



E-PROCUREMENT ADOPTION AND PERFORMANCE OF COMMERCIAL STATE CORPORATIONS IN KENYA

¹Ngugi Peter Ngige, ²Dr. Ndeto Charles

¹Masters Student, Jomo Kenyatta University of Agriculture and Technology

²Lecturer, Jomo Kenyatta University of Agriculture and Technology

ABSTRACT

Commercial state corporations in Kenya play a vital role in the national economy by providing essential services and contributing to infrastructure development. However, commercial state corporations in Kenya face a myriad of challenges that hinder their operational effectiveness and overall performance. The overall objective of the study is to establish effects of e-procurement adoption on performance of commercial state corporations in Kenya. Specifically, the study sought to ascertain how e-informing affects performance of commercial state corporations in Kenya, to determine the effect of e-sourcing on performance of commercial state corporations in Kenya, to establish how e-tendering affects performance of commercial state corporations in Kenya and to determine to what extent does e-ordering affect performance of commercial state corporations in Kenya. For this study, descriptive research design was utilized. The target population comprised of 46 Commercial state corporations (SCAC, 2023). The unit of analysis was therefore the 46 commercial state corporations while the unit of observation was the management employees working in the state corporations. The study therefore targeted a total of 368 respondents comprising of 46 top managers, 138 middle level managers and 184 lower-level managers. The study's sample size was reached at using Krejcie and Morgan sample size determination formula. Using the formula, the sample size for the study was 188 respondents. This study used primary data collected using a semi-structured questionnaire. Statistical Package for Social Sciences (SPSS) was used to analyze the data. Descriptive and inferential statistics were computed and findings presented in tables and figures. The study concludes that e-informing has a positive and significant effect on performance of commercial state corporations in Kenya. In addition, the study concludes that e-sourcing has a positive and significant effect on performance of commercial state corporations in Kenya. Further, the study concludes that e-tendering has a positive and significant effect on performance of commercial state corporations in Kenya. The study also concludes that e-ordering has a positive and significant effect on performance of commercial state corporations in Kenya. Based on the findings, the study recommends that the management of commercial state corporations in Kenya should invest in comprehensive training programs for employees. By ensuring that all staff members are proficient in utilizing e-informing tools and platforms, organizations can maximize the benefits of improved data accessibility, communication, and decision-making. In addition, the study recommends that the management of commercial state corporations in Kenya should implement robust supplier relationship management (SRM) practices. By fostering stronger partnerships with suppliers through regular communication, feedback mechanisms, and collaborative initiatives, organizations can enhance the quality of goods and services procured.

Key Words: E-Procurement adoption, E-Sourcing, E-Ordering, Commercial State Corporations

Background of the Study

Commercial state corporations are government-owned entities established to engage in business activities with the aim of generating revenue while serving the public interest. These corporations operate in various sectors, including energy, transport, telecommunications, and agriculture, among others. Commercial state corporations are designed to operate with a degree of autonomy and are often expected to compete in the marketplace. Their dual mandate typically involves not only achieving financial sustainability but also delivering essential services that support economic development and social welfare. Commercial state corporations play a multifaceted role in the economy and governance of a country, serving both commercial and social objectives (Gupta & Narain, 2022). One of their primary roles is to provide essential services and infrastructure that might be underprovided by the private sector. For example, in sectors like energy, transport, and telecommunications, these corporations often invest in large-scale projects that contribute to national development. By undertaking such initiatives, they help bridge gaps in service delivery, ensuring that even remote or underserved areas receive critical services that support economic activities and improve the quality of life for citizens (Marei, 2022).

Commercial state corporations stimulate economic growth and create employment opportunities. By operating in competitive markets, they not only generate revenue for the government but also contribute to job creation and skills development. These corporations often serve as a training ground for professionals in various fields, equipping them with valuable experience and expertise that can benefit the broader economy. Furthermore, their operations can drive innovation as they adopt new technologies and practices to remain competitive, thus fostering a culture of development and progress within their sectors. In addition to their economic contributions, commercial state corporations also play a vital role in implementing government policies and public welfare programs (Kumar, Khan & Aziz, 2023). They are often tasked with executing strategic initiatives that align with national development goals, such as promoting sustainability, enhancing social equity, and fostering regional development. By aligning their operations with government objectives, these corporations help ensure that public resources are utilized effectively to benefit society as a whole. Commercial state corporations are critical in promoting transparency and accountability within the public sector. Subject to regulatory frameworks and oversight mechanisms, they are required to adhere to standards that promote good governance and ethical practices. This transparency not only enhances public trust but also encourages responsible management of public funds. By demonstrating accountability in their operations, these corporations contribute to a more robust and resilient governance framework, ultimately strengthening the relationship between the state and its citizens (Masudi, 2021).

E-procurement adoption refers to the integration and utilization of electronic methods and tools in the procurement process, transforming traditional purchasing practices into digital ones. This involves the use of online platforms and software solutions to facilitate various procurement activities, such as sourcing, purchasing, contract management, and supplier management (Uba, *et al.*, 2023). E-procurement systems streamline these processes by automating tasks, reducing paperwork, and improving efficiency, thereby allowing organizations to manage their procurement functions more effectively and transparently. E-procurement adoption encompasses various components, including e-informing, e-sourcing, e-tendering, and e-ordering, each playing a critical role in streamlining procurement processes. E-informing facilitates the flow of information among stakeholders, ensuring that all parties have access to accurate and timely data related to procurement activities (Mwangata & Hapompwe, 2024). This transparency enhances decision-making and fosters collaboration, allowing organizations to align their procurement strategies with broader business goals. E-sourcing, on the other hand, involves the identification and evaluation of suppliers through electronic platforms, which can significantly increase competition and drive

down costs. By utilizing data analytics in e-sourcing, organizations can make informed decisions about supplier selection and manage relationships more effectively, ultimately leading to better value for money (Salifu, *et al*, 2023).

