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Effect of Electronic Procurement Practices on Performance of Preferential Procurement in Kwale County Government

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Abstract:

Purpose: *The main objective of this study was to evaluate the impact of various electronic practices on the performance of preferential procurement in the Kwale County Government. The research was grounded in Technology Acceptance Theory and Innovation Diffusion Theory.*

Material/methods: *The study employed an explanatory analysis design. The intended audience consisted of 185 respondents, including 66 employees from the county government's procurement, ICT, and administration departments and 119 individuals from disadvantaged groups who have participated in county government procurement opportunities. A stratified sampling technique was used to select 127 respondents. Data collection was carried out using questionnaires.*

Findings: *The study found that the performance of preferential procurement in the Kwale County Government was significantly and favourably impacted by electronic Tendering, Electronic Sourcing, Electronic Informing, and Electronic Ordering practices. Each of these practices was observed to improve the effectiveness and efficiency of procurement processes designed to benefit disadvantaged groups.*

Conclusion*: The study concludes that the adoption of Electronic Tendering, Electronic Sourcing, Electronic Informing, and Electronic Ordering has a positive impact on the performance of preferential procurement in the Kwale County Government. These electronic practices enhance the transparency, efficiency, and effectiveness of procurement processes targeted at disadvantaged groups, fulfilling the mandates outlined in Article 227(2) of the Kenya Constitution and Section 155 of the Public Procurement and Asset Disposal Act, 2022.*

Value: *The study offers critical insights for Kwale County Government and policymakers, emphasizing the importance of adopting electronic procurement practices to improve the effectiveness of preferential procurement for disadvantaged groups. Recommendations include system upgrades and stakeholder engagement.*

Keywords*: Kwale County Government, Performance of Preferential Procurement, Electronic tendering practice, Electronic Sourcing practice*

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1. Introduction

Public procurement as crucial element of public administration in a nation, improves economic and social envelopment of a county by connecting it's with that financial sector with social outcomes (Abuselidze & Beridze, 2021). Public procurement is recognized as effective and efficient methods of promoting socioeconomic goals of country by giving priorities of empowering disadvantaged social groups through contract between governments and private entities (Fourie & Malan, 2020, Organization for Economic Co-operation and Development (OECD), 2017). In order to empower women, youth, and people with disabilities and fight poverty, public procurement offers an outstanding and unrivaled method that is effective and efficient. Public procurement contributes between 10% and 15% of the GDP in wealthy countries and over 30% of the GDP in underdeveloped nations (Lundberg, et al., 2015). Economic development of marginalized people is crucial for the corporate community and politicians (Grandia & Kruyen, 2020).

Therefore, ensuring that individuals with disabilities have equitable access to public procurement inclusion and opportunities is essential for social and economic growth, recovery from the economic and financial crisis, and achieving the Millennium Development Goal. According to the ILO's (2017) study, countries authorities, nongovernmental organizations and groups for disabled persons must work together to create comprehensive initiatives and policies that increase the number of individuals with disabilities who participates in public procurements. However, there have been challenges in public procurement which has resulted to small number of PWD, women and youth accessing government tenders. This has attracted the attention of academicians, researchers, donors, policy makers and researchers (Tibben & Astbrink, 2012).

The expanding progression and savage challenge of the world economy has requested governments to cultivate methods to advance formerly underprivileged groups participation in Government Procurement Opportunities. The incorporation of Information and Communication Technologies (ICTs), particularly the use of the internet to direct business online, is quickly transforming the traditional technique of collaboration. Information technology is widely used in supply chain management, according to Barasa, Namusonge, and Iravo (2015), to streamline the flow of products and information among the various business partners and processes. A competitive strategy can benefit greatly from information and communication technologies and with the steady rapid growth of globalization and progress, electronic procurement or electronic acquisition is accepted to be the most cost-effective device to enable recently hindered gatherings to increase greater markets and the capacity to contend with bigger associations for Government tenders (Belisari, Binci & Appollon, 2020). This is in light with the favorable circumstances' characteristic in web, for example, speed, ease of use, minimal effort and wide publications which have permitted electronic procurement to be progressively diffused all inclusive, uniting nations into a global networked economy (Adebayo & Evans, 2015).

Globally, Electronic procurement have gained prevalence as an instrument for ensuring women, youth and people with disabilities are included in public procurement. For example, in United Kingdom, there has been implementation of

online procurement in the purchase process has abated challenges of including women in public tendering process (Brandon-Jones & Kauppi, 2018). Electronic procurement as modern public procurement technology has been implemented in Latina America in fighting corruption in Latin America and making inclusion of minorities which include youth, people with disabilities and women in public procurement system more efficient (Ruiz, 2020).

A study conducted in Canada by Orser, et al., (2021) highlighted e-procurement as most effective strategy that is enacting policies in public procurement that offers opportunities small and medium business owned by women. After Covid 19 pandemic, Brazilian government improved its public sector procurement through automating systems that increase women and minorities participation in the list of suppliers and present a data that is diversified prior to the bidding. This system has also enhanced gender policies in public procurement (Cordova, 2021). United States local government in their effort of ensuring there is efficiency in procedures of public procurement procedures and decision-making process is centralized, have implement e procurement that has created economic opportunities for women and gender equality (Stritch, et al., 2020).

Though African countries have been slow in inclusion of women, youth and people with disabilities in public procurement, some sub-Saharan African countries have made an attempt of using electronic procurement in boosting women's economic empowerment via procurement. For example, in Ghana, government has implemented electronic procurement in curbing corruption, irregularities and guarding against cartels being formed to bid for public resulting in creating effective preferential procurement (OseiTutu et al., 2020).

In Tanzania, Electronic procurement has been established in effective implementation public procurement policy that contains clauses for fair and equal treatment when offering opportunities to PWD, women and youth. The public procurement is Tanzania as also enacted a policy for that allocated woman, PWD and youth 30 percent of government procurement (Ovadia, 2022). According to BC (2020) African countries need to implement electronic procurement systems that can be provide effective transparency, accountability and equality hence compensating for the historical lack of gender balance imprinted in public procurement for technology in general, amending historical injustices towards gender equality and mitigating public biased systems in the future.

