments could still be using manual bid assessment methods or encountering some limitations in fully adopting digital bid evaluation processes.

Similarly, 67.74% of them indicated that their departments assess bidder reputation electronically. A total of 16.13% neither supported nor rejected this, whereas an equal 16.13% just rejected. The mean of 3.69, coupled with an SD of 1.02. It shows that while most of the departments had adopted electronic bidder reputation assessment, some had not fully integrated this into their procurement systems. The aggregated mean of the responses was 3.98. This shows that the responses were inclined towards agreement with the statements; however, with a variation as indicated by an SD of 0.94

4.1.2 Descriptive Results for E-evaluation

The second variable in the study was e-evaluation, which the researcher sought to determine how it affects procurement contract implementation in Kitui County government. A Likert scale tool (1-5) was used to gather data where the study subjects were to show their agreement level with statements provided. Table 2is a display of the results.

Table 2: Descriptive Results for E-evaluation

	SD	D	N	A	SA	Mean	SD
We use an electronic vendor assessment tool to evaluate product and service provider capabilities.	1.61%	10.48%	21.77%	41.13%	25.00%	3.77	0.99
We automatically verify that suppliers are adhering to contractual and legal standards using internet tools.	3.23%	10.48%	32.26%	37.10%	16.94%	3.54	1.00
All contracted product and service providers use the same, standardized e-vendor evaluation procedure.	4.84%	7.26%	9.68%	45.16%	33.06%	3.94	1.08
Supplier-provided documents are electronically verified for authenticity	1.61%	8.06%	12.90%	47.58%	29.84%	3.96	0.95
We conduct electronic risk assessments to evaluate potential risks associated with each supplier	2.42%	19.35%	20.97%	33.06%	24.19%	3.57	1.13
A digital scoring system is in place to objectively evaluate supplier bids based on predetermined criteria.	3.23%	13.71%	20.16%	40.32%	22.58%	3.65	1.07
Mean							

Findings exhibited that a large number of the participants (66.13%) indicated that they utilize an electronic vendor assessment tool to evaluate supplier capabilities, while 12.09% indicated that this practice was absent. A notable 21.77% remained neutral. The mean of the responses was 3.77 with a SD of 0.99, an indication of a generally positive inclination toward the adoption of such tools in most of the departments in Kitui county. This practice aligns with the objectives

of the Public Procurement and Asset Disposal Act, 2015, which aims to enhance efficiency and transparency in public procurement processes. The Act provides for the use of electronic means in procurement to facilitate streamlined and standardized contract assessments. The neutral and opposing views suggests some gaps where some units may not have fully adopted electronic vendor assessment tools.

Slightly above half of the respondents (54.04%) accepted that they employ internet-based tools to verify supplier compliance with contractual and legal requirements. Those who opposed this view accounted for 13.71%, whereas 32.26% neither confirmed nor refuted. The mean score stood at 3.54, with a SD of 1.00, showing moderate acceptance of the statement and a considerable level of divergence in the responses. The result proposes that while some departments may have recognized the importance of compliance verification through digital platforms, a considerable number still lacked these systems in place.

As well, most of the respondents (78.22%) indicated that all product and service providers use the same, standardized e-vendor evaluation procedure. The percentage holding an opposing stance was 12.10%, whereas a smaller segment (9.68%) was neutral. The mean score of 3.94 and a standard deviation of 1.08 supports that most departments utilized a standardized e-vendor evaluation procedure for all contractors. The National Public Procurement and Asset Disposal Policy underscores the importance of standardizing procurement processes to ensure fairness, transparency, and accountability. Implementing uniform e-vendor evaluation procedures aligns with this policy directive. Nevertheless, there are some gaps as reflected by the disagree and neutral responses.

Many respondents (77.42%) acknowledged that supplier-provided documents undergo electronic verification for authenticity. Those who held a contrary view constituted 9.67%, while 12.90% remained neutral. The statement yielded a mean of 3.96 with SD of 0.95 demonstrating a substantial level of adoption. The observation aligns with the Public Procurement and Asset Disposal Regulations, 2020, which stipulate that procuring entities intending to use e-procurement systems should prepare and upload their annual procurement plans through an online system. However, the presence of dissenting opinions implies that some few departments may be still relying on manual verification methods.