E-tendering and e-ordering further refine the procurement process by automating the bidding and purchasing stages. E-tendering allows organizations to manage tender submissions electronically, ensuring a transparent and standardized evaluation process that encourages fairness and competitiveness among bidders. This not only builds trust with suppliers but also helps organizations secure the best deals. Meanwhile, e-ordering simplifies the ordering process by enabling users to place and track orders digitally, reducing manual errors and accelerating the procurement cycle. By adopting these e-procurement components, organizations can enhance operational efficiency, achieve cost savings, and improve supplier relationships, contributing to overall organizational performance and agility in a rapidly changing marketplace (Abubakar, 2024). This study sought to establish effects of e-procurement adoption on performance of commercial state corporations in Kenya.

Statement of the Problem

Commercial state corporations in Kenya play a vital role in the national economy by providing essential services and contributing to infrastructure development. These entities operate in various sectors, including energy, transportation, agriculture, and telecommunications, fulfilling functions that are crucial for economic growth and social welfare. However, commercial state corporations in Kenya face a myriad of challenges that hinder their operational effectiveness and overall performance (Chebet & Kihara, 2022). One of the most pressing issues is inefficiency in service delivery, often attributed to bureaucratic processes and lack of innovation. According to a report by the Kenya Institute for Public Policy Research and Analysis (KIPPRA), approximately 60% of these corporations struggle with operational inefficiencies, which negatively impacts their ability to meet the needs of citizens and compete in the marketplace. This inefficiency can lead to delayed project completions, inflated costs, and ultimately a loss of public trust (Onsongo & Moronge, 2020).

Another significant problem is financial sustainability. Many commercial state corporations are burdened by high levels of debt, which restricts their ability to invest in critical infrastructure and services. The National Treasury of Kenya reported that as of 2022, over 40% of state corporations were operating at a loss, leading to increased reliance on government bailouts. This financial strain not only affects the corporations' ability to function effectively but also limits their capacity to innovate and respond to market demands (Samoei & Ndede, 2022). Additionally, issues such as mismanagement and lack of clear strategic direction contribute to the financial challenges faced by these entities, further complicating their role in national development. Furthermore, governance and accountability remain major concerns. Corruption and lack of transparency have been cited as significant barriers to effective operation. A survey conducted by the Ethics and Anti-Corruption Commission indicated that nearly 50% of Kenyans believe that corruption is prevalent within state corporations. This perception undermines public confidence and hampers the ability of these organizations to attract quality suppliers and partners. Together, these challenges create a complex landscape for commercial state corporations in Kenya, necessitating comprehensive reforms and strategic interventions to enhance their performance and contributions to the economy (Kamaru & Were, 2023).

E-procurement adoption significantly affects organizational performance by enhancing efficiency, reducing costs, and improving transparency throughout the procurement process. By automating procurement activities, organizations can streamline workflows, minimize manual errors, and accelerate transaction times. This efficiency translates into faster procurement cycles, allowing

organizations to respond more swiftly to market demands and operational needs (Barasa, Namusonge & Okwaro, 2020). Various studies have been conducted on e-procurement adoption and organization performance. For instance; Kamotho (2020) in Kenya conducted a study on e-procurement and procurement performance among state corporations. In Kenya, Muhia (2020) researched on adoption of e-procurement strategy and procurement performance in state corporations and Makau, (2021) in Kenya assessed on challenges facing adoption of electronic procurement in public sector. However, none of these studies focused on e-informing, e-sourcing, e-tendering and e-ordering on performance of commercial state corporations in Kenya. To fill the highlighted gaps, the current study sought to determine the effect of e-procurement adoption (-informing, e-sourcing, e-tendering and e-ordering) on performance of commercial state corporations in Kenya.

Objective of the Study

The overall objective of the study is to establish effects of e-procurement adoption on performance of commercial state corporations in Kenya

Specific Objectives

- i. To determine the effect of e-sourcing on performance of commercial state corporations in Kenya.
- ii. To what extent does e-ordering affect performance of commercial state corporations in Kenya

Theoretical Framework

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. 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 (Zhong & Wu, 2020). RBV theory entails identifying and leveraging a firm's distinctive resources and capabilities to create value and achieve strategic objectives. 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 (Banye, 2022).

The Resource-Based View (RBV) theory of strategic management is built upon several foundational assumptions that shape its approach to analyzing firm performance and competitive advantage. One key assumption of RBV is that firms are heterogeneous in terms of the resources and capabilities they possess. This means that each firm has a unique bundle of resources—both tangible and intangible—that is valuable, rare, difficult to imitate, and non-substitutable (VRIN). RBV posits that these distinctive resources and capabilities are the primary sources of sustained competitive advantage and superior performance (Kimutai, 2020). Another assumption of RBV is that firms are rational and profit-maximizing actors that seek to exploit their resources and capabilities to create value for stakeholders. RBV theory also assumes that resources are not static, but can be developed, accumulated, and leveraged over time to enhance a firm's competitive position. This implies that firms can invest in building and renewing their resource base, as well

as developing dynamic capabilities that enable them to adapt and respond effectively to changes in the external environment. Additionally, RBV assumes that markets are imperfect and that firms can earn economic rents by possessing unique resources and capabilities that are not fully captured by market prices. These rents can arise from factors such as brand reputation, customer loyalty, and proprietary technology (Namatsi, 2020).

Despite its strengths, RBV theory has faced several critiques over the years. One criticism is that RBV may be tautological or circular in its reasoning, as the concept of valuable, rare, inimitable, and non-substitutable resources (VRIN) is somewhat subjective and difficult to operationalize empirically. Critics argue that firms may achieve competitive advantage through factors other than resources and capabilities, such as market positioning or network effects. Additionally, RBV has been criticized for its limited focus on external factors and industry dynamics, such as changes in customer preferences, technological innovation, and competitive rivalry. Some scholars argue that RBV may overlook the importance of these external factors in shaping a firm's competitive position and performance (Kitewan & Machoka, 2021). Moreover, RBV theory has been criticized for its lack of prescriptive guidance on how firms can identify and develop valuable resources and capabilities. While RBV provides a useful framework for understanding the sources of competitive advantage, it offers limited practical guidance on how firms can systematically analyze their resource base and make strategic decisions to enhance their competitive position. Critics also point out that RBV may be less relevant in industries characterized by rapid technological change and disruptive innovation, where traditional sources of competitive advantage may be short-lived (Zhong & Wu, 2020). This theory is relevant in determining the effect of e-sourcing on performance of commercial state corporations in Kenya.