The AGPO programme has access to government business worth Ksh. 300 billion annually (Procurement Reform Project, 2014). According to the M&E reports on the AGPO programme available at the Treasury of Kenya, since the inception of the AGPO program in 2013 up to 30th September 2017, 26,067, 30,205, 2,653 tenders had been awarded to the youth, women and PWDs respectively representing 44.86% for the youth,52.32 % for the women and only 2.81% for PWDs. It is evident that PWDs continue to be underprivileged in accessing the Government procurement opportunities. However, it being at the limit building stage, the heap of measures attempted was yield positive results in several years (www.agpo.go.ke, Constitution of Kenya 2010). Such this study investigated various aspect of e-procurement applied in procurement and how they affect preferential procurement in Kwale County Government.

1.1. Specific Objectives of the Study

i. To determine the effect of electronic tendering practice on the performance of preferential procurement in Kwale County Government.
ii. To establish the effect of electronic sourcing practice on performance of preferential procurement in Kwale County Government.
iii. To establish the effect of electronic informing practice on performance of preferential procurement in Kwale County Government.
iv. To determine the effect of electronic ordering practice on performance of preferential procurement in Kwale County Government.

2. Theoretical and Literature Review

Technology Acceptance Theory and Innovation Diffusion Theory served as the foundation for this study.

2.1. Conceptual model and hypothesis development

A conceptual framework is a diagrammatical illustration of the constructs or indicators and how they are regarded to be related. The research study formulated the independent, dependent as shown in this proposal in Figure.1 below: The framework hypothesized those independent variables which are e-tendering, e-sourcing, e-informing and e-ordering was affect dependent variable (Performance of Preferential Procurement).

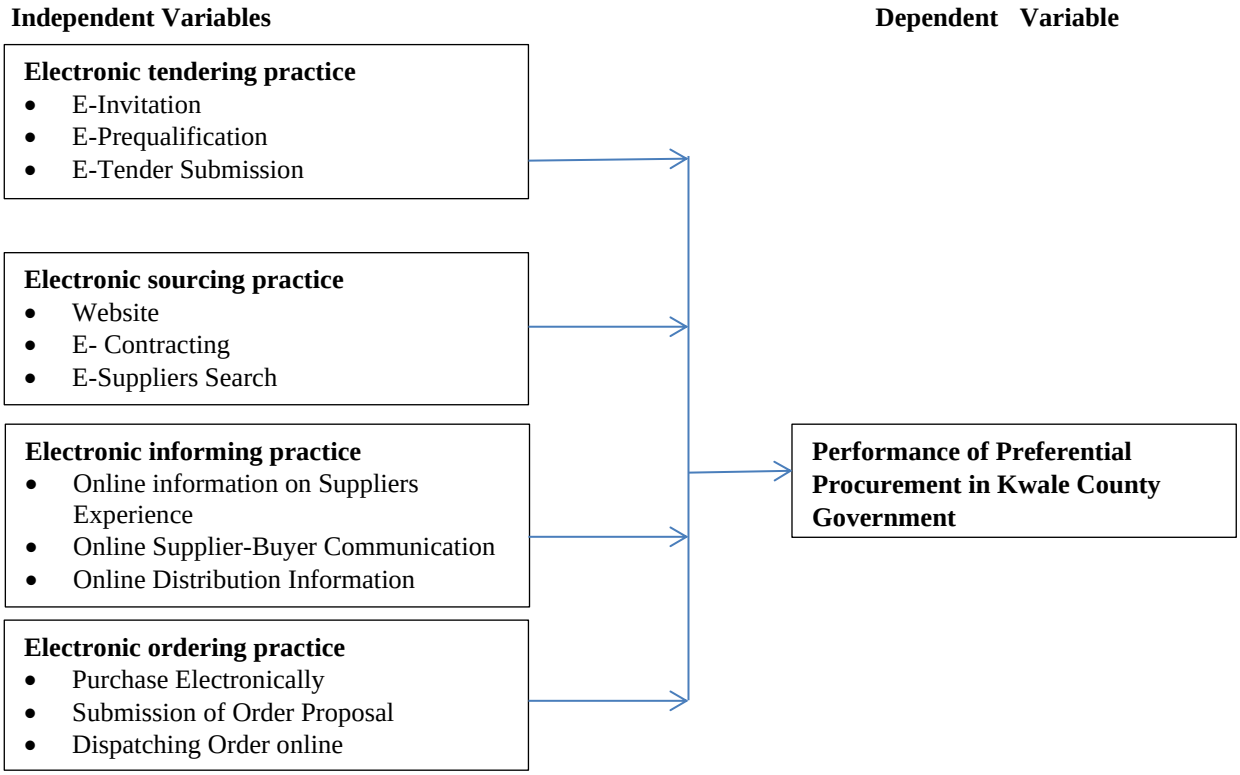

Figure 1: Conceptual framework
Source: Researcher, (2023)

2.1.1. Effect of Electronic Tendering on Performance of the Preferential Procurement in Kwale County Government

In Abdullahi and Bala, (2022) developed a system that is supported by internet/web to facilitates major phases of tendering procedures such as notifying supplies about tenders, submitting tenders electronically, evaluating, opening and awarding tenders. The system was tested, validated and conformed to have significant benefit in enhancing tendering systems from existing manual system of tendering that is currently being used in public procurement in Nigeria.

Mehdipoor, Mehdipoorkaloorazi, Iordanova and Ghadim (2022) assessed the difficulties along with the advantages associated with implementing electronic tendering or electronic procurement in the Malaysian construction industry. Using Case study of infrastructure project in Johor, Malaysia, they revealed that Electronic Tendering is increasing the productivity and efficiency of public procurement process.

Sandanayake, Gunatilake and Waidyasekara, (2022) using desktop approach viewed literature in assessing readiness in utilization of electronic tendering systems from several countries and its related outcomes in Sri lanka. The study found that electronic tendering has been accepted due to its ability to enhance accountability, transparency, corruption reduction, cost reduction, reduces paperwork and time. The study also revealed that electronic tendering process makes evaluation of tender submitted eases. However, they also showed challenges that face successful application of electronic tendering proves such as security and legal issues, low funding of ICT, lack knowledge and skills of using electronic tendering process, resistance to change and non-identical software and formats.

