# E-PROCUREMENT IMPLEMENTATION AND OPERATIONAL PERFORMANCE OF FAST FOOD RESTAURANTS IN NAIROBI

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**NOVEMBER, 2021** 

# **DECLARATION**

I declare that this is my original work and has not been submitted for a degree in any other university.

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Date 17/11/2021

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This project has been submitted for examination with my approval as the University Supervisor:

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# **DEDICATION**

I commit this to my wife Esther Nyatichi and my daughter Patience Mong'ina who have relentlessly encouraged and supported me during my research project.

# **ACKNOWLEDGEMENT**

This research project wouldn't have been an achievement were it not for the continuous, relentless support, patience, motivation and immense knowledge of my Supervisors; Mr. Michael K. Chirchir and Stephen Nyamwange. Their guidance helped me in all time in writing this project and am convinced that they led me to the completion of the research project.

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# ABBREVIATIONS AND ACRONYMS

**CSFs** Critical Success Factors

**EDI** Electronic Data Interchange

**ERP** Enterprise Resource Planning

FFR Fast Food Restaurant

GDP Gross Domestic Product

ICT Information, Communication Technology

IT Information Technology

KFC Kentucky Fried Chicken

**KNBS** Kenya National Bureau of Statistics

MRO Maintenance, Repair and Operations

NRAK National Restaurant Association of Kenya

SC Supply Chain

SCM Supply Chain Management

# **ABSTRACT**

This research pursued to investigate on the influence of E-procurement implementation on operational performance among Fast Food Restaurants (FFRs)in Nairobi County. Objectives of the research comprised: to examine the degree of e-procurement execution in FFRs in Nairobi; to establish the effect of e-procurement implementation on operational performance of FFRs in Nairobi; to establish the challenges encountered when implementing e-procurement in FFRs in Nairobi. To achieve this objective, a crosssectional descriptive research design was utilized. The population of interest were a total of 47 FFRs in Nairobi. The data for the research was obtained by a structured questionnaire and later analyzed through descriptive statistics, regression and correlation analysis. The findings of the research disclosed that e-procurement implementation had been done to moderate degree by the FFRs in Nairobi. From the regression analysis it was evidenced that all the variables in the study were positively and significantly correlated with each other. These results further showed that operation performance was positively and significantly correlated with e-requisition, e-sourcing, e-tendering, e-ordering, e-invoices, e-auction, e-payment. The study further noted that implementation of e-procurement was faced by challenges such as poor IT infrastructure, resistance to change to e-procurement, frequent technological changes, complex user interface among many others. Thus, the study recommends that the various fast food restaurants increases the optimum uptake of e-procurement services in their procurement procedures. E-procurement revolves around various technological applications. The study thus recommends that the various fast-food restaurants increases their expenditure in harnessing the technology that is necessary for the running of the e-procurement services. The study also recommends that it is paramount that fast food restaurants invest in training their employees on the usage of e-procurement. This is because if the restaurants are to use e-procurement the people running the activities need to know how it works. Thus, to ensure that e-procurement is a success the employees of the restaurants ought to be trained.

# **CHAPTER ONE: INTRODUCTION**

#### 1.1 Background of the Study

In the current dynamic global enterprise competition scenario, web-based technology is not an afterthought anymore, rather it is necessary. With development of internet and information communication technology (ICT) tools, business firms are stressed to change their undertakings from old approaches to the computer-operated e-supply chain, e-procurement and e-business (Oketch, 2014). By entities being able to automate their operations, timely services are given to the customers. Also, the growth in information technology (IT) worldwide has resulted in efficient procurement in establishments as they are able to perform their functions digitally and to this end, it is imperative to point out that evolution of information technology has changed the approaches of operations by governments and businesses (Deraman, Wang, Yap, Li, & Mohd-Rahim, 2019). Moreover, procurement through the online platform has enabled business entities to minimize complicated constructions that hinder the procurement process.

According to Swamy, Nanjundeswaraswamy, Rashmi and Nalini (2014), E-procurement systems have turned out to be efficient tools for instituting reforms in procurement and developing a completely transparent procurement environment within various establishments. The fast food restaurants (FFRs) sector has introduced 'supply chain management (SCM) practices' to their enterprise development menu to effectively respond to the preferences of clients for the best affordable meals. This industry is characterized by twists in several ways. First, clients, desire quality food cheaply, whereas the establishment ought to obtain fresh product everyday notwithstanding the continuous supply market changes. The operation cost, and that of service to clients are integrated. Selection of daily

menu is subject to the timely delivery of required inputs by the supplier. The daily undertakings of the FFRs need proper sourcing to meet the demands of clients. As the administration is looking for consistent, reliable and quick replenishment, clients, on the other hand, are seeking their orders to be delivered fast. Hence, clients' demands as well as the pressure from those supplying raw resources overwhelm FFRs from either ends; it is simply reasonable that the supply chain (SC) becomes the center-point of processing to maintain mutual gains and flexibility which could be made possible through E-procurement implementation (Kwennah, 2017). However, e-procurement implementation in the FFRs in Nairobi is likely to face many challenges. Some of the challenges includes: inadequate awareness and capacity building programs; lack of proper IT infrastructure and readiness for internet, lack of coordination across departments and inefficient execution of the system and resistance to e-procurement adoption (Oketch, 2014).

The theories that underpin this study are, the dynamic capability and technology acceptance theory. According to Oteki (2019), the dynamic capability paradigm explains the capacity of an establishment to deliberately organize its resources for enhancement of performance. Technology acceptance theory offers an explanation on why a user is likely to accept or reject the information technology through adapting the theory of reasoned action. The theory provides the foundation where external variables have an impact on the belief, attitudes and also the intention of usage (Moturi, 2016).

#### 1.1.1 E-Procurement Implementation

Procurement is a function of business management that sees to it that the outside resources that an entity might require to accomplish its strategic goals are determined, sourced, and accessed (Salim, 2018). When the process of procurement is done through the utilization

of integrated communication infrastructure, that's usually based on the Internet to carry out partial or whole purchasing processes, which may encompass phases such as the initial requirement determination by a user, search, sourcing, bargaining, order placement, receipt as well as post-purchase feedback, this is then called E-Procurement (Ndiiri, 2016).

The segments of E-Procurement include: Enterprise Resource Planning (ERP) which facilitates the development and approval of purchase requisitions, purchase orders placement, and the reception of goods and services with the help of a software application that is deployed through Internet technology. E-MRO (Maintenance, Repair and Operations), focuses on the development and approval of purchase requisitions, purchase order placement, and the receipt of MRO supplies that are non-product. E-sourcing, on the other hand, entails the pinpointing of fresh suppliers for a particular class of purchasing needs via the web-based technology (Rotich & Okello, 2015). E-tendering denotes the sending of requests to suppliers for price quotes of particular items expecting feedback digitally, most probably through email. E-auction is the purchasing of goods from several new and existing suppliers through the internet (Obat, 2016).

E-Procurement Implementation is the effort put, when an idea (system) is developed to when it is executed and completed or when it collapses. It can further be defined as a process that entails transformation in an establishment which extends over a substantial period of time to give the required outcomes. Cooper and Zmund (1990) suggest five stages of executing E-procurement solutions; implementation of a structural layer of initiation, acceptance, adoption, doing it routinely and then infusion. Infusion is the phase in which e-procurement is completely executed within the establishment and its potential is at its maximum (Obat, 2016). There are a number of aspects which have been established to be

having a bearing on e-procurement effectiveness in an establishment; they comprise the technical and managerial capacities within the establishment as well as efficiency of suppliers with IT solutions and IT infrastructure availability (Yen & Ng, 2003).

#### 1.1.2 Operational Performance

Operational performance evaluation considers the operational and strategic features of procurement. Performance from the operational aspect, regards the cost of buying, quality of service and/or product, flexibility and procurement delivery (Kayman, 2013). On the strategic aspect it regards novelty during purchasing.

According to Podolski (2015) asserts that operational performance is viewed as originating from efficiency. Performance lays a foundation for an establishment to evaluate its progress towards its predetermined goals, pinpoints it's weak and strong areas, and determines future projects, the end game being to trigger improvements on performance. This suggests that procurement performance should not be viewed as the end game in itself; instead, it is a method for the attainment of effectiveness and efficiency of the Procurement tasks. According to Deraman et al. (2019) the major objective of performance is the growth in the effectiveness and efficiency in organizations, this improves the ability in delivery of goods and services. Performance can also target organizational efficacy where goals and objectives in an organization are evaluated.

Operational performance can be measured through cost and inputs/outputs quality, total cost of purchasing processes, proportion of fast suppliers, procurement cycle times, inventory turns and timely deliveries (Ndiiri, 2016). Moturi (2016), on the other hand claims that, performance is gauged by cost decrease, higher profits, guaranteed supplies,

enhancement in quality and competitive edge. Considering the target population and the clientele that it serves, the research measured operational performance through, speed of meeting user requirements and cost effectiveness.