It was also noted that approximately (57.25%) expressed that electronic risk assessments are conducted to evaluate supplier-related risks, 21.77% disagreed, while a considerable 20.97% neither affirmed nor denied its existence. The average score of the responses was 3.57 and standard deviation was 1.13 showing that majority agreed with the statement. However, a room for improvement was depicted by the neutral and disagreement stances. Electronic evaluation enhances contract performance through real-time data analysis, allowing for quicker identification of risks (Faheem et al., 2019).

A notable share of participants (62.90%) indicated that a digital scoring system is utilized for objective bid evaluation based on predefined criteria. Those who rejected this assertion accounted for 16.94%, while a moderate proportion (20.16%) remained noncommittal. The mean score of 3.65 and a standard deviation of 1.07 suggest a generally favorable stance, albeit with noticeable variations in responses. The reliance on digital scoring systems reflects a shift toward data-driven procurement decision-making which translates to transparency and fairness in the contracting process (Oteki, 2019). The average score of the responses was 3.74. Many

respondents are those who concurred with the various aspects of e-evaluation provided. But the responses deviated, given the SD of 1.04.

4.1.3 Descriptive Results for E-ordering

The third variable in the study was e-ordering, which the researcher sought to determine how it affects procurement contract implementation in Kitui County government. A Likert scale tool (1-5) was used to gather data where the study subjects were to show their agreement level with statements provided. Table 3 is a display of the results.

Table 3: Descriptive Results for E-ordering

	SD	D	N	A	SA	Mean	SD
Our suppliers are able to receive and process orders online	4.03%	8.87%	18.55%	50.00%	18.55%	3.7	0.99
The ordering system is integrated with our enterprise resource planning (ERP) software.	0.81%	1.61%	8.87%	48.39%	40.32%	4.26	0.75
There are clear policies and procedures for e-ordering	0.00%	8.87%	12.10%	38.71%	40.32%	4.1	0.94
We maintain an electronic catalog of products and services available for ordering	1.61%	12.10%	15.32%	45.16%	25.81%	3.81	1.01
There is an electronic authorization process for approving purchase orders	0.00%	4.84%	4.84%	86.29%	4.03%	3.9	0.52
The county issues electronic receipts for all orders placed through the e-ordering system	1.61%	4.84%	19.35%	58.87%	15.32%	3.81	0.81
Agg. Mean						3.93	0.84

From the research results, 68.55% of the participants expressed approval that their suppliers are able to receive and process orders online, while 12.9% disagreed and 18.55% neither supported nor discorded. The mean response of 3.70 (SD = 0.99) shows that in most of the departments in Kitui county government, e-ordering was adopted. However, the varied responses indicate that this was not present in some departments.

The analysis further showed that 88.71% of the participants agreed that the ordering system is integrated with their enterprise resource planning (ERP) software. However, 2.42% expressed the opposite stance, while 8.87% remained neutral. The high mean score of 4.26 (SD = 0.75) mirrors high adoption of ERP-integrated e-ordering, which aligns with the Public Procurement

and Asset Disposal Act (2015) which emphasizes the need for automation in procurement processes to enhance transparency and efficiency.

Moreover, 79.03% of them agreed that there are clear policies and procedures for e-ordering with 8.87% opposed this view and 12.1% remained non-committal. The mean score of 4.1 (SD = 0.94) indicates that while e-ordering policies were well established the departments in Kitui county government. The findings are consistent with the Public Procurement and Disposal Regulations (2020), which mandate public entities to establish standardized e-procurement guidelines to ensure compliance.

The existence of an electronic authorization process for purchase orders was greatly acknowledged by 90.32% of the study participants, with only 4.84% dissenting. A small proportion (4.84%) remained indifferent. The high mean score of 3.9 (SD = 0.52) highlights the county's commitment to digital authorization, a practice that aligns with the Public Finance Management Act (2012), which advocates for accountability and approval mechanisms in public spending.

Additionally, close to 74.19% of the respondents affirmed that electronic receipts are issued for orders placed through the e-ordering system, 6.45% disagreed, and 19.35% were neither disagreeing or agreeing. The mean score of 3.81 (SD = 0.81) suggests considerable adoption of electronic receipts, though some inefficiencies may still exist. The findings align with the E-Government Strategy (2014), which promotes digital transactions to enhance accountability in procurement.