2.2. Effects of Electronic Sourcing on Performance of the Preferential Procurement in Kwale County Government

E-sourcing helps firms to manage the full procurement life cycle by assessing asset expenditure, discovering cost-saving options, utilizing external market information, and negotiating, maintaining, and monitoring goods contracts. This procedure is mostly done online, with proposals, quotations, and bids from many vendors consolidated into a unified system for easy comparison (Monai, 2022). Electronic sourcing is a complete solution that electronically breaks down each phase of the procurement process and increases efficiency. (Engelbrecht-Wiggans & Katok, 2016)

In Argetina Candela and Ulises (2022) looked at big manufacturing firms in Buenos Aires were performing and how it was affected by e-souring as aspect of electronic procurement. The study sampled procurement managers and supervisors as unit of analysis from all manufacturing firms. Findings from regression analysis using SPSS identified a significant effect of electronic sourcing on big manufacturing business performance in Buenos Aires.

In Rwanda, Jules (2022) established how implementation of electronic sourcing affects the procurement in the public institutions using data collected from 96 employees, 21 suppliers and 24 service providers of three district hospitals in Southern Province suing Questionnaire, interview and documentation respectively. Using descriptive statistics and content analysis results showed that electronic sourcing has been successfully implement in public institutions and was positively linked to management of

procurement record, supplier relationship and operational performance of public institutions.

In a study by Hajir (2021) evaluated how e-sourcing is related with retail supermarkets operation performance in Nairobi City County. Data was gathered using questions distributed to 94 registered retail supermarkets and analyzed using regression analysis. Results indicated a strong association between operational performance and e-sourcing of the retail supermarket.

A research on Fundamentals of Electronic Sourcing in an Electronic Environment was done by Lewis (2014). According to the report, e-sourcing can be utilized as a tool to speed up processes, save money on sourcing, and increase profits. Further research revealed that the first step in implementing electronic sourcing is choosing an e-tool to enhance institutional capabilities. This is preceded, if practicable, by transformation leadership and employee and other participant development.

In Gauteng province, South Africa, Mafini, Dhurup, and Madzimure (2020) looked on the interaction between supply chain performance and electronic sourcing among small firms. A cross-sectional survey approach was applied in data collection. Results from structural equation modeling were used to evaluate the data (SEM). To identify the causal connections between the variables in the study, confirmatory and multivariate approaches were used. According to the analysis, electronic design and electronic negotiation are significantly and favorably related to supplier integration. However, it was shown that electronic sourcing, electronic evaluation, and electronic informing had a negligible effect on supplier relations.

2.3. Effects of Electronic Informing on Performance of the Preferential Procurement

Tiwari, Chan, Ahmad and Zaman (2019) did a study on benefits of applying and implementing e-informing in in Malaysian Manufacturing Firm. Employing descriptive research design and collecting data from 231 employees using questionnaire, their regression results revealed that electronic sourcing implemented to a moderate extent but improved the supply chain performance to a large percentage.

In Kenya, Mwangi (2019) used Independent Electoral and Boundaries Commission (IEBC) as case study to study how performance of procurement performance is affected by adopting Electronic Sourcing And E-Informing. Data collected from 82 employees of IEBC (supply chain officer, procurement officer, and human personnel) was analyzed using multiple regressions and showed that e-informing had a significant influence on procurement performance.

Similarly, in Kenya, Mwangi and Kagiri (2016) studied how performance of procurements in hospitality sector is impacted by implementation of electronic informing on procurement performance in hospitality industry in Kenya. Their study sampled 68 employees in procurement/supply chains departments in Sarova chain of hotels. Data collected using questionnaire was analyzed using multiple regression models and revealed that E-informing were positively related to procurement performance.

A study carried out by Kioko and Mwangangi (2017) assessed how State Corporation in Kenya was performing with respect to implementation of e-souring in procurement

process using a sample of 187 heads of procurement in all parastatals. Multiple regressions were used to performance analysis of data collected using self-administered questionnaires. Results indicated a significant positive effect of electronic informing on performance of Kenyan parastatals.

2.4. Effects of Electronic Ordering on Performance of the Preferential Procurement

E-ordering is one example, but E-procurement is much more usually considered of as a comprehensive strategy. EDI electronic ordering alternatives allow enterprises save money, increase efficiency, and enhance customer experience by trying to eliminate the necessity for documentation and time-consuming routine processes, which leads to enhanced procurement systems and performance of supply chain (Gupta and Narain, 2012). In his study, Mutangili (2019) significantly linked procurement efficiency with electronic ordering. The study confirmed a direct and significantly association between performance of supply chain and e-ordering. In support, Hair, et al., (2019) suggested utilization of e-ordering toward sustaining procurement systems of firms. According to a study conducted by Ahmad, Aljafari, and Venkatesh (2019), many big firms have implemented e-procurement, using various electronic procurement approaches such electronic ordering.

Gichuhi (2021) studied how performance of procurement process in Geothermal Development Company in Kenya is impacted by adoption and usage of electronic ordering. The study sampled 97 staffs from target population of 170 staff in logistics and procurement departments in Geothermal Development Company in Nakuru headquarters. Data gathered using structured questions less than five point likert scale was analyzed using regression statistics. Results revealed that procurement performance of GDC was significantly related with e-ordering. The link between electronic informing and performance of supply chain was assessed by Mogere (2021) in his study entitled Electronic -procurement and Supply Chain Performance in the Sugar Factories in Kenya. The study target population comprised of supply managers from 12 sugar manufacturing firms. Findings from regression results revealed that performance of supply chain in the Sugar Factories was positively enhanced by successful implementation of e-ordering.

3. Material and methods

3.1. Research Design

Research design is the conceptual blueprint for conducting research from collecting, measuring analyzing and interpreting data (Kothari, 2015; Cooper & Schindler, 2013). It is a statement of essential element of a study and constitutes the blue-print for the collection, coding and analysis of data. An explanatory analysis design was used for this study. The explanatory research was utilized to demonstrate the causal–effect link, rather than just to describe the events under investigation (Gratton & Jones, 2010). Explanatory research, according to Cooper and Schindler (2008), focuses on 'why' inquiries. The study generated explanations to answer the "why" questions. Explanatory design has been employed in investigations to determine causal links. The rationales debated if the phenomena existed. Dependent variable Y (Performance of the preferential Procurement) is affected by Independent variables (Electronic procurement Practices) as to show the extent of the effect.

