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Digital Procurement Systems and Performance of State Corporations in Nairobi City County Kenya

[1*]Edith Wanjiru Wairimu, [2]Dr. Elizabeth Wachiuri

[1]Masters Student, Jomo Kenyatta University of Agriculture and Technology

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

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ABSTRACT

Purpose: The study sought to determine the influence of e-tendering platforms and e-invoicing systems on performance of state corporations in Nairobi City County Kenya. This study was anchored by Diffusion of Innovations (DOI) Theory and Resource-Based View (RBV).

Methodology: The study employed a descriptive research design. The study targeted a total of 276 respondents comprising of 46 top managers, 92 middle level managers and 138 lower-level managers. The sampling frame for this study was all 46 state corporations in Nairobi City County. The sample for this study was arrived at using the Slovin's sample size determination formula for categorical data. This study used simple random sampling to select 163 respondents. This study collected primary using structured questionnaires. The study used both descriptive and inferential statics for data analysis. Data analysis was done with the help of Statistical Package for Social Sciences (SPSS) computer software version 28. The study results were presented through use of tables and figures.

Findings: The study concludes that e-tendering platforms have a positive and significant effect on performance of state corporations in Nairobi City County Kenya. The study concludes that e-invoicing systems have a positive and significant effect on performance of state corporations in Nairobi City County Kenya.

Unique Contribution to Theory, Practice and Policy: Based on the findings, the study recommends that state corporations in Kenya should enhance the adoption and effective utilization of e-tendering platforms to streamline tendering processes, improve transparency, widen access to qualified suppliers, and reduce procurement costs and processing time.

Key Words: *Digital Procurement Systems, E-Tendering Platforms, E-Invoicing Systems, State Corporations*

Background of the Study

State corporations are government-established entities created to carry out specific commercial, administrative, or regulatory functions on behalf of the state. They operate with a degree of autonomy but remain under government oversight and control, often established by legislation or executive order (Hallikas, Immonen & Brax, 2021). These corporations aim to provide public services, manage resources, or undertake development projects that serve national interests, balancing public accountability with operational efficiency. Examples include national utilities, transport agencies, and development authorities (Jayawardhena & Jayaratne, 2020). State corporations play a vital role in the development and functioning of many countries, particularly in areas where private sector involvement is limited or where public interest needs to be safeguarded (Masudin, *et al*, 2021). One of their primary roles is to deliver essential services that may not be profitable but are crucial for the welfare of the public, such as water supply, electricity, and transportation. By managing these services, state corporations help ensure accessibility, affordability, and reliability, which are often difficult to guarantee through purely private enterprises (Sigulem & Zucchi, 2022).

Additionally, state corporations contribute significantly to economic development by undertaking large-scale projects that require substantial capital and long-term planning, such as infrastructure development, natural resource management, and industrial production (Kumar, Aziz & Khan, 2023). These projects often stimulate economic growth, create employment opportunities, and enhance national capacity. Furthermore, state corporations can act as instruments of government policy, implementing social and economic objectives, such as promoting regional development or supporting strategic industries, thus aligning business activities with national priorities (Mojaki, Tuyikeze & Nkanyiso, 2024). Another important aspect of state corporations is their role in regulating or controlling critical sectors to protect public interest. For example, in sectors like telecommunications, energy, and finance, state corporations help maintain market stability, ensure fair pricing, and prevent monopolistic practices. They also serve as a tool for the government to generate revenue and reinvest profits into further public projects or social programs (Sarpong, *et al*, 2020).

Digital procurement systems are technology-driven platforms that streamline and automate the purchasing process within organizations. These systems leverage software tools to manage sourcing, supplier selection, purchase orders, invoicing, and payment workflows electronically, enhancing efficiency, transparency, and control over procurement activities (Baruti, Lwoga & Komba, 2023). By integrating data analytics, real-time tracking, and collaboration features, digital procurement systems help businesses reduce costs, minimize errors, and improve supplier relationships while ensuring compliance with policies and regulations (Chukwuebuka, 2025). E-tendering platforms automate the tendering process by allowing organizations to issue, receive, and evaluate bids electronically, which enhances efficiency, reduces paperwork, and supports fair

competition by providing a secure and standardized tender environment (Nyaboe, Maendo & Okello, 2025). E-invoicing systems digitize the invoicing and payment process, allowing for electronic submission, validation, and processing of invoices. This not only accelerates invoice approval and payment but also improves financial control and auditability (Kitewan & Mackoka, 2021). This study sought to assess the influence of digital procurement systems on performance of state corporations in Nairobi City County Kenya.