# 1.1.3 Fast Food Restaurants in Nairobi

According to Kwennah (2017), worldwide, fast food industry is one of the industries that is growing at a high rate. The developing worldwide markets have accounted for proliferation of new enterprise novelties. Markets for the industry is evolving in Asian and African that are amongst specific regions contributing to the surge in middle social class and shift in consumption behavior amongst households. The recent investments valued in dollars that worth millions by worldwide and resident restaurant chains like Java Houses, Cold Stone Creamery, Domino's Pizza, KFC, Subway, Teriyaki, 'Steers and Café Deli', and many more has increased in the county of Nairobi. As per, National Restaurant Association of Kenya (NRAK) (2016), estimates, services related to fast food chain is swiftly expanding in the industry related to service and restaurants. Households spent approximately 47.7 percent of their earning on this industry's products. Similarly, research indicates the growing tendency in eating-out behaviors of Kenyan households and those who dwell in Nairobi (Kamau, 2017).

The "Kenya National Bureau of Statistics" KNBS, 2016) reports of a surge in the food and housing services industry investment between the year 2015 and 2016 as a result of prominent global meeting conducted in Nairobi. The GDP in 2016 is made up to 0.8 percent from the industry. Total jobs created made up 74.7 percent as employment creation recovered as a result of growing Kenya's economy and surge in additional FFRs chains including other local joints. Using distinctive hygienic processing services, brands in

marketing, numerous worldwide foods and promotion of locally available foods in their menu, these cafeterias control remarkable market shares relative to their rivals. Alongside brand marketing, an integration of packaging, quick services, orders that are done online and services of mobile delivery to clients have extended these joints' market to a wider client base in the county of Nairobi including its neighboring regions (Otieno, 2018).

#### 1.2 Research Problem

In Kenya, manually operated systems have been a contributor of key inadequacies in the guidelines and procurement operations (Obat, 2016). Hence ICT ought to be applied for procurement system to function properly. To adapt to current operating problems, technical establishments are applying ICT to enhance their services for suppliers and other clients to reduce the cost of operating and enhancing performance. Communicating through internet, advertising tender using online platforms and digitized process of tendering affects procurement performance (Oteki, 2019). IT brings about smoother and quicker process flow, effective information distribution, tasks and decisions decentralization, enhanced transparency and improved control (Ibem, Aduwo, Ayo-Vaughan & Tunji-Olayeni, 2018). Procurement within the FFRs in Nairobi, applies both the centralized and system of procurement (Owuor, Brown, Crush, Frayne & Wagner, 2017). This is to say, each restaurant does procurements from a common place or pool based on requisitions from the different branches. To harmonize processes in such organizations proves to be challenging, but, by adoption and implementation of e-procurement, could make the aspect achievable. Procurement as a process, too, has several interactions between the users who does the requisitions, the function and the various approvers for the process and the suppliers. This calls for a lot of communication between the individuals which at times is challenging and

costly if done physically (Deraman et al., 2019). Hence, e-procurement use in the FFRs in Nairobi would reduce the bottlenecks associated with the process.

Globally, various researches that are related to e-procurement have been conducted. Swamy et al. (2014), carried a study on e-procurement and performance of the Indian industrial firms. This study presents us with a contextual gap as this study was conducted in India and not Kenya. Ibem et al. (2018) surveyed Digital Technologies Applied in Procuring Building Projects: Empirical Evidence from Nigeria, the study sought to establish various types of digital technologies including factors impinging on the choice to use them by the Nigerian building industry stakeholders. This study by Ibem et al. (2018) provides us with conceptual gap with regards to the independent variable hence this study focuses on e-procurement implementation. An investigation by Deraman et al. (2019) on "developing Internet Online Procurement Frameworks for Construction establishments", proposes that, if firms establish the effectiveness of their systems of e-procurement execution on the project's performance overly as the measure of effectiveness, they ought to control the five independent variables: stakeholder and composition, firm's strategic plan and policy, technical outsourcing and senior administration duties, change management and project team planning. Contrariwise, if they establish their e-procurement systems execution effectiveness on the system's capacity to satisfy the attitudes and feelings of users: integrating the policy of e-procurement with the existing one, the support of IT expert when it is being implemented, the establishment's readiness to transform, the description of the level each stakeholder may take part in and effective monitoring and coordination of project undertakings, and to meet their requirements. Conceptual gap is evident in this study with regards to the dependent variable, operational performance.

Locally, Okwaro et al. (2017) investigated the bearing of e-procurement on the company operations of Kenyan County Administrations: A case study of Bungoma County Administration. The investigation pointed out that among other factors that may have a bearing on organizational performance much attention ought to be on e-purchasing, etendering, e-invoicing and e-auctioning to enhance the establishment's performance. This study presents us with a conceptual gap since its independent variable focused on organizational performance while we will focus on operational performance. Further, contextual gap is also evident as it focused on County administrations in Kenya, while this study focuses on fast food restaurant in Nairobi County. Otieno (2018) researched on the influence of e-procurement on operation of food and beverage establishments located in Nairobi County. Contextual gap is provided as it focused on firms related to food and beverage, while this research focuses on fast food restaurant in Nairobi County. Ivongo (2019) studied IT and how county water projects perform: a case of County of Makueni. The outcomes exhibited that e-procurement was positive and substantial bearing on how water projects perform in County of Makueni. A conceptual gap is evident since its independent variable focused on IT while this study will e-procurement.

This study reviewed present contextual and conceptual gaps. Contextual gaps arise due to the studies undertaken in various contexts and enterprises, for example, in India, Nigeria, Makueni, Bungoma County and among construction firms. Conceptual gap exists due to the focus by the studies mentioned above. These studies focused on Organizational performance, IT, and internet online frameworks. Therefore, this research considered the impact of E-procurement implementation on operational performance among FFRs in the

county of Nairobi by answering this question: what is the impact of E-procurement implementation on operational performance among FFRs in Nairobi County?

# 1.3 Research Objectives

The study objectives included:

- i. To investigate the degree of e-procurement execution in FFRs in Nairobi.
- ii. To ascertain the impact of e-procurement execution on operational performance of FFRs in Nairobi.
- iii. To find out the setbacks encountered when executing e-procurement in FFRs in Nairobi.

# 1.4 Value of the Study

This research could help the FFRs in Nairobi in establishing the gains to be accrued by eprocurement implementation in every procuring units' country wide. This research will
offer new viewpoints in the application of the e-procurement that will increase efficiency
the way procurement is handled in the FFRs in Nairobi, this will certainly enhance
procurement performance.

The research could also be useful to policy makers. This is so because the research points out the challenges experienced in the e-procurement implementation. This would be an eye opener to the policy makers who are going to be in a position obtain policies that are going to counter the challenges that have been featured in this research.

Academicians and researchers are likely to benefit because research gaps are uncovered from this exercise. Based on such gaps, other procurement scholars are able to pick up the mantle and try to enhance the course of e-procurement.

# **CHAPTER TWO: LITERATURE REVIEW**

#### 2.1 Introduction

This part studied current works as regards e-procurement. It dealt with: theories, e-procurement, e-procurement and operational performance, problems facing the implementation of e-procurement, then summary of the chapter and the conceptual outline of the research.

#### 2.2 Theoretical Literature Review

This section assessed paradigms which were pertinent to the investigation's objectives and they comprise, the dynamic capability and technology acceptance theory.

## 2.2.1 Dynamic Capabilities Theory

Dynamic capability theory was originally introduced by Teece, Pisano and Shuen (1997). It outlined the firm's capacity to purposefully arrange its resources to enhance performance hence competitive advantage. Dynamic capability is the company's capacity to deliberately adapt an establishment's resource base. An establishment ought to have the ability to appropriately and timely respond to external shifts. This demands the use of various strategies that would foster several competencies of the establishment and deploying them for use. This would help the establishment in integrating, developing, and leveraging on the environmental competitive edge. Currently, the business world is very dynamic. Various changes are taking different paths that range from customer's tastes and preferences, organizational structures, marketing and culture. Hence, establishments ought to be effectively responsive to such changes. This paradigm maintains that just those

establishments that can attain this are actually able to break even in a competitive environment (Juan & Lin, 2019).

Thus, the theory was appropriate to the study as it explained how firms could use their resource base, in this case, e-procurement processing to help cope with dynamic markets environment. FFRs in Nairobi could be faced with various challenges such as falling prices, the need to reduce production costs, changes in consumer tastes and preferences, time taken to deliver an order. Therefore, these changes in the market environment could cause poor firm performance if not managed properly. Therefore, E-procurement can be used within firms to adjust to the demand in the business environment. For instance, in the case of fast foods restaurants in Nairobi, e-procurement function should be able to process customers' orders quickly. Evidently, e-procurement brings together the components of inhouse and external procurement to deal with the dynamics in the manner in which establishments realize operational effectiveness by lowering cost and saving on procurement time (Mwenga, 2016).

The Dynamic capability theory had faced criticism due to difficulties faced in understanding the nature of a firm's dynamic capabilities, understanding the advantages of the outcomes of the theory. The theory was also criticized for not having a proper model to measure the identified capabilities, and their impact on overall firm performance (Zahra, Sapienza, & Davidsson, 2006).