Transaction Cost Economics (TCE) Theory

Transaction Cost Economics (TCE) is a framework developed Oliver Williamson's in the 1970s, focusing on the costs associated with economic exchanges. At its core, TCE posits that transactions are not free; they involve various costs that can affect the structure and behavior of firms and markets. These costs include search and information costs, bargaining and decision costs, and monitoring and enforcement costs. By analyzing these transaction costs, TCE helps explain why firms exist, how they are structured, and why they choose to enter into particular contracts or organizational forms (Ukaj, Ramaj & Livoreka, 2020). A key element of TCE is the concept of bounded rationality, which suggests that individuals have limitations in their ability to process information and make fully rational decisions. This limitation can lead to uncertainties in transactions, making it difficult for parties to foresee all possible future contingencies. As a result, firms must find ways to minimize the risks associated with these uncertainties. TCE posits that firms may choose to internalize certain transactions (vertically integrate) rather than rely on external market transactions when the costs of negotiating, enforcing, and monitoring contracts are high. This decision is often influenced by the specific characteristics of the transactions involved, such as asset specificity, frequency, and uncertainty (David & Musabila, 2021).

Asset specificity is a crucial factor in TCE, referring to how specialized an asset is to a particular transaction. When investments are highly specific to a particular relationship, the parties involved may be more inclined to create a long-term contract or integrate operations to protect their investments. This is because the risk of opportunistic behavior—where one party takes advantage of the other due to an imbalance of information or power—increases when asset specificity is high. TCE thus emphasizes the importance of governance structures that can mitigate these risks, whether through hierarchical control (as in vertically integrated firms) or through well-designed contracts (Samoei & Ndede, 2021). Another significant aspect of TCE is its focus on the efficiency of different governance structures in managing transaction costs. TCE posits that firms will choose

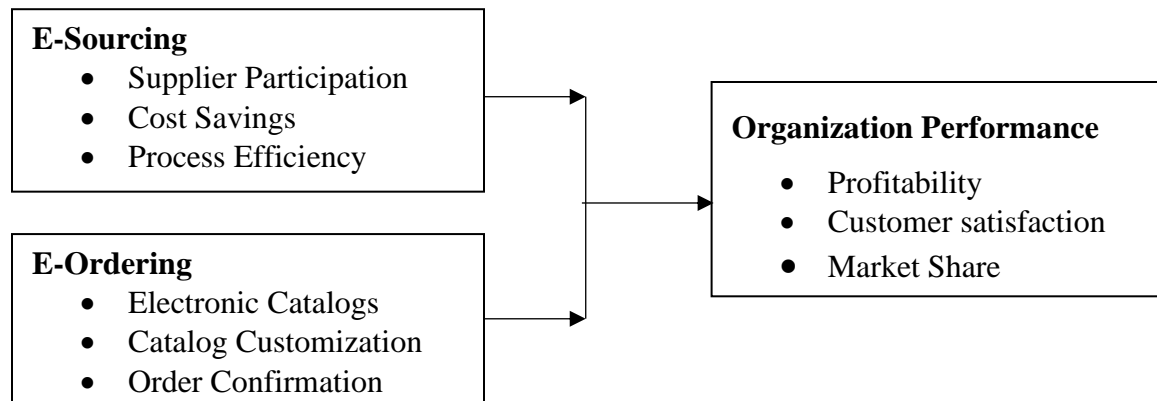
the governance structure—be it market transactions, hierarchical control, or hybrid arrangements—that minimizes transaction costs while maximizing economic efficiency. This perspective provides valuable insights into various organizational forms, such as joint ventures, alliances, and franchising, illustrating how firms strategically position themselves in response to transaction cost considerations (Barassa & Namusonge, 2020).

Transaction Cost Economics (TCE) is built on several key assumptions that shape its analysis of economic transactions. One fundamental assumption is that individuals and firms are boundedly rational, meaning they have limited cognitive resources and cannot foresee all possible outcomes in complex transactions. This bounded rationality leads to incomplete contracts, where parties cannot specify every possible future contingency. Additionally, TCE assumes that individuals act opportunistically, seeking to maximize their self-interest, which can result in behaviors that undermine trust and cooperation. This focus on opportunism suggests a certain level of skepticism about the motivations of economic actors, which may not always hold true in real-world scenarios (Ochieng, 2021).

Critiques of TCE often highlight its somewhat narrow focus on transaction costs at the expense of other important factors influencing economic behavior. Critics argue that while TCE provides valuable insights into the governance structures of firms, it may overlook the significance of social and relational factors that play a critical role in transactions. Trust, reputation, and social norms can significantly affect how parties engage in economic exchanges, but these elements are often underexplored in TCE. As a result, the theory may not fully account for situations where cooperation prevails despite the potential for opportunism. Another critique is that TCE tends to assume a somewhat static view of organizations and transactions (Ukaj, Ramaj & Livoreka, 2020). Critics argue that it does not adequately address the dynamic nature of economic environments, where firms must continuously adapt to changing market conditions, technologies, and competitive pressures. This lack of dynamism can limit the theory's applicability in rapidly evolving industries, where transaction costs may fluctuate based on external factors rather than the inherent characteristics of the transactions themselves. Additionally, TCE has been criticized for its reliance on the dichotomy between market and hierarchical governance structures. Some scholars argue that this binary framework oversimplifies the complexities of organizational forms. In reality, firms often operate in hybrid structures that combine elements of both markets and hierarchies, complicating the analysis of transaction costs and governance choices. This critique points to the need for a more nuanced understanding of the diverse ways in which firms can organize economic activity (David & Musabila, 2021). This theory is relevant in what extent does e-ordering affect performance of commercial state corporations in Kenya.

Conceptual Framework

A conceptual framework is a research tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny and to communicate this. When clearly articulated, a conceptual framework has potential usefulness as a tool to assist a researcher to make meaning of subsequent findings (Tromp & Kombo, 2019). The conceptualization of variables in academic study is important because it forms the basis of testing hypothesis and coming up with generalization in the findings of the study. The operationalization of the variables is shown in Figure 2.1.