State corporations in Nairobi City County, Kenya, play a critical role in providing essential services, driving economic growth, and implementing government policies. As the capital city and economic hub of Kenya, Nairobi hosts the headquarters of numerous state corporations spanning various sectors including health, transport, finance, housing, and infrastructure (Nyaboe, Maendo & Okello, 2025). These corporations operate under the oversight of relevant ministries and regulatory bodies, and many are instrumental in the implementation of national and county development goals. One of the notable characteristics of state corporations in Nairobi is their involvement in infrastructure and urban development (Kituzi, 2022). Organizations such as the Kenya Urban Roads Authority (KURA) and the National Housing Corporation (NHC) have offices in Nairobi and contribute to the planning and execution of urban transport networks, road maintenance, and affordable housing projects. These corporations are essential to supporting Nairobi's rapidly growing population and the associated demand for modern urban amenities (Kitewan & Mackoka, 2021).

In the health sector, state corporations like Kenyatta National Hospital and the National Hospital Insurance Fund (NHIF) are central to public healthcare delivery. Kenyatta National Hospital, being the largest referral and teaching hospital in the region, provides specialized healthcare services to thousands of patients daily (Ndei & Mutuku, 2023). NHIF, with its headquarters in Nairobi, plays a vital role in managing health insurance for millions of Kenyans, offering subsidized healthcare access for both formal and informal sector workers. The financial and regulatory landscape in Nairobi is also shaped by several state corporations (Rasto & Kibet, 2024). Key institutions like the Central Bank of Kenya (CBK), Kenya Revenue Authority (KRA), and Capital Markets Authority (CMA) are based in the city. These organizations regulate financial institutions, ensure compliance with tax laws, and manage the country's monetary policy. Their presence in Nairobi underscores the city's position as the financial nucleus of Kenya (Nyaboe, Maendo & Okello, 2025).

However, state corporations in Nairobi also face numerous challenges. Issues such as bureaucratic inefficiencies, corruption, underfunding, and overlapping mandates sometimes hinder their effectiveness (Kituzi, 2022). There have been calls for restructuring and better governance to enhance transparency and service delivery. Recent reforms aim to streamline operations, reduce redundancy, and promote performance-based management practices (Kitewan & Mackoka, 2021).

Statement of the Problem

State corporations play a critical role in the socio-economic development of Kenya. These entities are established by the government to provide essential services, generate revenue, promote industrial growth, and implement strategic national policies across various sectors such as energy, transport, health, education, and agriculture (Ndei & Mutuku, 2023). In Nairobi City County, which serves as the country's commercial and administrative hub, state corporations contribute significantly to employment creation, infrastructure development, and innovation. Their effective performance is therefore essential not only for public service delivery but also for the overall economic stability and growth of the nation (Rasto & Kibet, 2024).

A report by the Public Procurement Regulatory Authority (PPRA) indicated that many state corporations experienced procurement delays of up to 30% beyond planned timelines due to manual processes and inadequate coordination among departments. These delays hinder timely completion of infrastructure projects and other public services, causing frustration among stakeholders and increasing operational costs (Kitewan & Mackoka, 2021). According to a 2020 survey by the Kenya Institute of Public Policy Research and Analysis (KIPPRA), over 40% of state corporations reported receiving goods or services that did not meet specified standards, impacting the overall effectiveness of their operations. This undermines public trust and leads to wastage of public resources, further complicating efforts to deliver quality public services (Rasto & Kibet, 2024). A 2021 Kenya National Bureau of Statistics (KNBS) report found that only 55% of citizens expressed satisfaction with the services provided by state corporations, highlighting gaps in responsiveness and service standards. The lack of a streamlined procurement system exacerbates this problem by causing delays in resource availability and service provision, leading to dissatisfaction among users of public services (Kituzi, 2022).

Digital procurement systems streamline procurement processes through automation, enhance transparency, reduce operational costs, and minimize procurement-related fraud and delays. Digital procurement enables real-time tracking of procurement activities, improves supplier management, and facilitates data-driven decision-making (Ndei & Mutuku, 2023). Various studies have been conducted in different parts of the world on digital procurement systems organization performance. For instance, Kitewan and Mackoka (2021) conducted a study on the effect of digital procurement systems implementation on the performance of devolved system of government. Kituzi (2022) examined on the influence of digital procurement systems on organizational performance and Nyaboe, Maendo and Okello (2025) assessed on digital procurement systems and performance in the County Government. However, none of these studies focused on e-tendering platforms and e-invoicing systems on performance of state corporations in Nairobi City County Kenya. To fill the highlighted gaps, the current study sought to assess the influence of digital procurement systems (e-tendering platforms and e-invoicing systems) on performance of state corporations in Nairobi City County Kenya.

Objectives of the Study

General Objective

The general objective of the study is to assess the influence of digital procurement systems on performance of state corporations in Nairobi City County Kenya

1.3.1 Specific Objectives

This study was guided by the following specific objectives

i. To determine the influence of e-tendering platforms on performance of state corporations in Nairobi City County Kenya
ii. To establish the influence of e-invoicing systems on performance of state corporations in Nairobi City County Kenya

Theoretical Framework

Diffusion of Innovations (DOI) Theory

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

The theory also emphasizes five key factors influencing the adoption rate of an innovation: relative advantage (how much better the innovation is compared to current options), compatibility (how well it fits with existing values and practices), complexity (how difficult it is to understand or use), trialability (the opportunity to test it before full adoption), and observability (how visible the results are to others) (Rotich, Muma & Waruguru, 2021). Innovations that score well on these factors tend to spread more quickly. Diffusion of Innovations Theory provides valuable insight into how change occurs in societies and how to facilitate the successful uptake of new ideas (Gichuhi & Waruguru, 2020). This theory was used to determine the influence of e-tendering platforms on performance of state corporations in Nairobi City County Kenya.