With an aggregate mean of 3.93 (SD = 0.84), the overall results suggest a strong inclination toward e-evaluation practices within the county government. The findings reinforce the importance of aligning e-procurement processes with policy frameworks such as the Public Procurement and Asset Disposal Act (2015) and the Public Finance Management Act (2012) to achieve efficiency and compliance.

4.1.4 Descriptive Results for E-invoicing

The fourth variable in the study was e-invoicing, which the researcher sought to determine how it affects procurement contract implementation in Kitui County government. A Likert scale tool (1-5) was used to gather data where the study subjects were to show their agreement level with statements provided. Table 4 is a display of the results.

Table 4: Descriptive Results for E-invoicing

	SD	D	N	A	SA	Mean	SD
The county uses an electronic payment system for all invoice transactions.	0.00%	9.68%	12.90%	66.13%	11.29%	3.79	0.77
Our department used electronic invoices for all vendor transactions within our organization.	0.00%	6.45%	9.68%	64.52%	19.35%	3.97	0.74
The e-invoicing system integrates seamlessly with our accounting software	3.23%	4.03%	10.48%	50.81%	31.45%	4.03	0.94
Invoices are matched against purchase orders electronically before payment is authorized	2.42%	15.32%	10.48%	36.29%	35.48%	3.87	1.13
There is a dedicated system for invoice validation and approval	0.81%	14.52%	8.87%	44.35%	31.45%	3.91	1.03
There is an online system for tracking invoice	1.61%	8.06%	6.45%	55.65%	28.23%	4.01	0.91
Agg mean.						3.91	0.92

From the analysis, the biggest proportion of the respondents represented by 77.42% confirmed that the they use an electronic payment system for processing invoices, with 9.68% held a contrary position, while 12.9% neither confirmed nor disproved this assertion. The mean score of 3.79 and insinuates significant reliance on digital payment and invoicing solutions in the county government, though some gaps remain because the SD of 3.77 indicates variation of responses. This observation is in alignment with Public Finance Management Act (2012), which emphasizes the adoption of electronic financial systems to enhance efficiency and accountability in public sector transactions.

Furthermore 83.87% affirmed that electronic invoices are used for all vendor transactions, with 6.45% seeming to disagree and 9.68% neither endorsed nor disproved the statement. The mean score of 3.97 (SD = 0.74) reflects extensive implementation of e-invoicing practices in the county government of Kitui, aligning with the Public Procurement and Asset Disposal Act (2015), which promotes automation of payments and invoices to for transparency in procurement processes. However, some few departments may still be using manual invoicing.

Similarly, 82.26% expressed that the e-invoicing system integrates effectively with accounting software. In contrast, 7.26% differed, while 10.48% maintained a neutral position. A mean score of 4.03 and SD = 0.94 suggests that digital invoice processing was largely synchronized with financial management systems in the county government. This outcome is also in line

with the Public Procurement and Asset Disposal Act (2015) which outlines the necessity for efficient integration of invoicing systems to streamline financial operations, enhance transparency, and improve overall procurement processes.

Moreover, a big share of the respondents who were 71.77% indicated that invoices are electronically matched against purchase orders before payments are approved. A smaller proportion of 17.74% provided a divergent view, while 10.48% neither confirmed nor denied the claim. The mean score of 3.87 (SD = 1.13) reflects an established practice of invoice verification through digital means, reinforcing principles outlined in the Public Procurement and Disposal Regulations (2020), which advocate for automated systems to minimize financial discrepancies in procurement. However, the SD of 1.13 shows some variation in responses.

It was also noted that 75.8% concurred that they have a dedicated system for invoice validation and approval, 15.33% denied this view and 8.87% remained neutral. The mean score of 3.91 and SD of 1.03 signifies the presence of structured digital invoice validation and approval mechanisms in the county government. This finding aligns with the E-Government Strategy (2014), which emphasizes digital solutions for process validation to reduce inefficiencies and fraud in public procurement.

About 83.88% of the respondents indicated that an online system exists for tracking invoices. Only 9.67% expressed an opposing opinion and some 6.45% neither supported nor dismissed this statement. The mean score of 4.01 and low SD of 0.91 is a reflection of high adoption of electronic invoice tracking systems in Kitui county government, aligning with the Public Sector Accounting Standards (2018), which advocate for real-time monitoring of financial transactions for accountability. With an aggregate mean of 3.91 the findings mirror a strong inclination toward e-invoicing practices within the county government, with a slight variation in responses (SD=0.92).