# 2.2.2 Technology Acceptance Theory

Technology Acceptance paradigm maintains that advancements in technology are not able to improve the efficiency and performance in an establishment if their users have not adopted change (Davis, 1986). This paradigm is amongst the popular ones in understanding the computer technologies acceptance. The acceptance of any novelty especially is subject to IT, demands the acquisition of computer-based tools that could help in decision making and communication planning (Ndiiri, 2016). However, such systems are associated with risks. Hence, it is relatively key that the advanced systems meet specifications derived from preference and justification of the organization. It is similarly reasonable to recognize that people might not be flexible to a shift in technology. There ought to be an attempt to describe the reason behind people objecting change and the appropriate ways to address their concerns. An appropriate organizational culture should be established, with the anticipated change being executed progressively and facilitated through communication. As stated by Kamel (2014), every change process participant ought to understand their responsibilities and supported to undertake their respective responsibilities properly.

Various empirical investigations have explored the application of this paradigm in describing the manner in which individuals conduct themselves in e-procurement implementation. Essentially, it has been pointed out that the quality of work, the ease of system application, timely tenders' provision are key variables that provides the reason behind e-procurement systems acceptance within establishments (Ndubisi, 2006). These variables were linked to the reason behind system usage and therefore how ready the establishments are as regards e-procurement system execution is subject to the usefulness, i.e. enhanced performance determined by work quality and timely provision of tenders.

This theory has faced a number of criticisms among them being, its ability to explain individual behavior. However, Hai and Alam Kazmi (2015) noted the theory is not

exhaustive enough to explain the user's behavior with regards to buying, rejecting and/or accepting to use a technology.

# 2.3 E-Procurement Implementation

E-procurement implementation has been driven by increased trend in buying inputs as well as other kinds of raw materials from outside an organization. E-procurement is a major strategy in majority of the organizations in responding to changes in the business environment (Leung, 2007). It is related to internet-oriented innovations on the order process as a result of the benefits on saving the transactional cost, increased competition level for sourcing prospects as well as enhanced inter-organizational coordination. It entailed procurement automation on the organizational internal process and suppliers' collaboration (Lysons & Farrington, 2006).

E-Procurement implementation embroils the usage of internet-based tools in managing the entire process pertaining to purchasing. Use of technology in procurement embroils the usage of e-tendering, e-auction, e-catalogue, e-ordering, e-sourcing e-bidding and rendering (Graham & Melvyn, 2011). In addition, Gunasekeram and Ngai (2008) maintain that it entails the usage of integrated automatic procurement systems, purchase of cards, reverse auctions to ease purchasing process in establishments. Critics maintain that e-procurement provides a number of advantages but then the extent of implementation is less (Erridge, 2011).

According to Nyadimo (2011), e-procurement implementation is essential since it is able to strengthen the search ability, ensure that there is faster and also transmission of accurate data, offer quick and more information and reduce the transactional cost. On the other hand,

Ogot et. al (2009) maintains that e-procurement implementation improves customer service and their satisfaction, offer high quality products, enhance product performance and quality, timely delivery, transparency and use of technology on the major suppliers. The competition and the threat of security are a great threat in the digital networks (Hardy & Williams, 2011). E-procurement execution may have an impact on the cost, quality of products or services, logistics and organization that enhance satisfaction of the customers and so is the performance of firms (Moturi, 2016).

# 2.4 Empirical Literature Review

Uba, Sharifai, Mubaraka, Agaba and Principal (2013), undertook an investigation to establish the bearing of e-procurement on operation of particular service establishments in Uganda. The investigation utilized descriptive survey using quantitative and qualitative methods. The investigation ascertained that a positive and substantial link between e-procurement and the operation of the service establishments. It similarly ascertained that IT incorporation amongst different establishments in Uganda led to effective execution of e-procurement systems.

Ibem et al. (2018), conducted an examination of digital technologies used in "The procurement of building projects: Empirical evidence from Nigeria." The investigation aimed at exploring the various kinds of technologies that are employed by stakeholders in the stages of designing, tendering and building projects and the determinants of the decision to apply them in the building industry in Nigerian. Analysis of data was done by relative importance index (RII) and descriptive statistics. The outcomes indicated that 61.5% of the respondents constituted quantity surveyors and architects and majority of them utilized software packages during project design and ICT during tendering and

construction. Though, a part from email, just a small number utilized cloud-based systems, applications and services during tendering and construction in building projects delivery. The top four most important factors in the decision of digital technologies adoption in the procurement of building projects comprised the importance of such technologies in eradication of geographic barriers with an RII of 0.861, increasing efficiency having an RII of 0.855, facilitating proper inventory management and record keeping with an RII of 0.813 and efficient communication amongst project team members that have an RII of 0.812.

Deraman et al. (2019), did a study on "Developing Internet Online Procurement Frameworks for Construction Firms." The study sort to point out those CSFs (predicting variables) which substantially result in effectively implementing e-procurement in the industry related to construction and enhanced execution. Data collection and analysis entailed a mixed approaches design, starting with an exploratory qualitative investigation and then a quantitative investigation. Mixed approaches study entails gathering and analysis of data that is jointly quantitative and qualitative on the basis of evidence priority and sequence. The findings showed that, if establishments determine their e-procurement systems execution on the project's performance overly as the measure of effectiveness, they ought to control the five independent variables: stakeholder and composition, establishment's strategic plan and policy, technical outsourcing and senior administration duties, change management and project team planning. Contrariwise, if they establish their e-procurement systems execution effectiveness on the system's capacity to satisfy the attitudes and feelings of users: integrating the policy of e-procurement with current policy of procurement, the support of IT expert when it is being implemented, the establishment's readiness to transform, the description of the level individual stakeholder may take part in

and effective monitoring and coordination of project undertakings, and to meet their requirements, they therefore ought to control the three independent variables: establishment's obligation and development of relationship, learning in the organizational, and enterprise process novelty and outside partnerships..

Afolabi, Ibem, Aduwo, Tunji-Olayeni and Oluwunmi (2019), explored the Critical Success Factors (CSFs) for e-procurement use in Construction Industry in Nigeria. The purpose of the investigation was to assess the CSFs for e-procurement use in the construction sector in Nigeria. The investigation was undertaken in the six Nigerian geo-political regions. The investigation utilized cross-sectional survey research design because of the data's quantitative nature. An evaluation of the period users has been taking part in the e-Procurement environment pointed out that majority of quantity surveyors have exposure to the utilization of technologies that are related to e-procurement for more than ten years. A bigger number of stakeholders in the construction embraced technology usage in the past 5 years. Analysis similarly pointed out that contracting establishments have the greatest involvement e-procurement systems usage. The investigation similarly indicated that stakeholders in construction considered the accessibility of fast, inexpensive and reliable services from internet as being the most CSF for the use of tools for e-procurement. The CSFs were also categorized into administration's support for human aspects, physical infrastructure, and the technology's aspects. The investigation indicated that such CSFs are key for e-Procurement systems usage in the construction industry in Nigeria.

Ngeno and Kinoti (2017), examined the bearing of e-procurement on efficient SCM process in the Kenyan energy sector. The investigation's research design utilized qualitative and quantitative approaches. The investigation intended to collate and collect information

from the research participants. The investigation employed stratified random sampling method in establishing 152 participants as a sample size from an aggregate of 246 of the population which was being targeted in the energy sector. Every variable, i.e., e-tendering, electronic data interchange, SC integration were established to have impinge on efficient SCM process in the energy sector.

Mueni and Moronge (2014), conducted a study on the bearing of e-procurement on operations of parastatals in Kenya. The investigation implemented a descriptive research design approach. The investigation aimed at analyzing the bearing of e-procurement on operations of parastatals. The specified objectives were to establish whether e-tendering e-informing, e-sourcing and e-payments have a significant link with operation in parastatals. The findings of the research showed that e-tendering e-informing, e-sourcing and e-payments have a positive link with the performance of parastatals. Lastly, the investigation recommended that public establishments ought to adopt e-procurement processes to enhance their performance and more investigations ought to be undertaken in other public establishments to determine if similar outcomes could obtain.

Rotich and Okello (2015) analyzed usage of e-procurement on operations of the roles of procurement in Kenyan county governments. This investigation pursued to scrutinize the link between e-procurement and procurement operation of county administrations in Kenya. The outcomes indicated that there exists a positive link between e-procurement and operation of SC function of County Administrations in Kenya. The investigation hence recommended that administrations develop policies on the use of e-procurement practices and give key inputs and direction in e-procurement use.

Matunga, Nyanamba and Okibo (2013), assessed the influence of e-procurement on efficient procurement in hospitals that belong to the public. The objective of the investigation discovered the extent of practice of e-procurement in public hospitals. The investigation was undertaken using a descriptive research design. The investigation concluded that Level 5 hospital in Kisii applies e-quotations, e- sourcing and e-tendering as the major e-procurement practices and that the biggest problems encountered in the usage of e-market provider was insufficient financing, establishment's inability to deal with change administration and insufficient training of staff on the manner in which to apply the system. The investigation determined that public hospitals have embraced certain e-procurement practices notwithstanding the challenges during adoption.