Resource-Based View (RBV)

The Resource-Based View (RBV) theory founded by Barney (1991) is a strategic management framework that focuses on the internal resources and capabilities of a firm as sources of competitive advantage (Kivijärvi, Hallikainen & Penttinen, 2020). At its core, RBV posits that a firm's unique bundle of resources and capabilities can enable it to achieve sustainable competitive advantage and superior performance in the marketplace. Unlike traditional strategic management approaches that primarily focus on external factors such as market dynamics and industry structure, RBV emphasizes the importance of internal factors in determining a firm's success. RBV theory entails identifying and leveraging a firm's distinctive resources and capabilities to create value and achieve strategic objectives (Socoliuc, 2024). Resources can include tangible assets such as physical infrastructure, financial capital, and technology, as well as intangible assets such as human capital, intellectual property, organizational culture, and reputation. These resources are considered valuable if they enable the firm to exploit opportunities or neutralize threats in the external environment. Capabilities, on the other hand, refer to the firm's ability to effectively deploy and utilize its resources to perform specific activities and achieve desired outcomes (Mutunga & Makhamara, 2020). This theory was used to establish the influence of e-invoicing systems on performance of state corporations in Nairobi City County Kenya.

Conceptual Framework

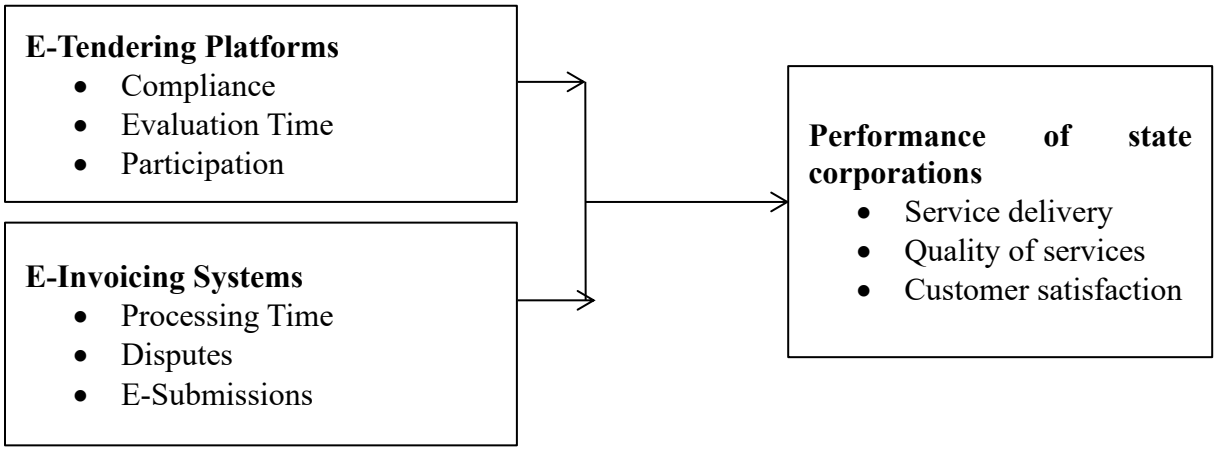


Figure 1: Conceptual Framework

E-Tendering Platforms

E-Tendering platforms are online systems that enable organizations to manage the entire tendering process electronically, from publishing tender notices and receiving bids to evaluating proposals and awarding contracts (Funlade & Yusuf, 2020). These platforms streamline the traditionally paper-based tender process by providing a centralized, transparent, and secure environment where buyers can invite suppliers to submit competitive offers, while suppliers can respond efficiently and track the progress of their submissions. By automating and digitizing tender activities, e-tendering platforms help reduce administrative costs, minimize errors, improve compliance with procurement regulations, and increase overall efficiency and fairness in public and private sector purchasing (Laryea & Eziyi, 2020). E-tendering platforms play a critical role in ensuring compliance with procurement laws, policies, and regulations. These systems enforce standardized processes that help organizations adhere to legal requirements such as transparency, fairness, and equal opportunity for all suppliers. By digitizing documentation and maintaining detailed audit trails, e-tendering platforms provide clear records of every step in the tender process, which is essential for accountability and regulatory reviews. Automated validation checks can also flag incomplete or non-compliant submissions, reducing the risk of errors or fraud. This structured approach helps organizations avoid legal disputes and penalties, while building trust with suppliers and stakeholders (Rotich, Muma & Waruguru, 2021).