Independent Variables

Dependent Variable

Figure 2. 1: Conceptual Framework

E-Sourcing

E-sourcing refers to the use of electronic tools and technologies to facilitate the procurement process and sourcing of goods and services (Namatsi, 2020). This encompasses a range of activities, including identifying potential suppliers, conducting sourcing events (like online auctions or tenders), managing supplier relationships, and negotiating contracts, all conducted through digital platforms (Kitewan & Machoka, 2021). E-sourcing often leverages specialized software and online marketplaces to streamline the procurement process, improve efficiency, and enhance transparency. It allows organizations to gather and analyze data more effectively, compare suppliers, and make informed purchasing decisions. By utilizing e-sourcing, businesses can reduce costs, shorten sourcing cycles, and improve the overall quality of their procurement activities (Funlade & Yusuf, 2020)

Supplier participation is a critical aspect of e-sourcing that involves engaging and encouraging suppliers to take part in the procurement process. Active participation from suppliers not only fosters competition but also enhances the diversity of options available to organizations. When suppliers are engaged, they can provide valuable insights, innovative solutions, and competitive pricing, which can significantly benefit the purchasing entity. E-sourcing platforms often include features that simplify the onboarding process, allowing suppliers to easily register and submit proposals. Additionally, transparent communication channels facilitate feedback and collaboration, ensuring that suppliers feel valued and invested in the process. High levels of supplier participation can lead to better-quality offerings and improved relationships, ultimately contributing to a more robust and dynamic sourcing environment (Laryea & Eziyi, 2020).

Cost savings is one of the most significant advantages of e-sourcing. By leveraging technology to streamline procurement processes, organizations can reduce operational costs associated with traditional sourcing methods. E-sourcing platforms enable businesses to conduct comprehensive market analyses, allowing them to identify the best suppliers and negotiate more favorable terms (Laryea & Eziyi, 2020). Features such as online auctions and competitive bidding can drive down prices, as suppliers strive to offer the best value to win contracts. Additionally, the automation of routine tasks reduces administrative overhead, freeing up resources for more strategic activities. Ultimately, the ability to achieve significant cost reductions while maintaining quality is a compelling reason for organizations to adopt e-sourcing strategies (Rotich, Muma & Waruguru, 2021).

Process efficiency in e-sourcing refers to the streamlined and automated workflows that enhance the speed and effectiveness of procurement activities. Traditional sourcing methods can often be

time-consuming and cumbersome, involving extensive paperwork and manual coordination. In contrast, e-sourcing utilizes digital tools to automate tasks such as supplier selection, document management, and bid comparisons (Gichuhi & Waruguru, 2020). This not only accelerates the procurement cycle but also minimizes errors and redundancies. Enhanced data analytics capabilities allow organizations to make quicker, data-driven decisions, leading to a more agile procurement process. Moreover, e-sourcing platforms often provide real-time updates and insights, enabling stakeholders to monitor progress and address issues proactively. Overall, improved process efficiency not only saves time but also contributes to better resource allocation and increased responsiveness to market changes (Gathima & Njoroge, 2020).

E-Ordering

E-tendering refers to the electronic process of soliciting bids and proposals from suppliers for goods or services through online platforms (Ukaj, Ramaj & Livoreka, 2020). This digital approach streamlines the traditional tendering process by allowing organizations to create, issue, and manage tender documents electronically. Key features of e-tendering include the ability to publish tender notices, receive and evaluate bids, and communicate with suppliers all within a digital environment. It enhances transparency and competition by providing equal access to all potential bidders and often incorporates tools for bid comparison and analysis (David & Musabila, 2021). Electronic catalogs are digital repositories that provide detailed information about a company's products or services, typically organized in an easily navigable format. These catalogs allow customers and procurement teams to browse offerings online, view specifications, pricing, and availability, and often include multimedia elements like images and videos. The use of electronic catalogs streamlines the purchasing process by enabling users to access a comprehensive range of products from any location, at any time. This accessibility not only enhances user experience but also facilitates faster decision-making as customers can quickly compare options and make informed choices. Additionally, electronic catalogs can be integrated with e-commerce platforms, allowing for seamless ordering and inventory management, thus further optimizing procurement processes (Samoei & Ndede, 2021).

Catalog customization refers to the ability to tailor electronic catalogs to meet specific needs and preferences of different users or groups. This could involve personalizing product listings, filtering options, or even adjusting pricing based on user roles or purchase history. Customization enhances the relevance and usability of catalogs, making it easier for users to find what they need quickly. For organizations, offering tailored catalogs can improve customer satisfaction and foster stronger relationships by addressing individual preferences and requirements. Additionally, customized catalogs can reflect branding elements and specific promotions, ensuring that users receive a cohesive and engaging experience. The flexibility of catalog customization ultimately leads to more efficient procurement processes, as users can quickly access the most pertinent information for their purchasing decisions (Barassa & Namusonge, 2020).

Order confirmation is a critical step in the procurement process, signaling that a purchase order has been successfully received and accepted by the supplier. In the context of electronic catalogs, this confirmation often occurs automatically through the digital platform, providing immediate reassurance to the buyer (Ochieng, 2021). An effective order confirmation includes details such as order number, items purchased, quantities, pricing, estimated delivery dates, and payment terms. This transparency is crucial for both parties, as it minimizes misunderstandings and sets clear expectations (Barassa & Namusonge, 2020). Additionally, automated confirmations can streamline record-keeping and improve order tracking, as users can easily reference past orders and statuses. By ensuring prompt and detailed order confirmations, organizations can enhance customer confidence and maintain smooth operations in their procurement activities (Ochieng, 2021).