## 2.5 Challenges in E-Procurement implementation

Being aware of the challenges and constraints in implementing e-procurement is essential because of complex bureaucracies and organizational policies. Lack of such awareness, leads to establishments not being able to realize the benefits of e-procurement system. Expert Group Meeting Report, (2011) pointed out various challenges due to the experience. These challenges include: Lack of awareness and capacity building programs; Resistance to convert to e-procurement; Lack of proper IT infrastructure and Internet willingness; Lack of cross Governmental coordination and poor execution of the system.

According to Oketch (2014), on e-procurement: from strategy to implementation, notes that as much as benefits may be accrued in implementation of e-procurement, there are similarly challenges to address when implementing e-procurement. These include:-Possible negative perception from suppliers; culture profile within organizations (for example resistance to change); website and information control lost to exchange

administrators; it is costly to change suppliers from an initial state of operating in catalogue production whereby it could hinder competitiveness and bring about inertia; negotiated procurement gains could be shared with other exchange users who could be rivals; catalogue creation may be an extensive process and costly to suppliers; management of data and catalogue has to be properly done and may be expensive; data security in e-procurement systems is relatively key.

# 2.6 Summary of Literature Review

The outcomes of current investigations on e-procurement implementation and operational performance in FFRs in Nairobi. The summary of reviews in Literature shows studies in various organizations.

Table 2.1: Summary of Literature Review

impact of To discover the Descriptive The results of the sent on electronic applied significantly found certain Ugandan qualitative and positive association service companies methods in the between electronic study procurement and the operation of the operations of corganizations in service sector.  To explore the Descriptive The results different categories statistics and indicated that in the technologies employed in respondents were and are arbitrets and stakeholders in data and architects and stakeholders in data majority of them stakeholders in data	Researcher(s)	The study	Objective	Methodology	Key Finding	Gap in Knowledge	Addressing Knowledge Gaps
procurement on electronic applied significantly applied significantly operation of procurement on quantitative and positive association certain Ugandan service service companies study procurement companies study procurement the operation of To explore the Descriptive and different categories statistics and indicated technologies of digital digital statesholders in the technologies of employed in the technologies in data and architects majority of the procurement of categories of majority of the digital digital data and architects majority of the majority of the procurement of majority of the majorit	et		To discover	otive	esults of the	The research failed to	This knowledge gap will
particular certain Ugandan qualitative and positive association Ugandan service service companies study procurement companies  et al. Investigation of To explore the digital applied in the technologies of digital applied in the technologies of malyzing the quantity surver and indicated applied in the technologies of malyzing the quantity surver and attacks.	(2013)	electronic procurement on	impact electronic		cantly		orporating encount
et al. Investigation of different categories alphabiled in the technologies of procurement of employed by languish to be service companies at the operation of			procurement	quantitative and	positive	of e-procurement	of e-procurement
Ugandan service service companies study study between electror companies study study stakeholders in the electror study staying the operation of technologies of digital stakeholders in data and architects staying of the companies of stakeholders in data and architects staying of the companies of the companies of the complex of the companies of the companie		particular		qualitative	association		implementation in the
et al. Investigation of To explore the Descriptive and indicated applied in the technologies of mployed by analyzing the purities states in data and architects and stakeholders in data and architects are staken and architects and architects and architects are staken and architects and architects are staken and architects and architects are staken and architects.		Ugandan service			between electronic		study.
et al. Investigation of To explore the digital different categories statistics and technologies of mployed in the technologies of procurement of employed by analyzing the duantity surverse of the digital data and architects of the data of the data and architects of the data of the		companies		study			
et al. Investigation of To explore the digital applied in the technologies procurement of puilding stakeholders in data architects of another the data and architects and and architects of another the data and architects of another the data and architects and another the digital and architects of another the digital and architects of another the digital and architects of another the digital and architects and another the digital another the digital and architects and another the digital another the digital and architects and another the digital and architects and another the digital another the							
et al. Investigation of To explore the digital different categories statistics and indicated applied in the technologies procurement of employed by analyzing the duantity surver building stakeholders in data and architects majority of the control of the digital data architects and indicated and architects and indicated and architects and data architects and data architects and data architects and data architects							
digital different categories statistics and indicated technologies of digital RII were 61.5% of applied in the technologies employed in respondents verification building stakeholders in data and architects majority of the contracts.					service sector.		
digital  technologies of digital RII were 61.5% of applied in the procurement of employed by analyzing the duantity surve; building stakeholders in data and architects majority of the complex of the contents of stakeholders in data and architects and architects of the contents of the c	et	Investigation of	To explore			The study put more	The gap presented by this
the technologies employed in respondents work of employed by analyzing the quantity survey stakeholders in data and architects	(2018)	digital	different categories		indicated	emphasis on the digital	study will be filled by
employed in by analyzing the in data		technologies			Jo	technologies used and	focusing on the
by analyzing the ers in data		applied in the	technologies		respondents were		challenges that face
stakeholders in data and architects and stages of majority of them		procurement of		analyzing		tackle the challenges	digital technologies, in
stages		building		data	and architects and	faced thereof	this case, e-procurement
ro cognic		projects:	stages of		majority of them		