One of the major advantages of e-tendering platforms is the reduction of evaluation time during the tender process (Gichuhi & Waruguru, 2020). Traditionally, reviewing bids could be time-consuming and prone to human error, especially when dealing with large volumes of complex proposals. E-tendering platforms offer tools that automate and standardize the evaluation process, such as scoring systems, comparison matrices, and weighted criteria assessments. These features enable evaluators to quickly and objectively assess supplier bids based on pre-defined metrics, improving consistency and speed. By shortening evaluation times, organizations can make faster decisions, accelerate project timelines, and respond more effectively to market demands or urgent needs. E-tendering platforms significantly enhance supplier participation by making it easier for vendors to access tender opportunities and submit bids electronically (Gathima & Njoroge, 2020). The platforms remove geographical and logistical barriers often associated with traditional tendering methods, allowing a broader and more diverse group of suppliers to compete. Many platforms provide user-friendly interfaces, clear submission guidelines, and support tools to help suppliers prepare their proposals accurately and efficiently. Increased participation fosters healthy competition, which can lead to better pricing, higher quality offers, and innovative solutions. For buyers, a wider pool of participants improves market reach and increases the likelihood of finding suppliers that best meet their requirements (Funlade & Yusuf, 2020).

E-Invoicing Systems

E-Invoicing systems are digital platforms that automate the creation, sending, receiving, and processing of invoices electronically between buyers and suppliers (Kivijärvi, Hallikainen & Penttinen, 2020). These systems replace traditional paper-based invoicing by enabling invoices to be generated in a standardized electronic format, ensuring faster, more accurate, and secure transactions. E-Invoicing systems facilitate real-time validation, reduce manual data entry errors, improve compliance with tax regulations, and accelerate payment cycles. By integrating with accounting and enterprise resource planning (ERP) systems, they streamline financial workflows, enhance transparency, and improve overall efficiency in the invoicing and payment process (Socoliuc, 2024). E-invoicing systems significantly reduce processing time by automating the receipt, validation, and approval of invoices. Unlike traditional paper or email-based invoicing methods, where manual handling and data entry can cause delays, e-invoicing enables instant electronic transmission, and automated workflows. This speeds up invoice matching against purchase orders and delivery receipts, allowing for quicker verification and approval. Faster processing not only improves cash flow management for suppliers through timely payments but also helps buyers manage their accounts payable more efficiently, reducing bottlenecks and administrative overhead (Mutunga & Makhamara, 2020).

Disputes over invoice accuracy or payment terms are common challenges in procurement and finance departments (Chegugu, 2020). E-invoicing systems help minimize such disputes by enforcing standardized invoice formats and integrating validation checks that detect errors or inconsistencies before invoices are processed. The digital trail and transparent workflows provide clear documentation, making it easier to identify the root cause of any discrepancies and resolve them promptly. Additionally, automated communication tools within the system facilitate faster collaboration between buyers and suppliers to address and settle disputes, improving supplier relationships and reducing costly delays Onyiego and Bichanga (2020). E-submissions refer to the electronic delivery of invoices and related documents through e-invoicing platforms. This method streamlines the invoicing process by allowing suppliers to submit invoices directly into buyers' systems in a structured, machine-readable format. E-submissions eliminate the need for paper, fax, or manual email attachments, reducing the risk of lost or misplaced invoices. They also support compliance with tax authorities' requirements for digital record-keeping and reporting in many countries. By enabling seamless and secure electronic exchanges, e-submissions enhance accuracy, speed, and auditability in financial transactions (Kivijärvi, Hallikainen & Penttinen, 2020).

Empirical Review

E-Tendering Platforms and Organization Performance

Funlade and Yusuf (2020) conducted a case study on the effect of performance features of electronic tendering systems, in Greece. The approach taken in this study was as follows: compile a list of e-tendering features found in brochures of existing e-tendering platforms and supplement by those adapted from the literature , consolidate the compiled list of features using a panel of experts to review the list, and apply Kano model to classify the features with particular emphasis on performance features. Four experts were consulted, two procurement specialists from the industry and two academics from higher education institution. Collectively the experts have an average experience of 25 years. From the results of the Kano analysis, the performance features of an e-tendering system were identified. Led that the participants perceived as performance features a significant percentage of the e-tendering system's design features presented to them. It was also established that some of the features are not perceived to contribute to user satisfaction. The study concluded that majority of the features were classified as performance features whilst none is deemed as Must-be features.

Laryea and Eziyi (2020) conducted a study on the effect of e-tendering in the South African construction industry. Therefore, this research investigated the state of e-tendering in the South African construction industry using data derived from an online questionnaire survey involving 593 respondents, and oral interviews with selected construction clients, professional consultants, contractors and supply chain managers conducted in 2014 in South Africa. The findings revealed that the main benefits were reduction in transaction cost, and turnaround time of the tendering process, while the barriers to e-tendering in construction were slow Internet connectivity; resistance to change; expensive Internet services; and the inability of small-, medium- and micro-sized enterprises (SMMEs) to afford the technology, training and skills needed to engage in e-tendering. The report concluded by suggesting ways for ensuring a critical mass uptake of e-tendering and maximizing its benefits in the South African construction industry.