Empirical Review

E-Sourcing and Organization Performance

Zhong and Wu (2020) researched on E-Sourcing: Impact of Bidding Behavior and Non-Price Attributes. The study used a conceptual model of non-price attributes, bidding behavior and auction outcome. The researcher examined in detail reverse auctions of a major buyer in the high-tech industry during 2002-2004. Their data was unique as it not only captures the entire auction history, but also records data of post auction cost savings calculation and final contract awarding decision, which are critical events in e-sourcing. The data covers bidding history of 233 contracts from 36 auctions; 106 suppliers submitted a total of 3,206 bids. The findings showed that the distribution of bidding strategies is mediated by non-price attributes. More importantly, non-price attributes, in conjunction with bidding strategies, have a significant impact on the auction outcome, as measured by the supplier's final bid, the buyer's cost savings and the supplier's contract winning probability. The study concluded that, While that was a common challenge in studying procurement auctions, their proxy (supplier type, relationship and previous reverse auction experience) seems to be able to pick up the key difference of non-price attributes among suppliers reasonably well.

Banye (2022) researched on the effects of e-procurement practices on supply chain performance: the moderating role of supplier integration. Descriptive Survey research method was used in this study and the study collected data from top level managers from procurement and supply chain departments in Ghana Health Service. The researcher used stratified sampling method to sample the procurement manager and supply chain manager, using simple random sampling. Questionnaires were used as research tools for the study. The study findings indicated that e-procurement practices and supplier integration positively and significantly influence the organizations supply chain performance. The findings also indicated that a greater percentage of the variability in supply chain performance is predicted by e-procurement practices. In addition In addition, the study also found that increasing e-procurement practices by one-unit improved supply chain performance. The study therefore came to the conclusion that e-procurement practices and supplier integration had positive and significant impact on supply chain performance.

Kimutai (2020) conducted a case study on the role of strategic e-sourcing practices on supply chain performance in state corporations in Kenya: a case of Kenya electricity generating company Ltd. The study was a cross-sectional survey and an analysis of purchasing activities in state corporations at given period. The target population in this study included staff in top level management, supply chain, ICT, Finance and customer service at Kenya Generating Co. Ltd drawn from the one hundred and eighty seven (187) state corporations. The study found that Organization cost reduction is important in customer service, return on investment and total cost while organization cost reduction is slightly important in impacting return on investment and speed of delivery. The study confirmed that there exist a short term between Kengen and its suppliers, Kengen has a relatively stable relationship with its suppliers. The study concluded that supply chain risk management is another aspect of strategic E-sourcing practices that affects the supply chain performance of organizations.

Namatsi (2020) examined the e-purchasing practices and operational performance of commercial state corporations in Kenya. The study used descriptive research design in analyzing the variables. A sample frame of 30 commercial state corporations was selected from a population of 197. The primary data was collected using a self-administered questionnaire. The study found out that e-purchasing practice which included e-reverse auctioning, e-collaboration, e-sourcing, e-administration and e-tendering was used by commercial State Corporations at a moderate extent

In relation to e- reverse auctioning practice, the study found out that commercial state corporation is using e-reverse auction at a moderate extent, which also applies e- collaboration practices and e-sourcing practices in its procurement functions. On e-administration, the study found out that majority of commercial state corporations in great extent are using e-administration practices in their procurement operational. The study concluded that there is e-purchasing practiced and operational performance had a positive relation.

Kitewan and Machoka (2021) conducted a case study on the effect of e-procurement implementation on the performance of devolved system of government in Kenya. Descriptive research design was adopted. The population from which data was collected encompass employees working in 10 departments from the selected counties (Nairobi county, Kiambu county, Machakos County and Kajiado county). Pre-tested questionnaires were used to collect data from this sample with a bias towards employees whose operations involve interaction with the E-procurement systems. The study findings showed that e-tendering has a positive and significant effect on performance of devolved system of government in Kenya. In addition, the study found that e-sourcing has a positive and significant effect on performance of devolved system of government in Kenya. Further, the study found that staff training has a positive and significant effect on performance of devolved system of government in Kenya. The study also concluded that supplier capacity has a positive and significant effect on performance of devolved system of government in Kenya.

E-ordering and Organization Performance

Ukaj, Ramaj and Livoreka (2020) researched on the impact of e-business on activity extension and business performance. The data utilized in this study was obtained from survey. In total of 60 questionnaires accepted as valid out of 80 distributed. The study result shows that e-business has a significant positive impact on activity extension and the performance of business in Kosovo. The findings also revealed that there is a correlation between the various online marketing strategies and consumer satisfaction. The development of e-business for Kosovo is an important factor in participation in the world market, where there is a growing need for innovation and modernization of business. The development of e-business for Kosovo is an important segment of connecting with the world and an important factor in participation in the world market, where there is a growing need for innovation and modernization of business due to the rapid growth of competition. Managers need to be aware of the "opportunities" and "risks" of a company in the market on time, and they should constantly evaluate the level and impact of competition activities. Marketing strategies should be the basis for determining the market position and positioning of the company. The study concludes that there should be raised awareness among business owners and managers as well as the general public. Moreover, there should be a proper application of marketing strategies to e-business. The study concludes that effort should be geared at providing more excellent customer satisfaction in terms of accurate delivery of order, security of customers, funds as well as the products they order, lower cost of shipping.

David and Musabila (2021) investigated on E-ordering usage and performance of small and medium tourism enterprises in Tanzania. A quantitative approach compounded by cross-sectional survey was employed to examine the influence of e-commerce usage on the performance of the SMEs in the tourism industry. The 325 questionnaires were collected through cross-sectional survey design. The relationship between the variables was tested by using structural equation modeling. The results revealed that e-ordering and e-advertisement usages have influence on the performance of the enterprises. The e-ordering, e-advertisement and e-payment have an influence on the number of tourist visits enterprises. It is recommended that the enterprises to make effective use of the online advertisements to improve performance. The result also revealed that e-ordering

usage plays a greater role on the performance of firms. Efficient usage of e-ordering technologies would essentially increase the market share, sales volume and the number of tourist arrivals who attract the customers to the firm. The statistical findings conclude that the e-ordering usage have positively influence on market share, sales volume and the number of tourists visiting the firms. In addition, an online usage of ordering among SMTEs plays vital role in the performance of the firms.