3.2. Target Population

The group of objects, individuals, or events that share a common observable characteristic, which is relevant to a specific detail being investigated, is referred to as the target population (Cooper and Schindler, 2014).Target population was 66 employees from procurement, ICT and administration departments in Kwale County Government and 119 youth, women and people with disability participating in the county government procurement opportunities, giving a total population of 185 respondents. The study unit of analysis was Kwale County Government and unit of observation was employees in procurement, ICT and administration departments.

Table 1: *Target Population*

Departments	**Target population**
Procurement Department	37
Administration Department	16
ICT Department	13
Youth, women and PWD	119
Total	**185**

Source (County Government of Kwale, 2023)

3.3. Sample Design and Sampling Techniques

The strategy of sampling contains utilizing part of a population to make deductions about the entire population (Zikmund *et al.,* 2010). The study was employ stratified sampling technique in selecting the respondents who was participating in the study.

There are 6 strata" s6 county governments under Kwale County Government. Stratified sampling technique was used to select the employee who was participate in the study within each stratum. Prior to use of random sampling, population of the study was stratified using stratified random sampling to ensure the sample accurately presents the targeted population. This was ensuring each stratum (department) has sample that is good representative of the population by using normal approximation to the hypergeometric distribution formulae. Slovin's formula (2018) also developed by Yamane (1967), was used to calculate the sample size of 224.

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

$$n = \frac{185}{1 + 185(0.05)^2}$$

$$n = \frac{185}{1.46}$$

$$n = 127$$

Where; n= is the required sample size

N= is the population size (185)

Z= is the level of confidence of the sample size (set at 95%) thus Z=1.96 P and q are the "population proportions (Each set to 0.5)".

E- Sets the accuracy of the sample proportions (set to 0.05).

Hence, 127 was the suitable sample size for the population of 185 employees. The number of firms that was participating in the study was selected proportionately based on the population in each strata using stratified sampling technique.

Table 2: *Sample Size*

Departments	**Target population**	**Sample**
Procurement Department	37	25
Administration Department	16	11
ICT Department	13	9
Youth, women and PWD	119	82
Total	**185**	**127**

Source: Researcher (2023)

3.4. Data Collection Method

Cooper and Schindler (2011) describe instruments for collecting data as the methods and techniques being utilized in research for measuring variable. A five point liker structured questionnaire was employed in this study. The questionnaire was structured using study research questions and objectives. Questionnaires are popular tools in research surveys and are preferred because they are easy to administer, time saving and free from researcher bias since responses are from the respondent's own expressions (Kothari, 2015 & Saunders, Lewis & Thornbill, 2015). Likert scales are advantageous in measuring perception, attitude, values and behavior since they contain objects that are good in translating the qualitative responses into quantitative values (Upagade & Shende, 2013).

3.1. Validity and Reliability of Research Instrument

According to Zikmundet al. (2010), validity reveals how much tools measure what they ought to evaluate. As an accuracy of measurement, it measures the accuracy of the research instrument. It is regarded as utility (Kothari, 2015; Nachmias & Nachmias, 2014). According to Barasa, Namusonge and Iravo(2015), Validity is a measure of how well a design uses measurement techniques to collect data with the intention of answering the research questions. Various classifications of validity are used to test the fitness of measures but a globally acknowledged classification consist of four main forms: criterion, face content, construct and. Validity deals with trustworthiness, lawfulness and germane of research (Creswell & Creswell, 2018). Face validity was attained when the questionnaire is critiqued by supervisors and experts and necessary adjustments were made. This study was use content validity to check if the items fully measured what they are intended to measure, that is, if a test is representative of all relevant parts of the subjects it aimed to cover.

Reliability is a metric of how well an instrument for data gathering produces reliable findings over time or in multiple testing (Zikmund et al., 2013). Cronbach's Alpha coefficient was used to determine if the data gathered is consistent and therefore the conclusions are credible. Cronbach Alpha assesses how effectively a series of questions or parameters reflects a throughout every construct validity that is a dependability or uniformity coefficient. Reliability is given as a coefficient ranging from 0 to 1.00. The greater the coefficient, the more the trustworthy the test is. A Cronbach Alpha of 0.7 or above is deemed appropriate (Cronbach Alpha, 1951). Sekeran, and Bougie (2010), as well as other academics who contend that a reliability criterion of 0.7 is appropriate.

The results of this investigation supported the validity of the research tool and the suitability of the data that had been gathered for further examination. Table 3 below shows the findings.

Table 3: *Reliability Analysis*

Statement	No of Respondents	Cronbach's Alpha	Remarks
Performance of the Preferential Procurement in Kwale county	13	0.911	Adequate
E-Sourcing	13	0.861	Adequate
E-Tendering	13	0.945	Adequate
E-Ordering	13	0.821	Adequate
E-Informing	13	0.747	Adequate

4. Findings and Discussion

4.1. Descriptive Statistics for Electronic Tendering Practice

The study examined the impact of electronic tendering on the performance of preferential procurement in the government of Kwale County. The study evaluated the county's use of electronic tendering as a result. The responses were scored using a Likert scale of 5 points, with 1 signifying "strongly disagree" and 5 signifying "strongly agree." Statements labeled "strongly disagree" and "disagree" had mean scores ranging from 0 to 2.5 and were considered to not be agreed upon. Statements classified as "neutral" were those with a mean score between 2.6 and 3.4 and were rated as neither agreed with nor disagreed with. A response of "agree" or "strongly agree" was deemed to be appropriate for statements with a mean score between 3.5 and 5. The results are shown in Table 4 in their entirety.

Table 4: *Descriptive Statistics for Electronic Tendering Practice*

Statement	SD	D	N	A	SA	Mean	Std. Dev.
The county has electronic system that informs young people, people with disabilities, and other underrepresented categories of suppliers about tender opportunities.	1.8	9.8	16.1	27.7	44.6	4.04	1.08
The county government sends tender specification electronically	8.9	18.8	55.4	17	0	2.80	0.83
The county has web portals allow suppliers to submit their bids electronically.	0	15.2	35.7	42	7.1	4.13	0.92
The county communicates price information electronically with the suppliers taking part in the tender.	1.8	0.9	25	58.9	13.4	3.81	0.74
We publish tender materials electronically for simple download.	1.8	0.9	25	41.1	31.3	3.99	0.88
Supplier replies to the tender are sent to us electronically.	1.8	27.7	27.7	32.1	10.7	2.73	1.04
Average						3.380	0.748

Table 4, findings reveal that Kwale County's county government has a web portal that enables suppliers to submit their bids electronically (Mean = 4.13, SD = 0.920) and a system that notifies young people, people with disabilities, and other underrepresented categories of suppliers about tender opportunities (Mean = 4.04, SD = 1.08). The county also publishes the tender materials electronically for easy download (Mean = 3.99, SD = 0.88), and it also sends price information to the suppliers participating in the tender electronically (Mean = 3.81, SD = 0.74). The Kwale County Government does not, however, have a system that allows it to send or receive supplier responses electronically (Mean = 2.80, SD = 0.83).