Rotich, Muma and Waruguru (2021) conducted a study on the effect of relationship between e-tendering and procurement performance among county governments in Kenya. The study adopted a correlational research design. The target population for this study was employees of Kericho County while the sample frame was purposively selected to constitute 120 employees working in procurement, finance and accounts and IT departments of Kericho County. Stratified sampling was used to determine the sample size after while the sample elements were selected through simple random sampling. Data was collected by use of structured questionnaires that were issued by the researcher and collected later for analysis. The results revealed that e-tendering is positively related with performance of supply chain function of County Governments in Kenya. The test found that there was a significant association between E-Tendering and the Procurement Performance of county governments in Kenya, hence, suggesting

that E-Tendering was crucial to the success of the Procurement Performance of county governments in Kenya. These findings concluded that e-tendering has remarkably improved the tendering process through its merits such as efficiency, transparency and cost effectiveness.

Gichuhi and Waruguru (2020) conducted a study on the influence of e-tendering process on procurement performance in geothermal development company in Nakuru, Kenya. A descriptive research design was adopted in this study. The target population of this study was the procurement and logistics department's staff in GDC Nakuru region which was 170 in total. Multi-stage sampling method was used where 97 respondents were selected as the study respondents. This study relied on primary data collected by use of questionnaires. The study established that e-tendering had positive significant relationship with procurement performance in geothermal development company and therefore concluded that it has a significant influence on procurement performance. Regression analysis indicated that e-tendering did not have a significant contribution on the variation in procurement performance in geothermal development company. The study concluded that, in order to enhance procurement performance, e-tendering is not a major consideration.

Gathima and Njoroge (2020) conducted a study on effects of e-tendering on organization performance in public sector: a case of Nairobi city county government. The study utilized the descriptive research design and explanatory design. The target population comprised 750 respondents drawn from the finance, payment and information technology department. The study sample comprised 75 respondents selected from the three departments using stratified random sampling technique. The data was collected through the administration of the questionnaires to the selected sample. The study established that E-tendering practices at the Nairobi City Government involved suppliers posting their bids electronically, tender specification and documents sent online, receipt of tender responses electronically, and tender notices conveyed to the public electronically The study concluded that E-tendering practices adopted by the Nairobi City County Government such as suppliers posting their bids electronically, tender specification and documents sent online, receipt of tender responses electronically, and tender notices conveyed to the public electronically had positive and significant relationship with the performance.

E-Invoicing Systems and Organization Performance

Kivijärvi, Hallikainen and Penttinen (2020) conducted a study on the effect of supporting the supplier scheduling decisions in the e-invoicing implementation projects - an application of the ANP method in Finland. Since the problem involves a lot of interconnected decision making criteria, the ANP method is considered suitable for this type of decision problem. As the result of analysis, the priorities between the suppliers are computed and the results can be applied to schedule the e-invoicing implementations among the supplier companies. The study concluded

that developed an ANP model to aid the buyer company in prioritizing suppliers for managing its electronic invoicing project

Socoliuc (2024) conducted a study on the effect of e-invoicing system in the accounting professionals' view - empirical research in Nigeria. Thus, through the questionnaire, we aimed to obtain information on the level of familiarization with the e-invoicing concept, perceived benefits, obstacles encountered in the implementation of this system, as well as the level of readiness and interest in adopting e-invoices. The results obtained can provide useful guidance and information for the state and regulatory bodies that can use them in order to optimize the use of e-invoices in the public and private sector in Nigeria. In conclusion, the implementation of e-invoicing in Nigeria leads to a greater transparency of contracts between economic agents, with effects on the efficiency of the whole process, improving the flow of information and facilitating administrative processes

Mutunga and Makhamara (2020) conducted a study on the effect of e-invoicing and the performance of small and medium enterprises in Nairobi city county Kenya. The study used structured questionnaires to collect data. Secondary data was used to supplement the primary data. Data was gathered from journals, reports, web sources and other relevant publications. The study found that e-invoicing has a significant influence on SMEs performance within Nairobi, Kenya. The study concluded that e-invoicing has positive as well as significant influence on SMEs performance within Nairobi County.

Chegugu (2020) conducted a study on the effect of e-invoicing and organizational performance. Is e-invoicing significant. Evidence from selected public hospitals in Uasin Gishu County, Kenya. The study employed a descriptive survey of 5 hospitals. The sample size was 367 respondents. Questionnaires were the main types of data collection tools. The study findings will be of great significance to Uasin Gishu County Hospitals as it was deemed to shed light on how e- invoicing practices could have affected the performance of the supply chain; to hospitals in other counties. The study concluded that based on e-invoicing, most responses stated that the adoption of e-invoicing was able to indicate charges from purchasers to suppliers

Onyiego and Bichanga (2020) conducted a study on the influence of e-invoicing strategies in enhancing customer service delivery in public institutions (a survey of Kisii and Nyamira Counties). The study used descriptive survey method. A descriptive survey is a method of collecting information by interviewing or administering a questionnaire to a sample of individuals. The findings led to a conclusion that e-invoicing strategy enhances customer service delivery in public institutions. Invoicing is done online in the public institutions. From the findings, it was concluded that e-payment strategy of suppliers enhances customer service delivery in public institutions.