Samoei and Ndede (2021) conducted a research on adoption of e-procurement and financial performance of ministry of education, science and technology, Kenya. Descriptive research design was used. The population of the study was employees in the Ministry of Education, Science and Technology. The study used census method, implying that all the individuals in the target population were used. The study's sample size was 40 staff working in information technology, accounts, procurement and finance departments. Primary data was collected from respondents via questionnaires. The study found that e-tendering has a significant effect on the financial performance in the Ministry of Education, Science and Technology. In addition, E-sourcing had a significant effect on the financial performance in the Ministry of Education, Science and Technology. The study concludes that e-tendering has a significant effect on MOEST financial performance. This shows that e-tendering improvement would result to financial performance improvement. E-tendering allows electronic bidding, creates evaluation matrices, help identify tender shortlist and control prequalification process.

Barassa and Namusonge (2020) investigated on the effect of e-procurement practices on efficiency frontier of Kakamega county government. The study adopted correlational survey design. The study population comprised all the 104 staff of the county government involved with the procurement function obtained through census and data collected using structured and semi structured questionnaire as well as interview schedule. The findings were that, the availability of websites to facilitate e-procurement within the County Government of Kakamega was low and this might affect their efficiency in procurement. In addition, placing orders for supplies online within the County Government of Kakamega was done to a low extent. There was also less availability and reduced application of e-procurement platform and practices in e-ordering within the County Government of Kakamega and this ultimately affects their efficiency in performance of the procurement function. The study concluded that, the availability of websites to facilitate e-procurement within the County Government of Kakamega was low and this might affect their efficiency in procurement. In addition, placing orders for supplies online within the County Government of Kakamega was done to a low extent.

Ochieng (2021) investigated on role of e-procurement adoption on procurement performance in state corporations in Kenya: a case of Kenya Utalii college. The target population of the study was one hundred and twenty (120) employees working at KUC in the level of departmental head, immediate supervisor and lower cadre employees. A sample of 55 employees in the corporation was taken out of this sampling frame. Data was collected through questionnaires. Fifty five (55) questionnaires were administered within KUC; out of which forty eight (48) were returned. The regression analysis conducted revealed that the respective e-procurement procedures adopted had a significant influence on the procurement performance of state corporations. Results show that the implementation of e-procurement has developed substantially during recent years, but state corporations in Kenya have still not yet adopted and utilized e-procurement to its full potential. The study concluded that the government should come up with holistic system integration and technological standards; develop legal framework and government policy that makes it mandatory for all bidders to adopt e-procurement.

RESEARCH METHODOLOGY

Research Design

Research design is the plan or framework that is utilized to create answers to examiners issues (Bryman & Bell, 2019). This decision of research design depends on the way that the investigation tries to get data that depicts existing situation by getting some information about performance of retail sector. For this study, descriptive research design was utilized to investigate and additionally clarify existing status of affairs pertaining the objectives of a research. The major purpose of descriptive research design is to describe the state of affairs as it is at the time, and as Cooper & Schindler (2019) observe, a descriptive research design is a process of collecting data in order to answer questions concerning the current status of the subjects in the study in their natural set up, as they occur.

Therefore, descriptive research includes surveys and fact-finding investigations which enhance a review of intrigue that are happening in the retail firms. Lavrakas (2020) observed that descriptive research design is the collection and analysis of study data in a manner that aims to combine relevance to the research purpose with economy in procedure. Both qualitative and quantitative data was collected for this research. A semi-structured questionnaire was designed as a framework for the collection and analysis of data that was suited for testing the hypothesis.

Target Population of the Study

The target population comprised of 46 Commercial state corporations (SCAC, 2023). The unit of analysis was therefore the 46 commercial state corporations while the unit of observation was the management employees working in the state corporations. The study therefore targeted a total of 368 respondents comprising of 46 top managers, 138 middle level managers and 184 lower-level managers.

Table 3.1: Target Population

Category	Target Population
Top Managers	46
Middle Level Managers	138
Lower Level Managers	184
Total	368

Sample Size and Sampling Procedure

The study's sample size was reached at using Krejcie and Morgan sample size determination formula (Russell, 2019). The formula used for arriving at the sample size was;

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

Where:

n=sample size

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

N=Population size (368)

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

Chuan and Penyelidikan (2017) indicate that the use of 0.5 provides the maximum sample size and hence it is the most preferable.

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

$$n = \frac{1.96^2 368 * 0.5 * 0.5}{(0.05^2 * 368) + (1.96^2 * 0.5 * 0.5)}$$

$$n = 188$$

Therefore, using the formula, the sample size for the study was 188 respondents. The respondents were chosen with the help of simple random sampling technique. Stratified random sampling is a method of sampling that involves the division of a population into smaller sub-groups known as strata. In stratified random sampling or stratification, the strata are formed based on members' shared attributes or characteristics such as income or educational attainment (Creswell, 2019).

Data Collection Instrument

This study used semi-structured questionnaires to collect the primary data for the study. According to (Mugenda & Mugenda, 2019) questionnaire is a pre-formulated written set of questions to which the respondents record the appropriate responses as indicated and in accordance with the question's options provided if any.

Semi-structured questionnaires were structured into sections 1-5. Section one collected general information regarding the respondents, while sections 2-4 collected information relevant to various study independent variables while section five targets information on Performance. The primary data was collected using a self-administered semi-structured questionnaire. The questionnaire contains both open and close ended questions based on the study objectives. According to Mugenda and Mugenda (2019), a questionnaire is appropriate for data collection from a large number of respondents as it helps to save on time spent in data collection. The researcher used semi-structured questionnaire as the primary data collection instrument for this study due to its practicability and applicability to the research problem and the size of the population. It is also cost effective (Denscombe, 2019).

Data Collection Procedure

According to Saunders, Lewis and Thornhill (2019), a questionnaire refers to the general term including all data collection techniques in which each person is asked to answer the same question in a predetermined order. It includes structured interviews and telephone questionnaires including those in which questions are answered in the absence of the interviewer. The researcher administered the questionnaire individually to all respondents of the study. The study exercised care and control to ensure all questionnaires issued to the research assistant were received and to achieve this, the researcher maintained a register of questionnaires, to record those given out and those which are returned.

Pilot Test

The study carried out a pilot study to pre-test and validate the questionnaire. Cronbach's alpha methodology, which is based on internal consistency was used. Cronbach's alpha measures the average of measurable items and its correlation. This is in line with a qualitative research design methodology, which is employed in this research project. A pilot study was conducted to test the

instrument's reliability, validity, and completeness of responses, and analyse the various measures within the instrument. In the pilot study 19 participants were invited to participate in filling the questionnaires. This was 10% of the study sample size. The selected respondents were excluded from the final study.