4.1.5 Descriptive Results for Procurement Contract Implementation

The study further sought to find out the respondent's views on procurement contract implementation in Kitui County. The findings were as shown in Table 5.

Table 5: Descriptive Results for Procurement Contract Implementation

	SD	D	N	A	SA	Mean	SD
Items and services contracts are delivered on or before the agreed-upon deadlines.	1.61%	13.71%	12.90%	51.61%	20.16%	3.75	0.98
The correct specifications of contracts are delivered as per the specifications	12.42 %	7.26%	14.84%	44.03%	31.45%	3.85	0.94
Delivery of goods and services contracts always meets stakeholder expectations	4.03%	10.48%	4.84%	45.16%	35.48%	3.98	1.09

Contracts are managed with timely and clear communication.	5.65%	5.65%	27.26%	31.61%	29.84%	3.64	1.05
Procurement contracts strictly follow the agreed-upon terms and conditions.	11.61 %	4.84%	8.87%	48.06%	26.61%	3.92	0.84
All Procurement Contracts are efficiently fulfilled	3.23%	18.87%	7.26%	48.87%	21.77%	3.77	0.96
Agg mean.						**3.82**	**0.98**

From the findings, 71.77% were in support of the statement that m items and services are delivered within the agreed timelines. 15.32% disagreed and 12.9% neither confirmed nor denied the statement. The mean score of 3.75 (SD = 0.98) suggests that while deliveries are generally on time, occasional delays could still be occurring in some departments.

A majority stated that goods and services are supplied as specified in procurement orders, with 75.48% confirming this. A total of 19.68% dissented and 4.84% neither agreed nor disagreed. The mean score of 3.85 (SD = 0.94) indicates strong adherence to procurement specifications. The presence of considerable disagreement and neutral responses points that there could be some instances when contracts were not fully fulfilled in line with the stipulated specifications.

A big proportion comprising of 80.64% of the respondents accepted that deliveries always meet stakeholder expectations. A smaller fraction of 14.51% and 4.84% disagreed and remained neutral respectively. The mean score was 3.98 accompanied by a deviation of 1.09. The findings imply that while most of the respondents indicated that procurement deliverables mostly meet the stakeholder requirements, it is not always the case.

Findings further show that contracts are managed with timely and clear communication, with 61.45% supporting the statement. A combined 11.3% disagreed, while 27.26% remained undecided. The mean score was 3.64, SD and SD was 1.05. The presence of many neutral responses implies potential inconsistencies in communication practices, which may result in delays or misunderstandings in procurement contract implementation.

Responses indicate that procurement contracts follow agreed terms and conditions, with 74.67% confirming compliance. A total of 16.45% disagreed, while 8.87% remained neutral. The mean score of 3.92 (SD = 0.84) suggests significant commitment to adherence to contractual obligations among contractors in the county government of Kitui.

Moreover, 70.64% were found agreeing with the statement that procurement contracts are efficient. Some 22.1% expressed disagreement, and 7.26% neither agreed nor disagreed. The mean score of 3.77 (SD = 0.96) suggests that contract execution is largely efficient in Kitui County, even though some challenges may exist there.

With an aggregate mean of 3.84 (SD = 0.98), the results indicate that procurement contract implementation in the county government of Kitui is generally effective. However, given that the highest possible mean is 5.00, the aggregate mean of 3.84 (SD = 0.98) suggests that

EdinBurg Peer Reviewed Journals and Books Publishers
Journal of Procurement and Supply Chain
Vol. 5||Issue 3||pp 1-24||August||2025
Email: info@edinburgjournals.org||ISSN: 2789-3405

procurement contract implementation in the county government of Kitui is generally effective but not optimal. While most respondents view the process as functioning well, the mean score falling below the maximum indicates that gaps in contract implementation still exist. This implies that while contracts are largely executed as intended, there are areas requiring improvement.

4.2 Correlation Analysis

This analysis was done to establish the direction and strength of the link between the independent variables (e-tendering, e-evaluation, e-ordering, and e-invoicing) and the dependent variable (procurement contract implementation). The correlation coefficient and p values are given in Table 6.