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RESEARCH METHODOLOGY

Research Design

Kothari (2018) defines research design as an outline of the actual measures, adopted by an investigator for testing the correlation involving dependent variables as well as independent variables. The study employed a descriptive research design. This design is pertinent in "developing the profile of a situation and a community of people by getting complete and accurate information through an interaction between the researcher and the respondent via data collection tools" (Kothari & Garg, 2019).

Van Manen (2019) states that a descriptive research design as a data collection method from which a sample of individuals being investigated using research instruments by use of data collection instrument which has both the closed-ended and open-ended questions, interviews and observations. It is one of the most widely used non-experimental research designs across disciplines to collect large amounts of survey data from a representative sample of individuals sampled from the targeted population. This study design is applicable in the study area since it makes it easy to collect data from the study participants in the state corporations.

Target Population

Mugenda and Mugenda (2019), defines a population an entire group of individuals, events or objects having common observable, and a target population is one which the researcher seeks to base the study's findings. The study targeted state corporations in Nairobi. According to The State Corporations Advisory Committee (SCAC) (2019), there are 46 state corporations in Nairobi. The unit of analysis was therefore the 46 state corporations in Nairobi while the unit of observation was the management employees working in the state corporations. The study therefore targeted a total of 276 respondents comprising of 46 top managers, 92 middle level managers and 138 lower-level managers.

Table 1: Target Population

Category	Target Population
Top Managers	46
Middle Level Managers	92
Lower-Level Managers	138
Total	**276**

Sample Frame

A sampling frame is defined as the list of cases from which a sample can be selected (Kothari, 2016). It's a list of people in the study's population from whom a random sample can be taken (Kothari & Garg, 2019). The sampling frame for this study was all 46 state corporations in Nairobi.

Sample Size and Sampling Procedure

A sample is a representative of certain known percentage, frequency distributions of elements' characteristics similar to the corresponding distributions within the whole population (Kasomo, 2017). The sample for this study was arrived at using the Slovin's sample size determination formula for categorical data.

$$n = \frac{N}{1 + N\partial^2}$$

Where: N represents target population;

n represents sample size;

∂ represents significance level (0.05), at 95% confidence level;

Therefore, N=141

Then $n = \frac{276}{1+(276*0.05^2)} = \mathbf{163.31}$

n=163

According to Burns and Grove (2019), sampling is the process of selecting a group of people, events, or behaviors to examine. Sampling is used when it is not possible to include the whole population in a study (Cooper & Schindler, 2019). This study used simple random sampling to select 163 respondents.

Data Collection Instrument

This study collected primary using structured questionnaires. According to Kothari (2019), a questionnaire is a cost-effective means of gathering information, especially from a large group of respondents, and it permits anonymity. Questionnaires are made up of a series of particular, concise questions that the interviewer asks verbally or that the respondents answer independently (Bryman, 2019). Closed-ended questions were used to gather quantitative data, providing structured response options that can be analyzed statistically. This approach allows for the measurement of specific variables and enables numerical analysis and comparisons.

Pilot Study

Pilot study was administered in order to test for validity, reliability and practicability of the research instruments. The most important issue in the research is to ensure reliability and validity. Joppe (2019) defines reliability as: The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable. According to Bashir, (2019), validity refers to the extent to which a test measures what it is supposed to measure and the extent to its truthfulness, accuracy, authenticity, genuineness, or soundness, whether the means of measurement are accurate and whether they are actually measuring what they are intended to measure. The pilot study was carried out on 20 respondents who are sufficient based on Glesne (2019) who stated that 10% of the population is adequate to constitute the pilot test size.

Data Analysis and Presentation

The collected data was coded then analyzed using Statistical Package for Social Sciences (SPSS) computer software version 22. The choice of the software is influenced by its ability to appropriately create graphical presentation of questions, data reporting, presentation and publishing. SPSS is also able to handle large amount of data and it is purposefully designed for social; sciences.

Descriptive statistics was used to analyze the data in frequency distributions and percentages which was presented in tables and figures. Discussions and presentations of the analyzed data were done in tables of frequency distribution, percentages, bar graphs and pie charts. Measures of dispersion were used to provide information about the spread of the scores in the distribution. The study also adopted multiple regression analysis to test the relationships between the variables. Statistically, analysis was carried out using the models.

$$\mathbf{Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon}$$

Where:

Y= Performance of state corporations in Nairobi City County Kenya

X is the set of the four independent variables, that is;

X_1- e-tendering platforms

X2- e-invoicing systems

β_i ($_{i=1,2}$) are the parameters associated with the corresponding independent variable that are to be estimated (partial regression coefficients)

β_0 is the intercept;

ε is the error variability (error term)

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

Response Rate

The sample size for the study comprised 163 respondents, of whom 20 were selected for the pilot test. The remaining 143 respondents were administered questionnaires during the main data collection exercise. Of the 143 questionnaires distributed, 116 were fully completed and returned, resulting in a response rate of 81.1%. Kothari (2019) argues that a response rate which is more than 50% is considered adequate while excellent response rate is usually above 70%. This implies that the response rate in this research is good for making conclusions as well as recommendations.