Data Analysis and Presentation

Quantitative and qualitative data was generated from the closed-ended and open-ended questions, respectively. Qualitative data was analysed on thematic basis and the findings provided in a narrative form. Before the data could be analysed, the researcher ensured the data was checked for completeness, followed by data editing, data coding, data entry, and data cleaning. Inferential and descriptive statistics was employed for analysis of quantitative data with the assistance of Statistical Package for Social Sciences (SPSS version 25). To summarize the respondent's responses in relation to their views on the various aspects of the variables, and the respondents' demographic information analysis was undertaken using descriptive statistics (Bhattacharjee, 2019).

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

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Descriptive statistics

E-Sourcing and Organization Performance

The second specific objective of the study was to determine the effect of e-sourcing on performance of commercial state corporations in Kenya. The respondents were requested to indicate their level of agreement on the statements relating to e-sourcing and performance of commercial state corporations in Kenya. The results were as shown in Table 4.4.

From the results, the respondents agreed that the organization effectively uses e-sourcing tools to identify and evaluate potential suppliers ($M=3.964$, $SD= 0.997$). In addition, the respondents agreed that e-sourcing improves the transparency of the procurement process within the organization ($M=3.917$, $SD= 0.831$). Further, the respondents agreed that the data gathered through e-sourcing is useful for making informed purchasing decisions ($M=3.858$, $SD=0.563$).

From the results, the respondents agreed that the implementation of e-sourcing leads to cost savings in their procurement activities ($M= 3.831$, $SD= 0.851$). In addition, the respondents agreed that e-sourcing platforms enhance collaboration between the procurement team and suppliers ($M=3.751$, $SD= 0.935$). Further, the respondents agreed that the training provided for using e-sourcing tools is adequate for maximizing their effectiveness ($M=3.742$, $SD=0.692$).

Table 4. 1: E-Sourcing and Organization Performance

	Mean	Std. Deviation
The organization effectively uses e-sourcing tools to identify and evaluate potential suppliers.	3.964	0.997
E-sourcing improves the transparency of the procurement process within the organization.	3.917	0.831
The data gathered through e-sourcing is useful for making informed purchasing decisions.	3.858	0.563
The implementation of e-sourcing leads to cost savings in our procurement activities.	3.831	0.851
E-sourcing platforms enhance collaboration between the procurement team and suppliers.	3.751	0.935
The training provided for using e-sourcing tools is adequate for maximizing their effectiveness.	3.742	0.692
Aggregate	3.844	0.812

E-Ordering and Organization Performance

The fourth specific objective of the study was to determine to what extent does e-ordering affect performance of commercial state corporations in Kenya. The respondents were requested to indicate their level of agreement on various statements relating to e-ordering and performance of commercial state corporations in Kenya. The results were as presented in Table 4.6.

From the results, the respondents agreed that the e-ordering system simplifies the process of placing orders for goods and services (M=3.943, SD= 0.981). In addition, the respondents agreed that the availability of real-time order tracking enhances their confidence in the ordering process (M=3.866, SD= 0.850). Further, the respondents agreed that e-ordering reduces the time it takes to complete purchasing transactions (M=3.731, SD= 0.914). The respondents also agreed that the system provides accurate and up-to-date information about product availability and pricing (M=3.696, SD= 0.947). In addition, the respondents agreed that they find the e-ordering interface user-friendly and easy to navigate (M=3.689, SD= 0.856). Further the respondents agreed that the organization effectively communicates order confirmations and updates through the e-ordering system (M=3.671, SD=0.621).

Table 4. 2: E-Ordering and Organization Performance

	Mean	Std. Deviation
The e-ordering system simplifies the process of placing orders for goods and services.	3.943	0.981
The availability of real-time order tracking enhances my confidence in the ordering process.	3.866	0.850
E-ordering reduces the time it takes to complete purchasing transactions.	3.731	0.914
The system provides accurate and up-to-date information about product availability and pricing.	3.696	0.947
I find the e-ordering interface user-friendly and easy to navigate.	3.689	0.856
The organization effectively communicates order confirmations and updates through the e-ordering system.	3.671	0.621
Aggregate	3.766	0.862

Correlation Analysis

The present study used Pearson correlation analysis to determine the strength of association between independent variables (e-sourcing and e-ordering) and the dependent variable (performance of commercial state corporations in Kenya). Pearson correlation coefficient range between zero and one, where by the strength of association increase with increase in the value of the correlation coefficients.

Table 4. 3: Correlation Coefficients

		Organization Performance	E- Sourcing	E- Ordering
Organization Performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	141		
E-Sourcing	Pearson Correlation	.842**	1	
	Sig. (2-tailed)	.002		
	N	141	141	
E-Ordering	Pearson Correlation	.910**	.179	1
	Sig. (2-tailed)	.000	.081	
	N	141	141	141

The results revealed that there is a very strong relationship between e-sourcing and performance of commercial state corporations in Kenya ($r = 0.842$, p value =0.002). The relationship was significant since the p value 0.002 was less than 0.05 (significant level). The findings conform to the findings of López, Salvador and Viñas (2020) that there is a very strong relationship between e-sourcing and organization performance.

The results also revealed that there was a very strong relationship between e-ordering and performance of commercial state corporations in Kenya ($r = 0.910$, 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 results of Nyameboame and Abubaker (2020) who revealed that there is a very strong relationship between e-ordering and organization performance

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (e-sourcing and e-ordering) and the dependent variable (performance of commercial state corporations in Kenya)

Table 4. 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.870	.757	.758	.10120

a. Predictors: (Constant), e-sourcing and e-ordering

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 0.757. This implied that 75.7% of the variation in the

dependent variable (performance of commercial state corporations in Kenya) could be explained by independent variables (e-sourcing and e-ordering).