							j			To address this gap, this	study will incorporate	operational performance	as one of the variable of	the study.						
								P	,	This study presents a										
executed software	packages at the	stage of project	design; also applied	technological	communication at	the tender process	and construction	phases		Outcomes from	multiple regression	analysis discovered	5 influences to be	statistically	substantial	forecasters of	achievement. 3	aspects were found	to be predictors of	user satisfaction
			~~~							The research	employed mixed	methods design	for collecting	and analyzing	data. It began	with an	exploratory		study then	
designing,	tendering and	erecting building	projects and	aspects that	prejudiced the	decision to	implement them in	the Nigerian	building industry.	The research	sought to find those	CSFs (predictor	variables) which	greatly contributed	to e-procurement	employment	triumph in the	construction sector /pilot qualitative	and to set forth for	
Experimental	Evidence from	Nigeria							3	Evolving online	procurement	frameworks for	construction	companies		90	gg/7.5			
					*					Deraman et al.	(2019)							1		

		improved	quantitative			
		execution	study			
Afolabi et al.	CSFs for e-	Evaluating the	The study	The research	Conceptual and	Therefore, this will be
(2019)	procurement	CSFs for e-	adopted the	indicated that the	contextual gap is	covered by looking at
	application in	procurement	cross-sectional	CSFs are critical for		present as this study how e-procurement affect
	the Nigerian	execution in the	survey research	the application of e-	did not cover	operational performance
æ	Construction	Construction	design	procurement	operational	among FFR's and the
	Industry	Industry		systems in	performance within	challenges involved.
				construction	FFR's	
		,		industry in		
				Nigerian		
Ngeno and	Assessing the	The purpose of the	The study	All the variables	study All the variables The research failed to	This gap will be filled by
Kinoti (2017)	impact of e-	study was to assess	utilized a	(electronic data	tackle the aspect of e-	researching on how
ь	procurement on	procurement on the effect of e-	descriptive	interchange, supply	interchange, supply procurement as a way	operational performance
	effectiveness of	procurement on	research design	chain integration,	of enhancing its	is influenced by e-
	SCM process in	effectiveness of		and e-tendering)	operational	procurement
	energy sector in	SCM process in a		were found to have	were found to have performance. Rather it	
	Kenya	sector related to		impact on	on focused on its effect on	
		energy in Kenya		effectiveness of	supply	
el.				SCM process	chain management	
					process	

					on sector related to		
					energy.		
Mueni and	The influence of	To analyze	the	The research.	research. The findings of the	The study dealt with	The contextual gap
ge		impact of	Ġ	implemented a	research showed	the influence but failed	provided will be filled by
(2014)	on	procurement	on	descriptive	that e-informing, e-	to tackle; e-	looking at e-procurement
	operation of	parastatal's	-	study design	sourcing, e-	procurement practices	among FFR's in Nairobi,
£	Kenyan	performance.		approach.	payments and e-	that may as well have a	Kenya
	parastatals.				tendering have a	positive significance to	
	1				positive and	performance of	
	8				significant	parastatals	
					association with		
					parastatal's		
					performance.		
Rotich and	Examination of	Examining	the	The research	The outcomes	The research presents a	This methodological gap
Okello (2015)		relationship		implemented a	exposed that e-	methodological gap	will be filled by adopting
	e-procurement	between	ė.	correlational	procurement is		a descriptive study design
	on operation of	procurement	on	study design	directly related to		to examine the influence
	the procurement	performance of the	the		operation of		of e-procurement rather
	roles on Kenyan				function of SC in		than only the correlation
	county	functions			Kenyan County		between the variable
	governments.				Governments.		

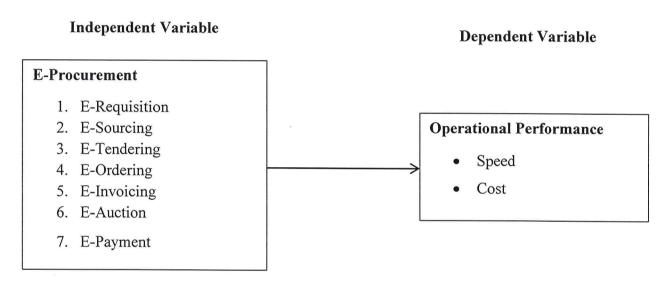
			The second secon	1						
Matunga et al.	Matunga et al. The influence of To assess the The	To	assess	the	The	research The	The	research	The study dealt with	research The study dealt with This variation in study
(2013)	e-procurement	extent	of use of	e e	was	conducted	revealed t	hat Kisii	the influence on public	extent of use of e- was conducted revealed that Kisii the influence on public will be dealt with by
	on efficient procurement	procu	rement	ii.	through		Level 5	hospital	hospitals and did not	a Level 5 hospital hospitals and did not focusing the study on
	procurement in public hospitals	public	: hospitals		descriptive		applies	ا ه	- focus on FFR's	FFR's in Nairobi
	public hospitals.				resear	research design	quotations,	<b>6</b>		
	"A Case of						tendering			10
	KISII Level 5						and e- sourcing as	rcing as		
	Hospital"			,			the key	y e-		
							procurement	nt		
							applications	SI		

Source: Researcher (2020)

# 2.7 Conceptual Framework

There was an Independent Variable in this investigation which is e-procurement whose dimensions include: E-Requisition, E-Sourcing, E-Tendering, E-Ordering, E-Invoicing, E-Auction and E-Payment. On the other hand, the Dependent Variable was operational performance and it is determined by: Speed and Cost effectiveness. It is hypothesized that the implementation of E-Procurement leads to improved operations.

Figure 2.1: Conceptual Framework



Source: Researcher (2020)

#### **CHAPTER THREE: RESEARCH METHODOLOGY**

#### 3.1 Introduction

This part deliberates on the study design, the population of the research and process of collecting data with the approaches that were employed in data collection and lastly the method of analyzing data using the tools that were used in presentation of the data which has been analyzed.

#### 3.2 Research Design

This investigation utilized a cross-sectional descriptive study design, a method that deals with evaluation of gathered information from a target population or a sample at a specific time. According to Oteki (2019) the design is concerned with determining the what, who, where and how much of a phenomenon is involved, it also looks at the relationship between variables. The research design is affordable, time saving and easy to use in proving or disproving the assumptions.

#### 3.3 Population

The main FFRs in Nairobi were the major interest of population. As per the Kenyan Restaurants online ordering firm eatout.co.ke (2019), there are a total of 47 FFRs in Nairobi (Appendix II). A census was conducted to enhance the response rate.

#### 3.4 Data Collection

The investigation applied research data gotten using a questionnaire that is structured. The questionnaire had both open and closed ended questions. It contained four sections: the general information was gathered in Section A; Section B contained information for investigation of first objective; moreover, Section C provided data for investigation of next

objective; whereas Section D contained data for investigation of last objective. Participants in the research were the SC managers or the equivalent of the FFRs in Nairobi. The researcher used, "drop and pick later," approach for administering the questionnaire.

#### 3.5 Data Analysis

After receiving the questionnaires, there was a process of coding and checking to determine their completeness. For section A, descriptive statistics was employed, this included use of frequency distribution tables. For section sections B, C and D, the researcher employed descriptive statistics which includes use of mean, correlation and regression analysis including standard deviation.

The following regression equation was employed;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7$$

Y= Dependent Variable (Operational Performance)

 $Y_1 = Speed$ 

 $Y_2 = Cost$ 

 $\beta_0,\beta_1,\beta_2,\beta_3,\beta_4,\beta_5,\beta_6,\beta_7 = \text{Constants}$ 

 $X_1$ = E-Requisition

 $X_2$ = E-Sourcing

 $X_3 = E$ -Tendering

 $X_4$ = E-Ordering

 $X_5 = E$ -Invoicing

 $X_6 = E$ -Auction

# X<sub>7</sub>= E-Payment

Table 3.1: Summary of Collection and Analysis of Data

Objective	Collecting Data	Analyzing the Data
General information	Section A of the questionnaire	distribution tables
Degree of e-procurement implementation in FFRs in Nairobi	Section B of the questionnaire	Descriptive statistics i.e., application of standard deviation and mean and later Correlation and regression analysis is done
Influence of e-procurement execution on operational performance of FFRs in Nairobi	Section C of the questionnaire	Descriptive statistics i.e., application of standard deviation and mean and later Correlation and regression analysis is done
Challenges in e-procurement implementation in FFRs in Nairobi	Section D of the questionnaire	Descriptive statistics i.e., application of standard deviation and mean and later Correlation and regression analysis is done

Source: Researcher (2020)

### CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This research was carried out with the aim of investigating the effect of e- procurement on operational performance among FFRs in Nairobi County. This section of the study concentrates on analysis of data, interpretation, and presentation by presenting a discussion on overview information, regression analysis, correlation, descriptive statistics and discussing the results.

#### 4.2 Response Rate

The research gave out 47 questionnaires in fast foods restaurants in Nairobi County. Out of those administered questionnaires, 41 fast food restaurants returned the questionnaires dully filled. The findings are displayed in Table 4.1.

Table 4. 1: Response Rate

Response	Rate	Proportion (%)	
Dully filled	41	87.23	
Not dully filled	6	12.77	
Total	47	100.0	

Source: Research Data (2020)

The results indicate that the research was able to attain a response proportion of 87.23% in accordance to Mugenda and Mugenda (2003), when carrying out a study a response percentage of 50% and above should be considered suitable for data analysis, interpretation and inference. Thus, this was an indication that the study results were excellent for analyzing and interpreting data.

#### 4.3 Background Information

This subsection of the research was based on results of respondents' general information that includes: how long the restaurant has been operational and the working experience of those surveyed under the procurement function.

#### 4.3.1 Restaurants Operation in Years

The study wanted to establish how long the various fast food restaurants had been operating in the industry. Findings from the research are displayed in Table 4.2.

Table 4.2: Restaurant Operation in Years

	Rate	Proportion (%)
Less than 3 Years	6	14.3
4-7 years	19	47.4
8-11 years	12	28.3
12 Years and above	4	10.0
Total	41	100.0

Source: Research Data (2020)