Descriptive Statistics

E-Tendering Platforms and Organization Performance

The first specific objective of the study was to determine the influence of e-tendering platforms on performance of state corporations in Nairobi City County Kenya. The respondents were requested to indicate their level of agreement on various statements related to e-tendering platforms and performance of state corporations in Nairobi City County Kenya. The results were as shown Table 2.

Table 2: E-Tendering Platforms and Organization Performance

	Mean	Std. Deviation
All procurement procedures on the platform are transparent and auditable.	3.866	0.790
The platform enforces standardized documentation and submission requirements.	3.851	0.818
Automation on the platform speeds up the evaluation and decision-making process.	3.844	0.572
The evaluation process is more organized and efficient through the use of the platform.	3.832	0.691
The e-tendering platform encourages broader participation from potential bidders.	3.824	0.619
Access to tender opportunities is easy and inclusive through the platform.	3.806	0.798
Aggregate	**3.837**	**0.715**

From the results, the respondents agreed that all procurement procedures on the platform are transparent and auditable (M=3.866, SD= 0.790). In addition, the respondents agreed that the platform enforces standardized documentation and submission requirements (M=3.851, SD= 0.818). Further, the respondents agreed that automation on the platform speeds up the evaluation and decision-making process (M=3.844, SD=0.572).

From the results, the respondents agreed that the evaluation process is more organized and efficient through the use of the platform (M=3.832, SD= 0.691). In addition, the respondents agreed that the e-tendering platform encourages broader participation from potential bidders (M=3.824, SD= 0.619). Further, the respondents agreed that access to tender opportunities is easy and inclusive through the platform (M=3.806, SD=0.798).

E-Invoicing Systems and Organization Performance

The second specific objective of the study was to establish the influence of e-invoicing systems on performance of state corporations in Nairobi City County Kenya. The respondents were requested to indicate their level of agreement on various statements related to e-invoicing systems and performance of state corporations in Nairobi City County Kenya. The results were as shown Table 3.

Table 3: E-Invoicing Systems and Organization Performance

	Mean	Std. Deviation
The e-invoicing system reduces the time required to process invoices.	3.824	0.704
Invoices are approved and paid faster through the electronic system.	3.817	0.624
The system provides clear tracking and documentation to help resolve invoice disputes quickly.	3.792	0.511
The dispute resolution process is more efficient through the use of the e-invoicing platform	3.784	0.835
The system allows for easy and secure electronic submission of invoices.	3.766	0.821
Suppliers can submit invoices remotely without delays or paperwork.	3.735	0.674
Aggregate	**3.786**	**0.695**

From the results, the respondents agreed that the e-invoicing system reduces the time required to process invoices (M=3.824, SD= 0.704). In addition, the respondents agreed that invoices are approved and paid faster through the electronic system (M=3.817, SD= 0.624). Further, the respondents agreed that the system provides clear tracking and documentation to help resolve invoice disputes quickly (M=3.792, SD=0.511).

From the results, the respondents agreed that the dispute resolution process is more efficient through the use of the e-invoicing platform (M=3.784, SD= 0.835). In addition, the respondents agreed that the system allows for easy and secure electronic submission of invoices (M=3.766, SD= 0.821). Further, the respondents agreed that suppliers can submit invoices remotely without delays or paperwork (M=3.735, SD=0.674).

4.5.5 Organization Performance

The respondents were requested to indicate their level of agreement on various statements related to performance of state corporations in Nairobi City County Kenya. The results were as shown Table 4.

Table 4: Organization Performance

	Mean	Std. Deviation
The state corporation delivers its services in a timely and efficient manner.	3.796	0.806
The corporation is responsive to the needs and inquiries of its stakeholders.	3.785	0.657
The services provided by the corporation meet high professional and operational standards.	3.758	0.888
Staff members are knowledgeable and competent in delivering quality services.	3.707	0.838
Customer complaints and concerns are handled effectively and fairly.	3.695	0.661
The corporation maintains a positive reputation among service users.	3.684	0.854
Aggregate	**3.738**	**0.784**

From the results, the respondents agreed that the state corporation delivers its services in a timely and efficient manner (M=3.796, SD= 0.806). In addition, the respondents agreed that the corporation is responsive to the needs and inquiries of its stakeholders (M=3.785, SD= 0.657). Further, the respondents agreed that the services provided by the corporation meet high professional and operational standards (M=3.758, SD=0.888).