The implementation of electronic tendering is generally moderately satisfactory, according to the overall mean of 3.380. This indicates that while the county government has adopted some Electronic tendering procedures, there is still room for improvement. The variability or dispersion of the data points around the mean is represented by the standard deviation, which is 0.748. The fact that the standard deviation was so low in this instance suggests that the participants' responses or assessments of the implementation of electronic tendering were not greatly varied. This suggests that the respondents generally agree that the level of implementation is moderate.

4.2. Descriptive Statistics for Electronic Sourcing Practice

The study examined the effect of Electronic Sourcing Practice on the performance of preferential procurement in the government of Kwale County. The responses were scored using a Likert scale of 5 points, with 1 signifying "strongly disagree" and 5 signifying "strongly agree." Statements labeled "strongly disagree" and "disagree" had mean scores ranging from 0 to 2.5 and were considered to not be agreed upon. Statements classified as "neutral" were those with a mean score between 2.6 and 3.4 and were rated as neither agreed with nor disagreed with. A response of "agree" or "strongly agree" was deemed to be appropriate for statements with a mean score between 3.5 and 5.

Table 5: *Descriptive Statistics for Electronic Sourcing Practice*

Statement	SD	D	N	A	SA	Mean	Std. Dev.
The county employs modern technology to source suppliers in category of women, youth, and supplier from PWD.	2.7	4.5	2.7	58	32.1	4.13	0.871
The county uses modern technologies to electronically communicate with young, female, or disabled suppliers.	2.7	12.5	55.4	29.5	0	4.09	0.812
The county has electronic system that categorize suppler according to the service or product offered.	2.7	0.9	13.4	25.9	57.1	4.34	0.935
The county electronically assesses the capability of suppliers that are women, young, or have disabilities.	0	11.6	23.2	39.3	25.9	3.79	0.960
The county has modern technologies that locate suppliers.	1.8	55.4	39.3	1.8	1.8	2.49	0.753
The county has effective technology that electronically search for new supplier for a particularly service or product	4.5	3.6	30.4	38.4	23.2	3.72	1.006
Average						**3.367**	**0.812**

Table 5, findings revealed Kwale County Government uses modern technology to find suppliers in the categories of women, youth, and PWD suppliers (Mean = 4.13, SD=0.871), to electronically communicate with young, female, or disabled suppliers (Mean = 4.09, SD=0.812), and to have an electronic system that categorizes suppliers based on the service or product offered (Mean = 4.34, SD=0.935). Additionally, the county conducts an electronic evaluation of the qualifications of suppliers who are female, young, or disabled (Mean = 3.79, SD = 0.960), as well as an electronic search for new suppliers for a given service or good (Mean= 3.72, SD = 1.06). The Kwale County Government, however, lacks contemporary tools for locating suppliers (Mean = 2.49, SD =.960).

In general, the county government of Kwale is moderately using electronic sourcing, which can improve access to county procurement opportunities for youth, women, and PWF suppliers, as shown by the overall mean of 3.367 and standard deviation of.812. Additionally, the standard deviation of 0.812 indicates some variation in the degree of electronic sourcing implementation across various county government departments. This variation suggests that while some departments may have more sophisticated electronic sourcing procedures than others, some may still need to make improvements. Additionally, it suggests that there is room for electronic sourcing initiatives to develop and grow throughout the county government.

The statement also emphasizes the potential advantages of electronic sourcing, particularly in terms of expanding access to employment opportunities for PWD suppliers and suppliers from underrepresented groups like women and minorities. By lowering entry barriers, boosting competition, and ensuring equal access to information and the bidding process, electronic sourcing can contribute to the development of a more open and inclusive procurement environment (Afolabi et al., 2022). The county government of Kwale can promote economic empowerment and diversity within the local business community by utilizing electronic platforms to enable greater participation of youth, women, and PWD suppliers in county procurement.

4.3. Descriptive Statistics for Electronic Informing Practice

The study investigated the effect of Electronic Informing Practice on the performance of preferential procurement in the government of Kwale County. The responses were scored using a Likert scale of 5 points, with 1 signifying "strongly disagree" and 5 signifying "strongly agree." Statements labeled "strongly disagree" and "disagree" had mean scores ranging from 0 to 2.5 and were considered to not be agreed upon. Statements classified as "neutral" were those with a mean score between 2.6 and 3.4 and were rated as neither agreed with nor disagreed with. A response of "agree" or "strongly agree" was deemed to be appropriate for statements with a mean score between 3.5 and 5.

Table 6: *Descriptive Statistics for Electronic Informing Practice*

Statement	SD	D	N	A	SA	Mean	Std. Dev.
The county has an electronic system that gathers data about experiences of supplier.	0	4.5	40.2	30.4	25	3.76	0.883
The county compiles data on former customers of suppliers electronically.	1.8	19.6	40.2	38.4	0	3.13	0.854
To evaluate the caliber of goods or services offered by suppliers, the county electronically looks for references.	1.8	21.4	19.6	50.9	6.3	3.24	0.896
The county communicates with pertinent suppliers electronically.	1.8	2.7	28.6	40.2	26.8	3.88	0.902
Online, the county electronically distributes pricing and other pertinent data.	2.7	0	47.3	20.5	29.5	3.86	0.769
Average						**3.174**	**0.812**

The county government of Kwale, according to descriptive statistics in Table 6, has an electronic system that collects information about supplier experiences (Mean = 3.76, SD = 0.883), communicates with relevant suppliers electronically (Mean = 3.88, SD = 0.902), and electronically distributes pricing and other relevant data (Mean = 3.86, SD = 0.769). However, Kwale County Government has moderately adopted a number of electronic informational practices, such as electronically compiling data on former clients of suppliers and assessing the quality of the goods or services offered by suppliers by looking for references.