Results reveal that 47.4% of the restaurants have been in operation for 4-7 years, 28.3% of the restaurants had been in existence for 8-11 years, 14.3% had been running for a period below 3 years while 10% of the restaurants had been operating for 12 years and above. These findings show that a sizeable number of restaurants have been operational for more than 4 years and thus it is possible that they have a considerable interaction with the use of procurement in their operations.

#### 4.3.2 Years of Service in Restaurant

The research as well pursued to know how long the various respondents had worked under the procurement function in the restaurants. Outcomes of the research are displayed in the

Table 4.3: Year of Service in Restaurant

	Occurrence	Percent	-
Below 1 year	1	3.0	
1 and 2 years	3	7.0	
3 and 4 years	1	3.6	
5 and 6 years	12	29.0	
7 and 8 years	10	24.0	
9 and 10 years	7	17.4	
11 and 12 years	7	16.0	
Total	41	100.0	

Source: Research Data (2020)

The research results disclose that most of those surveyed 29% had worked in the restaurant under the procurement function for a period between 5-6 years. 24% had a working experience between 7-8 years, 17.4% had worked for time between 9-10 years, 16% had a working experience between 11-12 years, 7% had worked for 1-2 years, 3.6% had a working experience between 3-4 years while 3% had a working experience below 1 year. From these results it can be deduced that 86.4% of the participants had been operating in the restaurants under the procurement function for more than five years. Thus, with this working experience it means that the respondents were well acquainted with how procurement in the restaurants worked.

#### 4.4 Extent of E-procurement Implementation among Fast Food Restaurants

This part purposed to investigate the connection between e-procurement implementation and operational performance of FFRs in Nairobi. To achieve this, the researcher endeavored to uncover the level of e-procurement adoption amongst Nairobian fast food

restaurants and requested the respondents to show the degree to which fast food restaurants the various elements of electronic procurement. The Likert scale was divided into five points where 5= Very Great Degree, 4= Great Degree, 3= Moderately, 2= Little Degree, 1= Very Little Degree. The outcomes of the findings are displayed in Table 4.4.

Table 4.4: Extent of E-procurement Implementation among Fast Food Restaurants

	Mean	SD
E-Requisition	4.484	0.6
E-Tendering	4.341	0.578
E-Ordering	4.226	0.876
E-Auction	4.077	0.467
E-Sourcing	3.991	0.463
E-Invoicing	3.991	0.468
E-Payment	3.971	0.208

Source: Research Data (2020)

As per the research outcomes, the respondents who indicated a very large degree that FFRs in Nairobi County have adopted E-Requisition (Mean=4.484), E-Tendering (Mean=4.341) and E-Ordering (Mean=4.226) were majority. Moreover, the participants indicated to a large degree that the fast foods restaurant have adopted E-Auction (Mean=4.077), E-Invoices (Mean=3.991), E-Sourcing (Mean=3.991) and E-Payment (Mean=3.971). This is an implication that E-Requisition, E-Tendering and E-Ordering are the most adopted E-procurement practices among fast foods restaurant in Nairobi. In tandem with the study findings, Nyangaresi (2016) observed that an E-tendering practice is ideal from

procurement configuration of information among supply chain stakeholders. Organization utilizes electronic tendering platforms to advertise e-tender notices, e-requests through provision of information request sheet, receiving bids as well as offers from vendors. The enablers of E- procurement include human resources, organizational design, information technology such as ERP systems, EDI and measurement. Furthermore, information is easily conveyed to suppliers about award of tenders in an electronic medium known as Electronic Data Interchange. The system enhances the selection of suppliers after precise screening processes. Competent firms are adopting electronic tendering as a way to optimize their efficacy, decrease lead-time and minimize operational costs as well as satisfying their customers. More importantly, firms generate more wealth through proper implementation of electronic tendering systems

With regard to Electronic supplier selection as a form of E-Procurement practice prequalification of suppliers is justified through such a system and helps in the long-term decision-making process of a firm. The analogue supplier selection processes have been dogged with a number of errors that have contributed to cases of mistrust in the supply chain as such electronic supplier selection process has emerged as a remedy to such (Chan et al., 2007). The implementation of E-Procurement in general terms are consistent with acceptance from customers' point of view and help drive the processes. Further, there exist different alternatives of accessing process done to achieve the intended target (Birk et al., 2001). These different aspects that govern the success of e-procurement implementation key among them is readiness of e-suppliers and free flow of information in the system. This should be cultivated in any supply chain system to enhance its sustainability (Kaliannan, Awang & Raman, 2009)

The electronic requisition is considered a critical form of e-procurement process and is established as electronic representations of information regarding products and services in a firm (Baron, Shaw & Bailey, 2000). E-requisition contains detailed information regarding description/contents of products and services due for sale in the market. Stakeholders in supply chains do customize the contents of electronic requisition to satisfy their needs are required. Electronic requisition further holds significant information such as vendormaintained catalogue, availability of stock for sale, approval processes, major infrastructure requirements, configuration tools for products, updates on prices, approved vendors and full control of product requirement (Matunga, Nyanamba & Okibo, 2013).

#### 4.5 Correlation Analysis

The research carried out a correlation analysis to investigate the linear relation among the variables. Pearson correlation was applied in the study to measure the correlation since it employs the correlation coefficient r to measure the level of association. If r value is between 0 and 0.5 then the two variables have a weak positive relationship. An r value that ranges between 0.5 and 1 indicates that positive relationship exists and is strong. When value of r is raging between 0 and -0.5, show an existence of a weak negative relationship. But when the value of r is between -0.5 and -1 then there is a strong negative association. The table below displays the results.

**Table 4.5: Correlation Results** 

	E-	E-	E-	E-	E-	E-	E-	Operations
	Requisition	Sourcing	Tendering	Ordering	Invoice	Auction	Payment	Performance
E-	4							
Requisition	1							
E-Sourcing	0.402	1						

E-	0.198	0.21	1					
Tendering	0.170	0.21	1					
E-Ordering	0.523	0.34	0.422	1				
E-Invoicing	0.27	0.38	0.187	0.134	1			
E-Auction	0.045	0.112	0.249	0.31	0.344	1		
E-Payment	0.043	0.27	0.361	0.406	0.018	0.158	1	
Operations	0.387	0.575	0.43	0.313	0.36	0.307	0.405	
Performance	0.367	0.575	0.43	0.313	0.30	0.307	0.403	1

Source: Research Data (2020)

As per the outcome of correlation analysis, it was established that all the variables under investigation were positively correlated. Operation performance was positively and significantly correlated with e-ordering, e-requisition, e-sourcing, e-invoicing, e-auction, e-payment, e-tendering as indicated by the r values of 0.387, 0.575, 0.43, 0.313, 0.36, 0.307 and 0.405 respectively.

# 4.6 Impact of E-Procurement on Operational Performance among FFRs in Nairobi County

The research endeavored to examine the impact of e-procurement implementation on operational performance of FFRs located in Nairobi. The participants were asked to show the degree to which they were in agreement with the declarations regarding influence of e-procurement execution on operational performance of FFRs in Nairobi.

#### 4.6.1 Speed as the Dependent Variable

The association amid E-Payment, E-Sourcing, E-Tendering, E-Ordering, E-Invoicing, E-Auction and E-Requisition against the dependent variable speed of operational performance among FFRs in Nairobi County was established through the performance of multiple regression analysis.

**Table 4.6: Regression Coefficients** 

	Unstanda	ardized	Standardized		
	Coefficie	nts	Coefficients		
Model	В	Std. Error	Beta	T	P value
(Constant)	3.936	0.451		8.727	0.0000
E-Requisition	0.741	0.213	0.146	3.479	0.0031
E-Sourcing	0.667	0.179	0.126	3.726	0.0018
E-Tendering	0.737	0.280	0.045	2.632	0.0181
E-Ordering	0.549	0.222	0.142	2.473	0.0250
E-Invoicing	0.782	0.221	0.146	3.538	0.001
E-Auction	0.463	0.179	0.126	2.586	0.013
E-Payment	0.532	0.133	0.045	4.000	0.000
a. Dependent Va	riable: Speed	of operational	performance		

# Source: Research Data (2020)

The general regression equation for this study is:

 $Y = 3.936 + \ 0.741 X_1 + 0.667 X_2 + 0.737 X_3 + 0.549 X_4 + 0.782 X_5 + 0.463 X_6 + 0.549 X_7.$ 

Where:

Y= Dependent Variable (Operational Performance)

 $X_1$ = E-Requisition

 $X_2 = E$ -Sourcing

X<sub>3</sub>= E-Tendering

 $X_4$ = E-Ordering

 $X_5 = E$ -Invoicing

 $X_6$ = E-Auction

 $X_7 = E$ -Payment

E-Requisition has a positive influence speed of operational performance among FFRs in Nairobi County. The coefficient of 0.741 indicates that any rise in unit of the E-Requisition will cause speed of operational performance among FFRs in Nairobi County to increase by 74.1%. The association was significant as indicated by T- value of 3.479. Increase in E-Sourcing was confirmed to cause an increase in the speed of operational performance among FFRs in Nairobi County as illustrated by the coefficient of 0.667. The connection was substantial as shown by T- value which was 3.726.

E-Tendering, with a coefficient of 0.737 exhibited a positive influence on speed of operational performance indicating that it increases speed of operational performance among FFRs in Nairobi County by 73.7% as a consequence of a unit increase. The connection was significant as indicated by T- value of 2.632. In addition, E-Tendering showed a positive impact on speed of operational performance among FFRs in Nairobi County with a coefficient of 0.549. This means that it increases speed of operational performance among FFRs in Nairobi County by 54.9% as a result of a unit upsurge. The relationship was significant as indicated by T- value of 2.473.

It was established that an increase in unit of E-invoicing, while other factors held constant, will result to a rise in speed of operational performance among FFRs in Nairobi County

with a value of 0.782 (p = 0.001). Additional, rise in a unit of E-auction, while other factors held constant, will result to a rise in speed of operational performance among FFRs in Nairobi County with a value of 0.463 (p = 0.013). A unit rise in E-payment, while other factors held constant, will result to an increasing speed of operational performance among FFRs in Nairobi County by 0.532 (p = 0.000).