Table 6: Correlation Analysis

		implementation	e-tendering	e-evaluation	e-ordering	e-invoicing
Implementation	Pearson Correlation	1				
	Sig. (2-tailed)					
e-tendering	Pearson Correlation	.742**	1			
	Sig. (2-tailed)	0.000				
e-evaluation	Pearson Correlation	.704**	.123**	1		
	Sig. (2-tailed)	0.000	0.000			
e-ordering	Pearson Correlation	.641**	.299**	.157**	1	
	Sig. (2-tailed)	0.000	0.000	0.000		
e-invoicing	Pearson Correlation	.698**	.136**	.140**	.385**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	

Results showed that there was a significant positive relationship between e-tendering and procurement contract implementation in Kitui County Government. This relationship is depicted by a correlation coefficient of 0.742 and p-value of 0.000<0.005 (r=0.742, p=0.000). It is an indicator that as e-tendering practices are improved, procurement contract implementation also improves. This observation is in tandem with the findings by Abdullahi et al. (2022), who found that electronic tendering processes significantly improved transparency and reduces procurement processing time among public procuring entities, and that implementing such systems markedly enhances procurement effectiveness.

Similarly, it was established that e-evaluation and procurement contract implementation in Kitui County have a positive and significant relationship, that is, they were strongly correlated ($r=0.704$, $p=0.000<0.05$). This shows that improving e-evaluation practices is highly correlated with the procurement contract implementation. The finding is in sync with that of Waithaka and Kimani (2021), whose research recorded that online supplier assessment, digital performance tracking, e-vendor assessment, e-document verification, e-risk assessment, and automated feedback systems positively impact supply chain performance. The researchers also found that these practices enhance transparency by providing real-time data, allowing for quicker and more accurate decision-making in contracts.

Moreover, a strong positive coefficient of correlation was found between e-ordering and procurement contract implementation ($r=0.641$, $p=0.000<0.05$). It means that these two variables move in the same direction, implying that an enhancement in e-ordering practices and systems reflects an improvement procurement contract implementation. The result supports that of Gichuhi (2021), which established that e-ordering systems that involved e-cataloguing and e-authorization significantly enhanced procurement efficiency, reduced processing times, and improved order accuracy in the Geothermal Development Company.

Results further showed that there was a significant positive correlation between e-invoicing and procurement contract implementation in Kitui County Government. This correlation coefficient was 0.698, and the p value of $0.000<0.005$ ($r=0.698$, $p=0.000$) was an indicator that as e-invoicing practices are enhanced, procurement contract implementation also improves. This observation is in tandem with the findings by Ahmad (2024), who found that e-invoice validation and matching significantly decreased administrative costs associated with invoicing processes, reduced invoice processing times, and improved accuracy in financial transactions.

4.3 Regression Analysis

This analysis was adopted to test the effect of e-procurement on procurement contract implementation in the county government of Kitui, Kenya. As shown in Table 7, the model summary depicts a strong explanatory power of the independent variables (e-tendering, e-evaluation, e-ordering, and e-invoicing) on procurement contract implementation. The R-squared was 0.774, depicting that 77.4% of the variations in procurement contract implementation in Kitui county was attributed to e-tendering, e-evaluation, e-ordering, and e-invoicing. The remaining 22.6% was explained by other factors not included in the current study.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.879a	0.774	0.761	0.52345

a Predictors: (Constant), e-invoicing, e-ordering, e-tendering, e-evaluation

The ANOVA results in Table 15.8 indicate that the model explaining the influence of e-tendering, e-evaluation, e-ordering, and e-invoicing on procurement contract implementation was sufficient and satisfactory. This conclusion is supported by the calculated F statistic of 102.08, which was greater than the critical F value of 2.60 ($F_{cal}=102.08 > F_{crit}=2.37$). The model fitness is further reinforced by the corresponding p-value of $0.000<0.05$.

Table 8: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.816	4	12.454	102.08	.000b
	Residual	14.606	119	0.122		
	Total	64.422	123			

a Dependent Variable: implementation

b Predictors: (Constant), e-invoicing, e-ordering, e-tendering, e-evaluation

From the findings in Table 9, constant (α=0.263) represents the level of procurement contract implementation when all predictors are held at zero, indicating a baseline level of procurement contract implementation.