Electronic informing was generally implemented to a limited extent in the county government of Kwale, as shown by the overall mean of 3.174 and standard deviation of 0.812. The overall mean of 3.174 indicates that, generally speaking, there is not much use of electronic informing practices. This indicates that electronic information dissemination methods have not been fully adopted or integrated into county government operations. The variability or dispersion of the data points around the mean is represented by the standard deviation, which is 0.812. The relatively high standard deviation in this instance indicates that participant responses to or evaluations of the implementation of electronic informing were quite fragmented.

This suggests that respondents' views or experiences regarding the prevalence of electronic informing practice within the county government may vary. The term "electronic informing" describes the dissemination of information to stakeholders using electronic platforms and technologies. To disseminate important information to citizens, businesses, and other relevant parties, it can include techniques like email notifications, online portals, and digital communication channels (Haryono, 2022).

The county government of Kwale may be lacking ability to effectively use electronic methods of communication and information sharing given the low extent of electronic informing implementation. This might have an impact on how open, accessible, and effective government procedures are. The results indicate that the county government of Kwale is currently only partially implementing electronic informing practices. By filling this gap, we can improve communication and governance processes by investing in electronic information dissemination methods.

4.4. Descriptive Statistics for Electronic Ordering Practice

The study investigated the effect of Electronic Ordering Practice on the performance of preferential procurement in the government of Kwale County. The responses were scored using a Likert scale of 5 points, with 1 signifying "strongly disagree" and 5 signifying "strongly agree." Statements labeled "strongly disagree" and "disagree" had mean scores ranging from 0 to 2.5, and were considered to not be agreed upon. Statements classified as "neutral" were those with a mean score between 2.6 and 3.4 and were rated as neither agreed with nor disagreed with. A response of "agree" or "strongly agree" was deemed to be appropriate for statements with a mean score between 3.5 and 5.The study's fourth goal was to investigate how Electronic ordering affected the efficiency of preferential procurement in Kenya's devolved structure of government. The results are shown in Table 7.

Table 7: *Descriptive Statistics for Ordering Practice*

Statement	**SD**	**D**	**N**	**A**	**SA**	**Mean**	**Std. Dev.**
The county utilizes electronic methods for procuring our products and services.	40.2	2.7	39.3	2.7	17.9	2.96	0.953
The county electronically place orders for goods and services we need.	17	46.4	34.8	1.8	0	2.44	0.758
The county electronically request receipts for payment of the goods and services we receive.	0.9	8.9	54.5	35.7	0	3.94	0.688
The county handles suppliers' invoices electronically through our processing system.	8	0	55.4	35.7		4.11	1.043
The county electronically initiates payments to our suppliers.	17	8	17	25.9	32.1	3.48	1.446
The county Electronic approvals are conducted for purchase requests.	7.1	14.3	29.5	18.8	30.4	3.51	1.259
Average						**3.541**	**0.856**

According to Table 7's findings, the county government of Kwale has a moderately implemented Electronic ordering system, which handles suppliers' invoices electronically and requests receipts for payment. The overall mean score of 3.541 denotes a level of implementation that is average, and the standard deviation of 0.856 denotes a level of response variation that is moderate. The electronic processing of supplier invoices received the highest mean score (4.11), out of all the electronic ordering components. This suggests that the county government has used electronic systems to manage supplier invoices with a fair amount of success, potentially resulting in increased efficiency and accuracy in invoice processing.

For electronically requesting receipts for payment of goods and services received, a mean score of 3.94 (SD = 0.688) was obtained, which was the second-highest mark. This suggests that the county government has advanced significantly in the use of electronic techniques for processing payment receipt requests and requests, pointing to a move toward a more streamlined and automated payment system. However, some areas have lower levels of implementation, according to the findings. The average score for electronic approvals of purchase requests was 3.51 (SD = 1.259), which indicates a moderate level of implementation but more variation in respondents' answers. This

suggests that although some purchase requests are approved electronically, there may be room for consistency and standardization improvements. A mean score of 2.96 (SD = 0.953) demonstrates the county government's low use of electronic methods for procuring goods and services. This indicates that electronic procurement techniques are not widely used which could result in inefficiencies and prolonged processing times when acquiring essential goods and services. Likewise, placing orders for goods and services online received the lowest mean score (2.44; SD = 0.758). This suggests that implementing electronic systems for placing orders will be very difficult for the county government, possibly leading to labor-intensive manual procedures.

4.5. Descriptive Statistics for Preferential Procurement Performance

The study also aimed to evaluate the performance of preferential procurement in Kenya's devolved system of governance. The findings in Table 8 outline various aspects of the county's initiatives to encourage marginalized groups, including women, young people, and people with disabilities (PWD), to participate in government procurement opportunities.

Table 8: *Descriptive Statistics for Preferential Procurement Performance*

Statement	SD	D	N	A	SA	Mean	Std. Dev.
The county has increased the proportion of PWD, women and youth suppliers participating in government procurement opportunities.	3.6	16.1	38.4	42.0	0.0	3.89	0.833
The county has successfully put into place a preferential procurement system.	27.7	43.8	28.6	0.0	0.0	2.01	0.753
The county support Marginalized groups in their performance of tenders they are awarded.	14.3	7.1	18.8	25.0	34.8	3.59	1.399
The number of bids chosen for the special group category is in line with the county's suggested 30% of the overall procurement budget.	5.4	14.3	29.5	24.1	26.8	3.53	1.185
The county ensures that PWD, women and youth are aware of the available procurement opportunities in the county The county has increase prequalification of PWD, women and youth suppliers	0.0	42.9	28.6	25.9	2.7	2.78	0.867
Average						**3.415**	**0.865**

Table 8 findings on the performance of preferential procurement in Kwale County revealed majority of respondents, as indicated by the mean score of 3.89, believe that the county has made progress toward increasing the percentage of PWD, women, and young suppliers participating in government procurement opportunities. Although there was some variation in responses, as indicated by the standard deviation of 0.833, the perception was generally positive. The county generally supports marginalized groups in their performance of contracts they are awarded, as shown by the mean score of 3.59.The higher standard deviation of 1.399, however, indicates greater variability in responses, suggesting that some respondents may have felt their support was insufficient while others may have received better help. According to the findings, the number of bids selected for the special group category matches the county's recommended 30% of the total procurement budget. The county appears to meet this budget allocation on average, as indicated by the mean score of 3.53 and standard deviation of 1.185. Although there is some variability, the higher standard deviation

suggests that there may be room for improvement in ensuring consistent adherence to the budget allocation. The county has, on average, slightly increased the prequalification of PWD, women, and young supplier, according to the mean score of 3.82.