Table 4. 5: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	8.035	2	4.018	41.85	.000 ^b
Residual	6.568	138	.048		
Total	14.603	140			

a. Dependent Variable: performance of commercial state corporations in Kenya

b. Predictors: (Constant), e-sourcing and e-ordering

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 41.85 while the F critical was 2.438. The p value was 0.000. Since the F-calculated was greater than the F-critical and the p value 0.000 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of e-sourcing and e-ordering on performance of commercial state corporations in Kenya.

Table 4. 6: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	0.205	0.053		3.867	0.000
	e-sourcing	0.486	0.123	0.487	3.951	0.000
	e-ordering	0.430	0.113	0.431	3.805	0.001

a Dependent Variable: performance of commercial state corporations in Kenya

The regression model was as follows:

$$Y = 0.205 + 0.486X_1 + 0.430X_2 + \epsilon$$

The results revealed that e-sourcing has significant effect on performance of commercial state corporations in Kenya, $\beta_1=0.486$, 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 conform to the findings of López, Salvador and Viñas (2020) that there is a very strong relationship between e-sourcing and organization performance.

The results also revealed that e-ordering has significant effect on performance of commercial state corporations in Kenya $\beta_1=0.430$, p value= 0.001). The relationship was considered significant since the p value 0.001 was less than the significant level of 0.05. The findings are in line with the results of Nyameboame and Abubaker (2020) who revealed that there is a very strong relationship between e-ordering and organization performance.

Conclusions

The study concludes that e-sourcing has a positive and significant effect on performance of commercial state corporations in Kenya. Findings revealed that supplier participation, cost savings and process efficiency influences performance of commercial state corporations in Kenya.

The study also concludes that e-ordering has a positive and significant effect on performance of commercial state corporations in Kenya. Findings revealed that electronic catalogs, catalog customization and order confirmation influence performance of commercial state corporations in Kenya.

Recommendations

The study recommends that the management of commercial state corporations in Kenya should implement robust supplier relationship management (SRM) practices. By fostering stronger partnerships with suppliers through regular communication, feedback mechanisms, and collaborative initiatives, organizations can enhance the quality of goods and services procured.

The study also recommends that the management of commercial state corporations in Kenya should integrate advanced analytics and reporting tools within the e-ordering system. By leveraging data analytics, organizations can gain valuable insights into purchasing patterns, supplier performance, and inventory levels.

REFERENCES

- Abubakar, A. (2024). Impact of E-Procurement Implementation on Supply Chain Performance: A Case Study of Nigeria. *Global Journal of Purchasing and Procurement Management*, 3(1), 14-27.
- Cooper, D. R. & Schindler, P. S. (2019). *Qualitative research: business research methods*, Boston, MA: McGraw-Hill.
- Cooper, D. R., & Schindler, P. S. (2019). *Business Research Methods (Twelfth ed.)*. Boston: Irwin McGraw Hill International.
- Creswell, R. (2019). *Research design: qualitative, quantitative, and mixed methods approaches*. USA: Sage Publications.
- David, M & Musabila, A.K (2021) investigated on E-ordering usage and performance of small and medium tourism enterprises in Tanzania. *East African Journal of Social and Applied Sciences* 3(2)89-105
- Fernando, S & Paola, Z (2021) *E-procurement in the Brazilian healthcare system: the impact of joint drug purchases by a hospital network*. Retrieved from <https://www.scielo.org/pdf/rpsp/>
- Funlade, T.S & Yusuf, U.S (2020) a Case Study on Performance Features of Electronic Tendering Systems, in Greece. *Procedia Manufacturing* 51 (10) 1586–1591
- Kamaru, A. N & Were, S. (2023). Effect of e-procurement adoption on the performance of state corporations under the state department for infrastructure in Nairobi Kenya. *The Strategic Journal of Business & Change Management*, 5(2), 2228–2241.
- Kamayirese, B & Mbonimana, G. (2021). E-procurement adoption and procurement process in Rwanda: a case of Muhima, Shyira, Remerarukoma. *International Journal of Social Science and Humanities Research*, 9(3), 405-413.
- Marcilianus (2023) *effect of electronic procurement on the procurement performance in public organisation: a case of tanesco head quarters dar es salaam*. Retrieved from <http://repository.iaa.ac.tz:8080/xmlui/bitstream/handle/>
- Marei, A. (2022). The effect of e-procurement on financial performance: Moderating the role of competitive pressure. *Uncertain Supply Chain Management*, 10(2022), 855–866.

- Masudin, I, Aprilia, G. D, Nugraha, A & Restuputri, D. P. (2021). Impact of E-Procurement Adoption on Company Performance: Evidence from Indonesian Manufacturing Industry. *Logistics*, 5(16), 1-16.
- Murugami, J (2023) *e-procurement and performance of Telkom Kenya limited in Nairobi city county, Kenya*. Retrieved from <https://ir-library.ku.ac.ke/server/api/core/bitstreams/>
- Mwangata, M. M & Hapompwe, C. C. (2024). An Assessment of the Effect of E-Procurement on Procurement Processes and Efficient Performance in Zambia's Government Institutions: A Case Study of the Local Government Service Commission. *Journal of Economics, Finance and Management Studies*, 7(7), 4753-4761.
- Neupane, A, Soar, J Kishor, V, & Jianming, Y (2020) *role of public e-procurement technology to reduce corruption in government procurement*. Retrieved from <https://research.usq.edu.au/download/>
- Ochieng, E.O (2021) investigated on role of e-procurement adoption on procurement performance in state corporations in Kenya: a case of Kenya Utalii college. *International Academic Journal of Procurement and Supply Chain Management* 2 (1)66-100
- Onsongo, N. M & Moronge, M. (2020). E-procurement adoption and supply chain performance in the public sector in Kenya. *The Strategic Journal of Business & Change Management*, 3(4), 847-862.
- :
- Shatta, D. N, Shayo, F.A & Layaa, J.N (2020) determinants of e-procurement adoption model for green procurement in developing countries: experience from Tanzania *International Academic Journal of Procurement and Supply Chain Management* 3 (2) 1-18.
- Uba, Z, Sharifai, M. G, Mubaraka, C. M & Agaba, L. (2023). E-Procurement and Performance of Service Organizations in Uganda. *European Journal of Business and Management*, 5(12), 46-50.