E-Requisition had the greatest influence on the speed of operational performance among FFRs in Nairobi County, followed by e-planning practice then E-Sourcing, then E-Tendering, then E-Ordering, then E-Invoicing, then E-Auction while E-Payment had the minimum influence on the speed of speed of operational performance among FFRs in Nairobi County. All study parameters were substantially significant because their p values were below 0.05

Table 4.7: Summary of the Model

Model	R	R Square	Adjusted R Square	Std.	Error	of	the
				Estim	ate		
1	0.804053	0.646501	0.616543	1.035	581		

#### Source: Research Data (2020)

a. Predictors: (Constant), E-Requisition, E-Sourcing, E-Tendering, E-Ordering, E-Invoicing, E-Auction and E-Payment

The outcomes in Table 4.5 indicate that e-procurement had a combined substantial impact on speed of operational performance among FFRs in Nairobi County as indicated by value r that is 0.804. The R squared of 0.646 illustrates that the independent variable accounting for 64.6% of the variance on speed of operational performance among FFRs in Nairobi County. Other factors not included in the study affect speed of operational performance among FFRs in Nairobi County by 35.40%

Table 4.8: ANOVA<sup>a</sup>

Model		Sum of	df	Mean	F	Sig.
		Squares		Square		
1	Regression	172.984	. 7	24.712	21.581	0.000
	Residual	37.785	33	1.145		
	Total	210.769	40	T		

a. Dependent Variable: speed of operational performance

Source: Research Data (2020)

The outcomes in the ANOVA indicate the significance in the complete model because the significance level of 0.000 was below the 5% level of significance which was too small. This was supported by the F calculated value which is much higher than the critical value of 3.01. This is quite good indication that e-procurement increases speed of operational performance among FFRs in Nairobi County.

In tandem with the study outcomes, Uba et al. (2013), ascertained that a positive and substantial link between e-procurement and the operation of the service establishments. It similarly ascertained that IT integration amongst different establishments in Uganda led to effective execution of e-procurement systems.

#### 4.6.2 Cost as the Dependent Variable

The association amid E-Payment, E-Sourcing, E-Tendering, E-Ordering, E-Invoicing, E-Auction and E-Requisition against the dependent variable cost of operational performance

b. Predictors: E-Requisition, E-Sourcing, E-Tendering, E-Ordering, E-Invoicing, E-Auction and E-Payment

among FFRs in Nairobi County was established through the performance of multiple regression analysis.

The overall regression model for this study is:

Y = 4.123 + 0.712X1 + 0.567X2 + 0.671X3 + 0.634X4 + 0.549X5 + 0.787X6 + 0.778X7.

Y= Dependent Variable (Operational Performance)

X1= E-Requisition

X2= E-Sourcing

X3= E-Tendering

X4= E-Ordering

X5= E-Invoicing

X6= E-Auction

X7= E-Payment

**Table 4.9: Regression Coefficients** 

	Unstanda	rdized	Standardized		
	Coefficier	nts	Coefficients		
Model	В	Std. Error	Beta	T	P value
(Constant)	4.123	0.364	оминитичности может в потращения постоя в предоставления по в почен в деберено в веренения	11.326	0.000
E-Requisition	0.712	0.241	0.134	2.954	0.005
E-Sourcing	0.567	0.264	0.142	2.147	0.038
E-Tendering	0.671	0.234	0.121	2.867	0.007
E-Ordering	0.634	0.301	0.172	2.106	0.042
E-Invoicing	0.549	0.222	0.142	2.473	0.025
E-Auction	0.787	.243	.416	3.236	.002
E-Payment	0.778	.075	.671	10.406	.000

a. Dependent Variable: Cost of operational performance

# Source: Research Data (2020)

E-Requisition has a positive influence on cost of operational performance among FFRs in Nairobi County. The coefficient of 0.712 indicates that any rise in a unit of the E-Requisition will cause cost of operational performance among FFRs in Nairobi County to decrease by 71.2%. The relationship was significant as indicated by T- value of 2.954. Increase in E-Sourcing was confirmed to cause a decrease in the cost of operational performance among FFRs in Nairobi County as shown by the coefficient of 0.567. The connection was substantially significant since the T- value is 2.147

E-Tendering, with a coefficient of 0.671 presented a positive influence on cost of operational performance meaning that it down surges cost of operational performance among FFRs in Nairobi County by 67.1% as a consequence of a unit increase. The relationship was significant as indicated by T- value of 2.867. In addition, E-Tendering showed a positive impact on cost of operational performance among FFRs in Nairobi County with a coefficient of 0.671. This means that it decreases cost of operational performance among FFRs in Nairobi County by 67.1% as a result of a unit increase. The relationship was significant as indicated by T- value of 2.867.

It was established that any increase in a unit of E-invoicing, while other factors held constant, will result to a drop in cost of operational performance among FFRs in Nairobi County by 0.549 (p = 0.025). Additional, unit rise in E-auction, while other factors held constant, will result to a drop in cost of operational performance among FFRs in Nairobi County by 0.787 (p = 0.002). Any rise in a unit of E-payment, while other factors held constant, will result to a drop in cost of operational performance among FFRs in Nairobi County by 0.778 (p = 0.000).

E-Auction had the greatest influence on the cost of operational performance among FFRs in Nairobi County, followed by E-Payment then E-Requisition, then E-Tendering, then E-Ordering, then E-Sourcing while E-invoicing had the minimum influence on the cost of operational performance among FFRs in Nairobi County. All study parameters were significant because their p values were below 0.05.

#### **Table 4.10: Model Summary**

Model R	R Square	Adjusted R Square	Std.	Error	of	the	
				Estin	nate		
				¥			
.930a	.864	.746	.539	47.34	41		

a. Predictors: (Constant), E-Requisition, E-Sourcing, E-Tendering, E-Ordering, E-Invoicing, E-Auction and E-Payment

Source: Research Data (2020)

The outcomes in Table 4.10 indicate that satisfaction with e-procurement had a combined significant impact on cost of operational performance among FFRs in the County of Nairobi as revealed by value of r which is 0.864. The R squared of 0.746 displays that the independent variable accounting to 74.6% of the variance on cost of operational performance among FFRs in County of Nairobi. Other factors not included in the study affect cost of operational performance among FFRs in Nairobi County by 25.4%

Table 4.11: ANOVA<sup>a</sup>

Model	Section 1997 1997 1997 1997 1997 1997 1997 199	Sum of	df	Mean	F	Sig.
		Squares		Square		
1	Regression	18.543	7	2.649	46.474	.023ª
	Residual	1.881	33	.057		
	Total	20.424	40			7

a. Dependent Variable: cost of operational performance

#### Source: Research Data (2020)

The outcomes in the ANOVA demonstrate the significance in the complete model because "the significance level of 0.000 was far much below the 5% level of significance". This

b. Predictors: (Constant), s E-Requisition, E-Sourcing, E-Tendering, E-Ordering, E-Invoicing, E-Auction and E-Payment

was supported by the F calculated value which is much higher than the critical value of 3.01. This is quite good signal that e-procurement increases cost effectiveness of operational performance among FFRs in Nairobi County.

In tandem with the study findings, Nyadimo (2011) noted that e-procurement implementation is essential since it is able to strengthen the search ability, ensure that there is faster and also transmission of accurate data, offer quick and more information and reduce the transactional cost. On the other hand, Ogot et. al (2009) maintains that e-procurement implementation improves customer service and their satisfaction, offer high quality products, enhance product performance and quality, timely delivery, transparency and use of technology on the major suppliers. The competition and the threat of security are a great threat in the digital networks (Hardy & Williams, 2011). E-procurement execution may have an impact on the cost, quality of products or services, logistics and organization that enhance satisfaction of the customers and so is the performance of firms (Moturi, 2016).

## 4.7 Challenges Facing E-Procurement Implementation

The researcher also investigated some of the challenges that faced e-procurement implementation in the restaurant. To do this the study used a Likert scale to rate respondent's feelings. The Likert scale was divided into five points where 5= Very Great Degree, 4= Great Degree, 3=Moderately, 2= Little Degree, 1= Very Little Degree. Table 4.10 displays the results of the study.

Table 4.12 Challenges Facing E-Procurement Implementation

Challenges Statements	Mean	SD
Inadequate training	1.96	0.54
Inadequate awareness and capacity building	1.91	0.91
Fear of information leakages	1.82	0.27
High cost of implementation and maintenance of the system	1.79	0.86
Lack of top Management Support	1.74	0.63
Possible negative perception from suppliers	1.48	0.74
Poor IT – Infrastructure	1.4	0.69
Resistance to change to e-procurement	1.09	0.81
Average	1.65	0.68

#### Source: Research Data (2020)

The study found out on average the restaurants faced challenges of implementation eprocurement to a large degree as proved by the total mean of 1.65 and SD of 0.68.

Some of the challenges that were experienced was resistance to change to e-procurement which respondents agreed to a very great degree as illustrated by the mean of 1.09 and SD of 0.81. Another challenge that was experienced to a very great extent was poor IT infrastructure as shown by the mean of 1.4 and SD of 0.69.

The researcher also asked respondents to cite other challenges that they experienced other than the ones that were pre-identified by the study. Findings are as presented below.

From the findings it was shown that some of the other challenges that were experienced in the implementation of e-procurement was attack by hackers, difficulty of suppliers to operate online, software issues, frequent technological changes and complex user interfaces.

#### 4.8 Discussion of the Findings

The research found out that all the variables, that is, with e-invoicing, e-requisition, e-sourcing, e-tendering, e-ordering, e-auction, e-payment were positively correlated with each other. Operational performance was also positively and significantly correlated with e-requisition, e-sourcing, e-tendering, e-ordering, e-invoicing, e-auction, e-payment.

From the regression coefficients it was established that e-invoicing, e-requisition, e-sourcing, e-tendering, e-ordering, e-auction, e-payment were positive and significant predictors for operational performance. The results of this research are in agreement with those of Ng'ang'a (2017), whose research assessed the influence of e-procurement on operation performance among parastatals operating under the ministry of energy and petroleum in Kenya. Findings from his study concluded that e-tendering and e-tendering were significant and positive predictors of operational performance.