The regression coefficient for e-tendering was 0.146 (β=0.146, p=0.001<0.05), which means that e-ordering has a positive and significant effect on procurement contract implementation in Kitui County. It then follows that for every unit improvement in e-ordering, procurement contract implementation improves by 0.146 units. This result echoes that of Shatta et al. (2024), whose study showed that e-tendering tools boosted procurement efficiency and that e-procurement systems were more efficient when behavioral intention was higher.

Similarly, the regression coefficient for e-evaluation was 0.122 with a p-value of 0.007 (β = 0.122, p = 0.007<0.05). This shows that e-evaluation has a positive and significant effect on procurement contract implementation in Kitui County. Thus, for every unit improvement in e-evaluation, procurement contract implementation improves by 0.122 units. This result is in alignment with that of Faheem and Siddiqui (2019), whose study found that electronic supplier evaluation enhances supply chain performance through real-time data analysis, allowing for quicker identification of inefficiencies. Automated monitoring and assessment tools improve accuracy and consistency in evaluating supplier performance, leading to better decision-making. Additionally, electronic evaluation facilitates continuous feedback and adjustments, ensuring that supply chain processes remain optimized and responsive to changing conditions (Faheem & Siddiqui, 2019).

Likewise, the regression coefficient for e-ordering (β = 0.118, p = 0.033<0.05) means that it has a positive and significant effect on procurement contract implementation. Thus, for every unit improvement in e-ordering practices and systems, procurement contract implementation improves by 0.118 units. This supports the findings by Obiero and Ngugi (2024). Their study found that e-ordering positively impacts organizational performance by streamlining procurement processes and enhancing supplier management.

Moreover, it was established that e-invoicing had a positive and significant effect on procurement contract implementation in Kitui County. This was shown by a regression coefficient of 0.119 and p-value of 0.000 (β = 0.119, p = 0.000<0.05). This implies that a unit change in e-invoicing practices would lead to a change in procurement contract implementation by 0.119 units. The findings corroborate those of Ahmad (2024), who found that e-invoice

validation and matching significantly decreased administrative costs associated with invoicing processes, reduced invoice processing times, and improved accuracy in financial transactions.

The regression model obtained was thus:

The regression model will be as follows:

Procurement contract implementation = 0.263 + 0.146E-tendering+ 0.122E-evaluation+ 0.118 E-ordering+ 0.119E-invoicing +e

Table 9: Regression -coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.263	0.407		2.876	0.063
	E-tendering	0.146	0.029	0.144	4.954	0.000
	E-evaluation	0.122	0.055	0.121	2.206	0.007
	E-ordering	0.118	0.051	0.116	2.276	0.033
	E-invoicing	0.119	0.046	0.117	2.579	0.000

a Dependent Variable: implementation

5. Conclusion

The study concluded that e-procurement practices, e-tendering, e-evaluation, e-ordering, and e-invoicing positively influence procurement contract implementation within Kitui County Government. E-tendering enhances efficiency through streamlined tender advertisement, bid evaluation, and contract awards, leading to timely and coordinated service delivery. E-evaluation improves the accuracy of supplier selection by enabling electronic assessment of bids and supplier reputation, thereby ensuring contracts meet expectations. E-ordering contributes to better contract implementation by facilitating real-time order processing and integration with ERP systems, which supports compliance with contract terms. E-invoicing strengthens contract fulfillment by enabling timely and accurate financial transactions, invoice tracking, and verification, thus promoting adherence to procurement specifications and timely delivery.

6. Recommendations

It is recommended that county governments, through the guidance of the Public Procurement Regulatory Authority (PPRA), enforce standardized implementation of e-procurement practices across all departments to ensure full digital integration in contract awards, supplier evaluations, and order processing. This would minimize inefficiencies, reduce reliance on manual processes, and enhance transparency. Regular audits and digital compliance assessments should be conducted to ensure adherence to the Public Procurement and Asset Disposal Act (2015), while suppliers should be encouraged to invest in digital capabilities to

align with e-procurement requirements. Additionally, the PPRA should establish stricter monitoring mechanisms to enforce full adoption of e-procurement systems in all public entities, ultimately improving the effectiveness and accountability of procurement contract implementation.

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