From the results, the respondents agreed that staff members are knowledgeable and competent in delivering quality services (M=3.707, SD= 0.838). In addition, the respondents agreed that customer complaints and concerns are handled effectively and fairly (M=3.695, SD= 0.661). Further, the respondents agreed that the corporation maintains a positive reputation among service users (M=3.684, SD=0.854).

Inferential Statistics

Inferential statistics such as correlation analysis and regression analysis were used to assess the relationships between the independent variables (e-tendering platforms and e-invoicing systems) and the dependent variable (performance of state corporations in Nairobi City County Kenya).

Correlation Analysis

This research adopted Pearson correlation analysis determine how the dependent variable (performance of state corporations in Nairobi City County Kenya) relates with the independent variables (e-tendering platforms and e-invoicing systems).

Table 5: Correlation Coefficients

		Organization Performance	E-Tendering Platforms	E-Invoicing Systems
Organization Performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	116		
E-Tendering Platforms	Sig. (2-tailed)	.003		
	N	116		
	Pearson Correlation	.861**	1	
	Sig. (2-tailed)	.000		
	N	116	116	
E-Invoicing Systems	Sig. (2-tailed)	.002	.017	
	N	116	116	
	Pearson Correlation	.853**	.247	1
	Sig. (2-tailed)	.001	.082	
	N	116	116	116

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

From the results, there was a very strong relationship between e-tendering platforms and performance of state corporations in Nairobi City County Kenya (r = 0.861, p value =0.000). The relationship was significant since the p value 0.000 was less than 0.05 (significant level). The findings are in line with the findings of Funlade and Yusuf (2020) who indicated that there is a very strong relationship between e-tendering platforms and organization performance.

The results also revealed that there was a very strong relationship between e-invoicing systems and performance of state corporations in Nairobi City County Kenya (r = 0.853, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings are in line with the findings of Socoliuc (2024) who indicated that there is a very strong relationship between e-invoicing systems and organization performance.

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (e-tendering platforms and e-invoicing systems) and the dependent variable (performance of state corporations in Nairobi City County Kenya).

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.831	.691	.690	.10428

a. Predictors: (Constant), e e-tendering platforms and e-invoicing systems

The model summary was used to explain the variation in the dependent variable that could be explained by the independent variables. The r-squared for the relationship between the independent variables and the dependent variable was 0.691. This implied that 69.12% of the variation in the dependent variable performance of state corporations in Nairobi City County Kenya) could be explained by independent variables (e-tendering platforms and e-invoicing systems).

Table 7: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	122.116	2	61.058	126.414	.002[b]
	Residual	54.618	113	.483		
	Total	176.734	115			

a. Dependent Variable: performance of state corporations in Nairobi City County Kenya

b. Predictors: (Constant), e-tendering platforms and e-invoicing systems

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 126.414 while the F critical was 3.077. The p value was 0.002. Since the F-calculated was greater than the F-critical and the p value 0.002 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of e-tendering platforms and e-invoicing systems on performance of state corporations in Nairobi City County Kenya.

Table 8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.277	0.072		3.847	0.000
	e-tendering platforms	0.366	0.096	0.367	3.813	0.000
	e-ordering systems	0.340	0.091	0.341	3.736	0.002
	e-invoicing systems	0.358	0.094	0.357	3.809	0.001

a Dependent Variable: performance of state corporations in Nairobi City County Kenya

The regression model was as follows:

$$\mathbf{Y = 0.277 + 0.366X_1 + 0.358X_2 + \varepsilon}$$

According to the results, e-tendering platforms has a significant effect on performance of state corporations in Nairobi City County Kenya β1=0.366, p value= 0.000). The relationship was considered significant since the p value 0.000 was less than the significant level of 0.05. The findings are in line with the findings of Funlade and Yusuf (2020) who indicated that there is a very strong relationship between e-tendering platforms and organization performance

In addition, the results revealed that e-invoicing systems has a significant effect on performance of state corporations in Nairobi City County Kenya β1=0.358, p value= 0.001). The relationship was considered significant since the p value 0.001 was less than the significant level of 0.05. The findings are in line with the findings of Socoliuc (2024) who indicated that there is a very strong relationship between e-invoicing systems and organization performance.

CONCLUSION AND RECOMMENDATIONS

Conclusions

The study concludes that e-tendering platforms have a positive and significant effect on performance of state corporations in Nairobi City County Kenya. Findings revealed that compliance, evaluation time and participation influence performance of state corporations in Nairobi City County Kenya. The study concludes that e-invoicing systems have a positive and significant effect on performance of state corporations in Nairobi City County Kenya. Findings revealed that processing time, disputes and e-submissions influence performance of state corporations in Nairobi City County Kenya.

Recommendations

The study recommends that state corporations in Kenya should enhance the adoption and effective utilization of e-tendering platforms to streamline tendering processes, improve transparency, widen access to qualified suppliers, and reduce procurement costs and processing time. The study also recommends that state corporations in Kenya should strengthen the adoption and utilization of e-invoicing systems to improve the accuracy and timeliness of invoice processing, reduce paperwork and administrative costs, and minimize billing errors.

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