The finding states that the number of bids chosen for the special group category aligns with the county's suggested 30% of the overall procurement budget. With a mean score of 3.53 and a standard deviation of 1.185, it suggests that, on average, the county is relatively successful in meeting this budget allocation. However, the higher standard deviation indicates some variability, implying that there may be room for improvement in ensuring consistent adherence to the budget allocation. The mean score of 3.82 suggests that, on average, the county has slightly increased the prequalification of PWD, women, and youth suppliers. Although there was some variation in responses, as indicated by the standard deviation of 0.867, the perception was generally positive.

Overall, Table 8 findings show that the county has improved the percentage of underrepresented groups participating in government procurement opportunities and prequalifying PWD, female and young supplier suppliers. However, there is still room for improvement in terms of encouraging underrepresented groups to perform well in tenders, ensuring that they are aware of the opportunities for procurement, and putting in place a system of preferential procurement. The county's efforts to promote the inclusion of marginalized groups in public procurement appear to have generated a moderate level of satisfaction, as indicated by the overall mean score of 3.415 and standard deviation of 0.867.

4.6. Correlation Analysis between Electronic Procurement Practice and Preferential Procurement Performance

Pearson Product Moment Correlation Analysis was employed to assess the importance, strength, and direction of the associations between distinct pairs of variables. This analysis sought to ascertain how much the independent variable, electronic procurement, would affect the dependent variable, preferential procurement performance. In the analysis, the independent variables were contrasted in addition to their relationship to the dependent variable.

Table 9: *Summary of Pearson's Correlations*

		Preferential Procurement Performance	E-Sourcing Practice	E-Tendering Practice	E-Ordering Practice	E-Informing Practice
Preferential Procurement Performance	Pearson Correlation	1				
	Sig. (2-tailed)	1				
E-Sourcing Practice	Pearson Correlation	.731**				
	Sig. (2-tailed)	0.000	1			
E-Tendering Practice	Pearson Correlation	.697**	.615**			
	Sig. (2-tailed)	0.000	0.000	1		

E-Ordering Practice	Pearson Correlation	.716**	.752**	.588**		
	Sig. (2-tailed)	0.000	0.000	0.000	1	
E-Informing Practice	Pearson Correlation	.621**	.604**	.590**	.475**	
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	1

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

According to the results in Table 9, each of the independent variable has a positive relationship with the performance of preferential procurement. Particularly, the findings revealed an important and positive relationship (r = 0.765, p = 0.00) between electronic sourcing and the performance of preferential procurement. This link had a statistically significant correlation (p = 0.00, p 0.01) at a 5% level of confidence. In a similar vein, the study discovered a positive association (r = 0.705, p = 0.00) between the performance of preferential procurement and electronic tendering.

Additionally, a positive correlation between electronic ordering and the performance of preferential procurement was found (r = 0.695, p = 0.000). This association was also shown to be statistically significant (p = 0.000, p =0.01) at a 5% level of confidence. Finally, a weakly positive correlation (r = 0.688, p = 0.000) between the use of electronic informing and preferential procurement was discovered.

4.7. Regression Analysis of Electronic Procurement Practice on Performance of Preferential Procurement in Kwale County government

Regression analysis was done in order to create a framework that shows the relationship between the performance of preferential procurement and the independent variable, which is made up of the elements of electronic procurement practices. The goal of the regression study was to assess the degree to which the independent variables, such as electronic tendering practice, electronic sourcing practice, electronic informing practice, and electronic ordering practice, might predict the dependent variable.

4.7.1 Model Summary

The outcomes of a multiple regression analysis are presented in Table 10 model summary.

Table 10: *Model Summary of Electronic Procurement Practice*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.827a	0.683	0.671	0.470

a Predictors: (Constant), E-informing, E-Ordering, E-Tendering, E-Sourcing

The four electronic procurement practices namely electronic sourcing, electronic tendering, electronic ordering, and electronic informing were found to be responsible for 68.3 percent of the variation in the performance of preferential procurement. The performance variability of preferential procurement is significantly described by these electronic procurement variables, as evidenced by the coefficient of determination (R squared = 0.68).

4.7.2. Analysis of Variance (ANOVA)

Table 11: *ANOVA (F-Test) Analysis for Electronic Procurement Practice on Performance of Preferential Procurement*

	Sum of Squares	df	Mean Square	F	Sig.
Regression	51.072	4	12.768	57.688	.000b
Residual	23.682	107	0.221		
Total	74.754	111			

a Dependent Variable: PPP performance b Predictors: (Constant), Electronic Informing, Electronic Ordering, Electronic Tendering, Electronic Sourcing

According to the results of the ANOVA test, the independent variables (electronic sourcing practice, electronic tendering practice, electronic ordering practice, and electronic informing practice) statistically significantly predicted the the performance of preferential procurement, F (4, 107) = 57.688, p< .05 and R2 =0.68.

4.7.3. Coefficients of Estimate

A stepwise regression model which regulated how each of the variables pretentious the e-procurement on performance of preferential procurement is displayed in Table 12. All unstandardized beta coefficients were noteworthy, representing a positive influence of all the independent variables to the dependent variable.

Table 12: *Coefficient of Estimate*

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	0.305	0.228		1.334	0.185
Electronic Tendering	0.303	0.083	0.276	3.637	0.000
Electronic Sourcing	0.236	0.094	0.234	2.521	0.013
Electronic Informing	0.179	0.074	0.177	2.43	0.017
Electronic Ordering	0.281	0.082	0.294	3.444	0.001

a Dependent Variable: PPP performance

Table 12 findings revealed that electronic tendering considerably and favorably influenced Kwale County's performance in preference procurement (β =0.303, p< 0.05). The performance of preferential procurement in this instance is increased by 0.303 units for every one unit more if e-tendering is used. This positive correlation shows that preferential procurement performance in Kwale County tends to improve as electronic tendering activities rise. The results are consistent with earlier research by Abdullahi and Bala (2022), which found that electronic tendering is essential for a number of stages of the tendering process, including tender notification, electronic submission, evaluation, opening, and awarding of tenders in the context of public procurement in Nigeria. Additionally, it backs up the findings of Mehdipoor et al. (2022), who discovered that the Malaysian construction industry's implementation of electronic tendering increased production and efficiency. Similar to this, Sandanayake, et al. (2022) connected Sri Lanka's public procurement process's e-tendering systems

with accountability, transparency, corruption reduction, cost reduction, reduce paperwork, and speed up the process.