The outcomes of this research are also in agreement with those of Munyao and Moronge (2018) who did a study to investigate the impact of e-procurement on the performance of procurement in public universities in Kenya. Findings from their study revealed that e-payments, e-tendering, e-sourcing and e-ordering were positive and significant predictors of operation performance.

The results of this study also agree with those of Waganda (2018) who evaluated the influence of electronic procurement on the operation of selected United Nation agencies in Nairobi. The research established that e-invoicing, e-sourcing, e-auctioning and e-tendering were positive and significant predictors of performance.

# CHAPTER FIVE: SUMMARY, CONCLUSION AND

#### RECOMMENDATIONS

#### 5.1 Introduction

This section reviews the research findings. Grounded on the objective of the research which was investigating the influence of e-procurement on operational performance among FFRs in Nairobi County, conclusion, then recommendations and opportunities for further studies are presented.

### 5.2 Summary of the Findings

Results from general information indicate that majority of the fast food restaurant had operated for a period between 4-7 % accounting for 47.4% of those surveyed. 28.3% of the restaurants surveyed had operated between 8-11 years, 14.3% had operated for a time below 3 years whereas 10 percent had operated for a time of 12 years and above. These further showed that 29% of those surveyed had worked in the fast food restaurant for a time between 5-6 years. 24% had a working experience between 7-8 years, 17.4% had worked for time between 9-10 years, 16% were experienced for working between 11-12 years, 7% had worked for 1-2 years, 3.6% had a working experience between 3-4 years while 3% had a working experience below 1 year.

The study revealed that E-Requisition had the greatest influence on the speed of operational performance among FFRs in Nairobi County, followed by e-planning practice then E-Sourcing, then E-Tendering, then E-Ordering, then E-Invoicing, then E-Auction while E-Payment had the minimum influence on the speed of operational performance among FFRs in Nairobi County.

The study also revealed that E-Auction had the greatest impact on the cost of operational performance among FFRs in Nairobi County, followed by E-Payment then E-Requisition, then E-Tendering, then E-Ordering, then E-Sourcing while E-invoicing had the minimum influence on the cost effectiveness of operational performance among FFRs in Nairobi County

From the correlation analysis it was evidenced that the variables in the study were positively and significantly correlated with each other. These results further showed that operation performance was positively and significantly correlated with e-requisition, e-sourcing, e-tendering, e-ordering, e-invoicing, e-auction, e-payment.

The findings also showed that the model fitted with e-requisition, e-sourcing, e-tendering, e-ordering, e-invoicing, e-auction, e-payment was statistically significant to predict operation performance. The study further determined that e-ordering, e-requisition, e-sourcing, e-tendering, e-auction, e-payment, e-invoicing were positive and significant influence on operation performance as shown by the respective beta values.

#### 5.3 Conclusion

The research came to the conclusion that e-procurement had been incorporated in the procurement function of the fast food restaurants. E-procurement was concluded to have a positive and significant influence on operation performance as a whole. This is probably due to the fact that there is an increased uptake of technology in all aspects of running businesses.

The study further concluded that particular elements of e-procurement that have a positive impact on operation performance were e-tendering, e-requisition, e-sourcing, e-invoicing,

é-auction, e-ordering, and e-payment. Despite their different magnitude of influence, it was concluded that restaurants should encourage the uptake of these e-procurement activities to boost their operational performance.

The research further determined that the application of e-procurement in the fast food restaurants was faced with numerous challenges to a considerable extent. Thus, it was concluded that the restaurants would need to establish ways to deal with the individual challenges if e-procurement was to be utilized effectively in the restaurants.

#### 5.4 Recommendations

The study showed that e-procurement had a positive impact on operation performance.

Thus, the research recommends that the various fast food restaurants increases the optimum uptake of e-procurement services in their procurement procedures.

E-procurement revolves around various technological applications. The study thus recommends that the various fast food restaurants increases their expenditure in harnessing the technology that is necessary for executing the e-procurement services.

The research also recommends that it is paramount that fast food restaurants invest in training their employees on how to apply e-procurement. This is because if the restaurants are to use e-procurement the people running the activities need to know how it works. Thus, to ensure that e-procurement is a success, the employees of the restaurants ought to be trained.

#### 5.5 Limitation of the Study

Response bias was one of the constraints that the study encountered. Despite having proper documents authorizing the researcher to carry out the research some fast food shied away from participating in the study as evidenced by the unfilled questionnaires. The accuracy

of the respondents' responses can also not be fully validated as they are also subject to respondents' attitudes which could be biased.

## 5.6 Suggestions for Further Studies

The research was restricted to operational performance of fast-food restaurants within Nairobi County. Thus, it is important for other researchers to look into e-procurement effect on performance of other fast food restaurants that are located in other counties other than Nairobi. This comparison will help establish if the operation performance would be affected the same way across the fast food industry.

The research was also restricted to fast food restaurants. Thus, the results of the study are specific to fast food restaurants in Nairobi. Hence it is important for other studies to look into other industries across the various sector of the economy and investigate how e-procurement has an effect on operational performance.

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## **APPENDICES**

Appendix 1: Research Questionnaire

Introduction

My name is Wilfred Nyambariga Ombui, a student at the University of Nairobi carrying out an investigation on a topic entitled 'E-PROCUREMENT IMPLEMENTATION AND OPERATIONAL PERFORMANCE OF THE FAST FOOD RESTAURANTS IN NAIROBI" This is in partial fulfillment of the requirements for the Award of Masters in Business Administration. Please respond to the questions by writing a brief statement or marking in the boxes provided as will be applicable. Every information you give will be treated with utmost concealment and just for academic purposes. Thank you in advance.

#### SECTION A: BACKGROUND INFORMATION

1. For how long has the restaurant existed?
Below 3 years 4-7  8-11  12 years and above
2. For how long have you been working with the restaurant under the procurement
function?
Below one year 1-2 3-4 5-6 7-8 9-10 11-12
SECTION B: TO WHAT EXTENT HAS E-PROCUREMENT BEEN
IMPLEMENTED BY YOUR ORGANISATION?
Kindly indicate in the table below, the level of agreement on the extent to which E-
Procurement has been implemented in your organization using the following guide:
Very Great Degree (5) Great Degree (4) Moderate Degree (3) Small Degree (2) Very

All the restaurant staff make requests using E-Requisition	1	2	3	4	5
User departments make requisitions online			11		
The restaurant technical department draws requisition specifications online					
Requisition approvals is done online					
E-Sourcing is used while sourcing for suppliers	1	2	3	4	5
Identification of suppliers is done online					
Suppliers can express their interest to supply online					
Quotations from suppliers is received online					
Prequalification of suppliers is done via the internet					
The restaurant is applying E-Tendering	1	2	3	4	5
Advertisement of tenders are done online			9		
Registration of suppliers is done via the internet					
Request for proposals is done online					
The restaurant responds to the suppliers via the internet					
The restaurant evaluates and automates the tenders online					
Orders are issued through E-Ordering	1	2	3	4	5
Procurement orders are raised online					
Approval of orders is done online					
Order commitments is done online					

	,			
1	2	3	4	5
				G0.
1	2	3	4	5
e.				
5			*	
1	2	3	4	5
	1	1 2	1 2 3	1 2 3 4

# SECTION C: THE EFFECT OF IMPLEMENTATION OF E-PROCUREMENT ON THE OPERATIONAL PERFORMANCE OF YOUR ORGANISATION

The statements in the table below are indicators on how application of E-Procurement influences the operational performance of the Procurement function in your organization. Using the following guide, what is your level of agreement?

Very Great Degree (5) Great Degree (4) Moderate Degree (3) Small Degree (2) Very Small Degree (1)

	1	2	3	4	5
Reduced lead times					
Reduced costs in supply chains					

# SECTION D: THE CHALLENGES FACED WHEN IMPLEMENTING E-PROCUREMENT IN YOUR ORGANISATION

The following challenges related to e-procurement implementation are faced in several organizations. To what extent, do they affect the process in your organization? Use the following guide.

Very Great Degree ( 5 ) Great Degree ( 4 ) Moderate Degree ( 3 ) Small Degree ( 2) Very Small Degree ( 1 )

	1	2	3	4	5
Poor IT - Infrastructure					
Lack of top Management Support					
Inadequate awareness and capacity building					
Resistance to change to e-procurement					
Possible negative perception from suppliers					
High cost of implementation and maintenance of the system					
Fear of information leakages					
Inadequate training					

Any other challenges fa	aced?		
		<i>b</i>	
		: :	
***************************************			

#### Appendix 2: Fast Food Restaurants in Nairobi

1. Chicken Inn

2. Chicken exotica 27. Khushs BBQ 3. Big square 28. Pizza hut 4. Burger world 29. Kukuliku 5. Big knife 30. Ole pizza 6. Burger king 31. Mama rocks 7. Chef's grill house 32. Nairobi pizza 8. Chef's chicken 33. Pizza mania 9. Balkan grill house 34. Steers 10. Chicking parklands 35. Subzone Restaurant 11. Creamy inn 36. Subway 12. Cold stone 37. Southern Fried Chicken 13. Debonairs pizza 38. Snack attack 14. Galitos 39. Roast by carnivore 15. 360 degrees 40. Prestige American Fried Chicken 16. Flame flavours 41. Pizza Mojo Oval 17. Creamy world 42. Shawarma xpress 18. Dominos pizza 43. Pizzeria II Portico 19. Dija delicacies 44. Stack & Squeeze 20. KFC 45. The Shack 21. Jus chicken 46. Uncle Nene's 22. Hub cafeteria 47. Urban Gourmet Burger

26. Nirvana vegetarian Khazana

- 23. Gyros 2 go
- 24. Hardees
- 25. Hot dog republic

**Source:** (https://eatout.co.ke/restaurants?city=1&restaurant\_type)