The performance of preferential procurement in Kwale County was positively and significantly influenced by electronic sourcing practice with (β =0.234, $p< 0.05$). As a result, for every unit increase of electronic sourcing practice, Kwale County's performance in terms of preferential procurement increases by 0.234 units. Supporting evidence for the conclusions is provided by Monai (2022), who claims that electronic sourcing enables businesses to manage the complete procurement life cycle efficiently. This involves tasks like analyzing asset costs, looking at cost-cutting options, and utilizing data from external markets, negotiating and managing supply contracts, and keeping track of them. Electronic sourcing streamlines vendors into a single system, allowing for simple comparison and improving procurement administration. In a similar vein, Engelbrecht-Wiggans and Katok (2016) suggest that electronic sourcing can be a holistic solution that digitally streamlines every step of the procurement process, thereby increasing overall efficiency. The conclusions are in line with those of other investigations carried out by Candela and Ulises (2022) in Argentina, Jules (2022) in Rwanda, and Hajir (2021) in Kenya. Candela and Ulises found that Buenos Aires manufacturing companies perform better when they use electronic sourcing. The results support Johnson (2014) claim that e-sourcing solutions add value by cutting spend expenses, optimizing operations, and facilitating new company development. Felines (2014) assert that electronic sourcing goes beyond choosing a website where providers and buyers can communicate. Additionally, it improves flexibility, streamlines procedures, and promotes transparency in the relationship between the buyer and the seller. Furthermore, Dooley (2016) provides an explanation of e-sourcing as an electronic business site for conducting international advertising of goods and services and reinventing the strategy used by businesses to manage their supply chains. E-sourcing, whether done so through an online auction, a virtual buying community, or an electronic catalogue, is becoming one of the most efficient and quick ways for businesses to improve the performance of preference procurement since it reduces prejudice against certain suppliers.

Findings indicated that electronic informing practice considerably influence the performance of preferential procurement in Kwale County based on coefficients of estimate with a significant with (β =0.177, $p< 0.05$). According to this, the performance of preferential procurement may increase by up to 0.177 units for every unit increase in electronic informing practice. The outcomes are consistent with those of Mwangi (2019), Mwangi and Kagiri (2016), and Kioko and Mwangangi (2017) found similar results, indicating that electronic informing significantly influenced procurement performance and was positively correlated with it.

For electronic ordering practice, the coefficients of estimate were (β =0.294, $p< 0.05$) indicate that this practice considerably influence Kwale county's performance in preferential procurement. This implies that for every unit increase in electronic ordering practice, preference procurement performance may increase by up to 0.294 units. The current study's findings concur with those of Mutangili (2019), whose investigation demonstrated that electronic ordering significantly improves procurement performance. In a similar vein, Hair et al. (2019) suggested using electronic ordering to keep businesses' procurement systems operating.

Finally, Electronic ordering had coefficients of estimate (β =0.294, p< 0.05) suggest that Electroni ordering practice significantly influences the performance of preferential procurement in Kwale county. This suggests that there is up to 0.294 unit increase in preferential procurement performance for each unit increase in Electronic ordering. The findings of the current study align with the research conducted by Mutangili (2019), which showed that e-ordering has a significant positive impact on procurement efficiency. Similarly, Hair et al. (2019) recommended the utilization of e-ordering to sustain the procurement systems of firms. According to a study by Ahmad, Aljafari, and Venkatesh (2019), which supports these conclusions, large businesses have embraced electronic ordering and procurement in huge numbers. Furthermore, Gichuhi (2021) discovered a strong correlation between electronic ordering and the GDC's (Global Development Company) success in terms of procurement. Furthermore, Mogere (2021) discovered that the efficient use of electronic ordering improved the performance of the supply chain in sugar factories.

From table 12, the linear regression model for Performance of Preferential Procurement in Kwale County government,

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Where,

$Y =$ performance of preferential procurement

$\beta_0 =$Constant; $X_1 =$ E-tendering; $X_2 =$ E-sourcing; $X_3 =$ E-informing;$X_4 =$ E-ordering

Performance of Preferential Procurement in Kwale County government, Y= 0.305+ 0.303E-tendering practice + 0.236 E-Sourcing practice+ 0.179 E-Informing practice+ 0.281E-ordering practice

5. Conclusion and Recommendations

The study aimed to assess the influence of various electronic procurement practices on the performance of preferential procurement within the government of Kwale County. Findings revealed noteworthy progress in the implementation of e-tendering, e-sourcing, e-informing, and e-ordering practices, albeit with varying degrees of success. In terms of e-tendering, while the county has instituted a web portal for electronic bid submissions and has systems for alerting underrepresented suppliers, it lacks a comprehensive mechanism for sending tender specifications electronically. Similarly, while e-sourcing and e-informing practices are moderately adopted, they show significant promise for improving preferential procurement performance, as evidenced by correlation and regression analyses. E-ordering practices, although partially implemented, also exhibit a positive correlation with the effectiveness of electronic procurement.

Therefore, it is recommended that the county government of Kwale take immediate steps to fully integrate these electronic procurement practices. Specifically, attention should be directed towards the development and implementation of systems for sending electronic tender specifications and receiving supplier replies, as these areas have been identified as needing improvement. Capacity-building initiatives should be undertaken to train procurement teams and other stakeholders on modern electronic procurement

methods, with the aim of standardizing practices across all departments. This is essential for improving overall efficiency and effectiveness in preferential procurement practices.

For future research, a broader investigation that encompasses other counties and different public sectors would be beneficial. Additionally, an in-depth analysis of the impact of individual components of these electronic procurement practices on the performance of preferential procurement could provide more granular insights. Finally, given the rapidly evolving technological landscape, studies should be conducted to evaluate the potential impact of emerging technologies on electronic procurement practices and preferential procurement performance.

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